North Boeing Field/ Georgetown Steam Plant Site Remedial Investigation/Feasibility Study

Expanded Stormwater Sampling

Interim Data Report (Updated)

Prepared for

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Toxics Cleanup Program
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LIMITATIONS

SAIC's investigation was restricted to collection and analysis of a limited number of environmental samples, visual observations, and field data, in addition to summarizing available information from previous site documents. Because the current investigation consisted of evaluating a limited supply of information, SAIC may not have identified all potential items of concern. This report is intended to be used in its entirety; taking or using excerpts from this report is discouraged.

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List of Acronyms

µg	microgram
µm	micron
2LAET	second lowest apparent effects threshold
ARI	Analytical Resources, Inc.
CSL	Cleanup Screening Levels
DOC	dissolved organic carbon
EAP	Environmental Assessment Program
Ecology	Washington State Department of Ecology
EOF	emergency overflow
EPA	U.S. Environmental Protection Agency
FC	freshwater criteria
ft/s	feet per second
g	gram
gpm	gallons per minute
GTSP	Georgetown Steam Plant
HHO	human health for consumption of organisms
HPAH	high molecular weight polycyclic aromatic hydrocarbon
KBFI	Seattle Boeing Field-King County International Airport rain gauge
KC	King County
KCIA	King County International Airport
kg	kilogram
L	liter
LAET	lowest apparent effects threshold
LDW	Lower Duwamish Waterway
LPAH	low molecular weight polycyclic aromatic hydrocarbon
LS	lift station
m/s	meters per second
mg	milligram
MH	manhole
mL	milliliter
MLLW	mean lower low water
mm	millimeter
MWC	marine water criteria
NBF	North Boeing Field
NOAA	National Oceanic and Atmospheric Administration
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
pg	picogram
QAPP	Quality Assurance Project Plan
RI/FS	Remedial Investigation/Feasibility Study
SAIC	Science Applications International Corporation

List of Acronyms (continued)

SAP	sampling and analysis plan
SD	storm drain
SIM	Selective Ion Monitoring
SMS	Sediment Management Standards
SOP	standard operating procedure
SQS	Sediment Quality Standard
SVOC	semi-volatile organic compound
TEF	toxic equivalency factor
TEQ	toxic equivalent quotient
TOC	total organic carbon
TSS	total suspended solids
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
WAC	Washington Administrative Code
WHO	World Health Organization

1.0 Introduction

Stormwater discharge from the North Boeing Field-Georgetown Steam Plant (NBF-GTSP) Site is a potential source of contaminants to Slip 4 on the Lower Duwamish Waterway (LDW). The Washington State Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (USEPA) identified cleanup of contaminated sediment in Slip 4 as a high priority for the LDW Superfund Site. Cleanup of Slip 4 has been delayed because of concerns about the potential recontamination of sediments in Slip 4 from releases of contaminants from this site. A Remedial Investigation/Feasibility Study (RI/FS) and cleanup of this site is necessary to allow sediment cleanup in Slip 4 to proceed. Because of the long time frame associated with completing the RI/FS, USEPA asked Ecology to investigate options that might allow the cleanup of Slip 4 to proceed.

To facilitate this process, Ecology tasked Science Applications International Corporation (SAIC) with the collection of stormwater and continuous flow measurements from the storm drain (SD) line upstream of the King County International Airport (KCIA) SD#3/PS44 emergency overflow (EOF) outfall to Slip 4. In September 2009, stormwater sampling systems were installed at two locations on the NBF-GTSP site: a manhole on the downstream side of the King County lift station (LS431), and manhole MH108 on the north lateral SD line. Whole water and filtered suspended solids samples were collected at both locations during five storm events as part of the preliminary stormwater sampling task. Sampling results were documented in a Preliminary Stormwater Sampling Interim Data Report (SAIC 2010a).

Based on a preliminary conceptual site model (SAIC 2010b) and input from Ecology, USEPA, Boeing, the City of Seattle, and King County, additional sampling needs were identified. The original stormwater sampling task was expanded to include an additional five storm events at these two locations, plus sampling at new locations in the north lateral SD line and in each of the other lateral SD lines at NBF. Base flow sampling was also included to assess the contribution of contaminants in base flow to discharges from the KCIA SD#3/PS44 EOF outfall. Additional samples were collected to determine the concentrations of various chemicals of concern in different particle size fractions, in support of Slip 4 sediment recontamination modeling.

This report includes the chemical analysis results for filtered suspended solids and whole water samples collected at 13 locations during the course of the expanded stormwater sampling phase (February through July 2010). Results from the *Preliminary Stormwater Sampling Interim Data Report* (SAIC 2010a) are included in the discussion of results to present a comprehensive account of stormwater data collected at NBF-GTSP.

In addition, continuous flow measurements collected over the duration of sampling are reported. These measurements will be used in conjunction with the chemistry data to calculate contaminant loadings to Slip 4. These loadings will be reported in a separate technical memorandum. Sampling was conducted following the study design and methods described in the August 2009 *Sampling and Analysis Plan and Quality Assurance Project Plan for Preliminary Stormwater and Filtered Suspended Solids Sampling* (SAIC 2009a) and the April 2010 *Work Plan and SAP/QAPP Addendum Expanded Stormwater Monitoring* (SAIC 2010b).

1.1 Site Description

The NBF-GTSP Site is located east of Slip 4 and approximately 4 miles south of downtown Seattle. NBF is located at 7500 East Marginal Way S and occupies approximately 130 acres primarily within the Seattle and Tukwila city limits (Figure 1). The site is leased by Boeing from King County, with the exception of a few acres on either side of the former GTSP flume, which is leased from the City of Seattle, and Building 3-390 and an adjacent parcel used for parking, which are owned by Boeing. The head of Slip 4 is approximately 150 feet from the northwestern boundary of NBF.

The NBF SD system drains a total area of approximately 328 acres; this includes stormwater flow from 171 acres of KCIA, which enters the site from the north and east at four locations (SAIC 2009b). Most areas of NBF drain to one of four lateral SD lines (the north, north-central, south-central, and south lateral SD lines), which are directed to a trunk line that passes through a King County (KC) lift station, under East Marginal Way S, and to the 60-inch KCIA SD#3/PS44 EOF outfall at Slip 4 (Figure 2). Stormwater from a smaller area near Building 3-380 (which previously discharged to Slip 4 via a separate SD line) and a parking area downstream of the lift station also drain to Slip 4.

1.2 Project Scope and Study Objectives

The purpose of the expanded stormwater sampling effort was to collect samples of whole water and filtered suspended solids during five storm events at LS431 and MH108. During three of these events, filtered solids were collected near the downstream end of each lateral SD line and from up to six locations in the north lateral SD line. Filtered suspended solids and whole water were collected from base flow during two time periods near the beginning and end of the expanded sampling task. Specific objectives for sampling are as follows:

- Obtain a larger data set for whole water and filtered suspended solids at LS431 and MH108 to allow for a better determination of the relationship between these two sample types. Continued sample collection at these two locations will allow for a more accurate calculation of contaminant loadings from the north lateral SD line relative to the entire site.
- Conduct base flow sampling at LS431 and MH108 to assess contaminant loadings due to infiltration of groundwater to the SD system.
- Collect filtered suspended solids samples from the north-central lateral SD line, south-central lateral SD line, south lateral SD line, Building 3-380 drainage, and parking lot area to assess contaminant contribution (polycyclic aromatic hydrocarbons [PAHs], metals, polychlorinated biphenyl [PCBs], dioxins/furans) from areas outside the north lateral SD area, to assess whether PCB source control actions taken in the north lateral SD line are sufficient to reduce the potential for Slip 4 sediment recontamination.
- Collect filtered suspended solids samples at six locations upgradient of MH108 in the north lateral SD line to identify and trace sources of PCBs in the north lateral SD line and allow any needed interim actions to focus on specific sub-drainages of concern.

- Determine concentrations of PCB Aroclors, metals, and PAHs in four different particle size fractions.
- Compare chemistry results from all SD lines to relevant surface water or sediment criteria.

1.3 Document Organization

The primary purpose of this report is to summarize and evaluate the results of the expanded phase of the 2009-2010 NBF-GTSP stormwater investigation. Results from the preliminary stormwater investigation are discussed in this document for overall comparisons of results. Section 1.0 describes the NBF-GTSP site and document organization. Section 2.0 describes sampling methods that differed from the preliminary stormwater investigation or the SAP/QAPP Addendum (SAIC 2010b). Flow measurement data are summarized in Section 3.0. Analytical results for filtered suspended solids and whole water are presented in Section 4.0. Section 5.0 summarizes the data validation reports. A summary of findings is presented in Section 6.0. References are listed in Section 7.0. The appendices include totalizer logs, event flow and precipitation summaries, laboratory results, and data validation reports.

2.0 Data Collection and Analytical Methods

This section describes the collection of flow measurement data and the sampling and analytical methods associated with filtered suspended solids, whole water, and base flow samples.

Samples were collected at 13 locations described below (Figure 3):

- LS431, located on the discharge (southwest) side of the KC lift station. All four major SD lines plus the Building 3-380 line drain to the lift station prior to entering Slip 4.
- MH108, located along the north lateral SD line, north of Building 3-380 and near the corner of Building 3-350. MH108 was selected to represent stormwater drainage from the north lateral SD line. MH108 is located 85 meters (275 feet) upstream of the connection between the north and north-central lateral SD lines.
- MH226, located in a flight apron 58 meters (190 feet) north of MH369. MH226 is on the north-central lateral SD line, 107 meters (350 feet) upgradient of the junction with the north lateral SD line.
- MH369, located at the north end of the small parking lot on the northwest side of Building 3-390. This location is 210 meters (700 feet) upgradient of the lift station on the south-central lateral SD line.
- MH356, located on the southwestern corner of Building 3-369, approximately 45 meters (150 feet) upgradient of the lift station. This location is near the downstream end of the south lateral SD line.
- CB423, located between Building 3-380 and the lift station. Flow through CB423 is representative of the Building 3-380 drainage.
- MH434, located 23 meters (75 feet) downstream of the lift station. MH434 is representative of flow from a section of parking lot bordering East Marginal Way S and additional parking spaces within NBF. MH434 was the only drainage area sampled that does not drain to the lift station.
- MH133D, on an extension of the north lateral SD line southwest of Building 3-315.
- MH152 and MH138 are southwest of Building 3-626.
- CB165 is northwest of Building 3-322. This location was adjacent to the March 2010 soil excavation area near Buildings 3-322 and 3-302.
- MH178 and CB173, in the parking lot west of Building 3-323 and about 23 meters (75 feet) southwest of the GTSP boundary. These locations are the farthest upgradient structures sampled as part of the expanded stormwater sampling program. CB173 drains NBF property. Flow at MH178 enters from off site.

Two locations proposed in the SAP/QAPP Addendum (SAIC 2010b) could not be sampled. Proposed sampling at MH160 was not possible due to insufficient stormwater flow. MH169 is within the fuel test area. Sampling at this location would have required explosion-proof sampling equipment. Designing and implementing this equipment was cost prohibitive.

There were two other substantial deviations from the SAP/QAPP Addendum. Up to 20 grab samples were to have been collected at various locations. Between March and May 2010, Landau collected grab samples at all NBF SD structures that contained sufficient material to sample (Landau 2010). Boeing subsequently cleaned out all catch basins in the north lateral SD line. Additional grab sampling locations were not identified. In place of the grab samples, six parking lot surface solids samples were collected to address potential data gaps associated with filtered solids collection at MH434.

Tidal inflow was a frequent problem at MH434. All samples collected at MH434 consisted of tidal water co-mingled with stormwater. Filtered suspended solids results may not be representative of the sampled event. Surface solids samples were collected near Drain 283A and Drain 436A, two samples were collected from an area south of Drain 435B, and two samples were collected from an area south of Drain 434A (Figure 4). The surface solids samples represent material in the parking lot that is adjacent to the SD channel drains and could therefore enter the SD system and be transported to Slip 4.

2.1 Flow Measurements

All stormwater flow measurements were collected using Teledyne Isco (Isco; Lincoln, NE) equipment leased from Whitney Equipment, Bothell, WA. Clearcreek Contractors performed all confined space entry necessary for the Isco installation at each of these locations.

Sampling equipment at MH108 and LS431 was installed as part of the preliminary stormwater sampling (SAIC 2010a). Continuous flow measurements at LS431 were collected using an Isco 6712 stormwater sampler equipped with a Model 750 area velocity flow module. AC power from the east side of the lift station was available to power the Isco unit. Due to the short cycling time of the lift station pumps, the flow sampler was programmed to collect data every 1 minute.

Continuous flow measurements at MH108 were collected using an Isco Model 4250 flow meter run off a 12-volt marine battery. The battery was replaced on a biweekly basis for the duration of the sampling period. The flow meter was programmed to collect data every 15 minutes.

Continuous flow measurements at MH226, MH356, MH369, CB423, and MH434 were collected using Isco Model 2150 flow meters. Each unit was powered by two internal 6-volt lantern batteries. MH356 and MH434 were set to collect data at 1-minute intervals. The unit at MH369 was briefly set to 1-minute intervals, but was switched to 15-minute intervals when the sensor was moved (Section 3.1.3). MH226 and CB423 were set to collect data at 15-minute intervals.

2.2 Sample Collection

Expanded stormwater sample collection efforts began in February and ended in July 2010. Storm event-based whole water and filtered suspended solids were collected at up to 13 sample locations during a given storm event (Table 1). Base flow samples were collected at LS431 and MH108 (whole water and filtered suspended solids) and at CB173 (filtered suspended solids) (Table 2).

A total of six storm events were sampled. Whole water and filtered suspended solids were collected during Events 6 through 10. Event 9b involved filtered suspended solids sampling at

MH434 and CB423 due to previous sampling difficulties at these locations. LS431 was also sampled during Event 9b to provide a constant location between events. Base flow samples were collected during three time periods. During the first base flow event, whole water was collected at LS431 and whole water and filtered solids were collected at MH108. Filtered solids were missed at LS431 due to sampling error. Filtered solids were collected at LS431 during a second base flow event, (Base Flow Event 1b in Table 2). A third base flow event was sampled at the completion of expanded stormwater sampling to obtain a whole water and filtered solids sample at both locations during the same time frame.

Sample equipment for each location was stored in a polypropylene garden shed for protection. When not in operation, the sheds were moved to a nearby storage location to prevent interference with Boeing operations. During sampling, vehicles were parked in front of the flight line sample units to provide a buffer in the event of jet blasts.

The start and end time for each sampling event are based on the times listed on the totalizer log sheets (Appendix A). These times are listed separately for each location, and may vary slightly between locations depending on when each sample unit was activated.

2.2.1 Filtered Suspended Solids Samples

The collection of filtered suspended solids at the expanded stormwater sampling locations was performed in a manner consistent with preliminary filtered suspended solids sample collection methods, as outlined in the preliminary stormwater sampling SAP/QAPP (SAIC 2009a). Events and locations where filtered suspended solids were collected are listed in Table 1.

Prior to each sampling event, clean, pre-weighed filters were installed in each filter housing and the beginning totalizer reading was recorded on the totalizer field form (Appendix A). A 50-gallon per minute (gpm) pump was positioned in the SD beneath the manhole cover. A float switch on the pump was set to trigger sampling when SD water depth exceeded a pre-determined depth. Once triggered, water was pumped up through the intake line and split into parallel filter housings. Each filter housing contained a 20-inch long, 4-inch diameter filter bag. All filter bags were constructed of 5 micron (µm) polypropylene felt. The outflow from each filter housing was piped into a totalizer to measure flow. Outflow from both totalizers was combined and piped back into the SD. When possible, discharge pipes were installed downstream of the effluent pump, avoiding the potential for re-circulation of water. After sampling, the final totalizer readings were recorded, filter housings were drained, and filters were removed. Residual water was gently squeezed from the filter bags. Filter samples were placed in clean, labeled, Ziploc bags and stored on ice for delivery to the analytical laboratory.

Exceptions to this method are described below:

MH133D, MH138, MH178, and CB423. Field observations made during Event 8 indicated that stormwater was not deep enough to trigger continual float switch activation at these locations. The periodic activation of the float switch and pump allowed for excess air to enter the system, causing air lock and preventing further sampling.

Prior to Event 9, pre-washed silica sand was triple bagged inside polypropylene sand bags and placed slightly downstream of the effluent pump to increase the water depth. All sand bags were tightly secured. During subsequent events, stormwater flows successfully triggered the float

switches and activated sample equipment at all locations except MH178, which required the installation of a second sandbag after Event 9.

CB165. The float switch was inconsistently activated during Event 8 due to the small vault volume and low flow of stormwater. The pump was plugged into an automated timer and set to 15-minute intervals to prevent the pump from overheating. Prior to Event 9, the discharge pipe was removed from the system and stormwater was allowed to continuously re-circulate during sampling.

CB173. No additional modifications were made to this location. It is important to note that the SD leaving this structure was engineered to be inverted. During a storm, discharge water from the filtration system would flow backwards into the CB173 vault. An unknown quantity of stormwater was likely re-circulated though the sample unit during sampling.

MH434. Stormwater flow during Event 8 inconsistently activated the float switch due to low flows. During Event 9, a high tide obscured the stormwater flow. Prior to Event 9b, a weir was constructed to allow the stormwater to accumulate to a depth that could be sampled. The weir consisted of a 0.15-meter (6-inch) tall piece of wood cut to fit the width of the drain. Ten sandbags were secured and positioned to hold the weir in place.

Several days after Event 9b, field personal noticed the weir had been dislodged and several sandbags had moved. It is believed a combination of high velocity flow from the lift station and a high tide blocking the flow to Slip 4 resulted in water being diverted toward MH434. Sample results collected at this location may not be representative of actual stormwater runoff from the parking lot. They are likely a mix of parking lot runoff, tidal water from Slip 4, and stormwater discharged from the lift station.

2.2.2 Whole Water Samples

Whole water samples were collected using Isco 6712 stormwater sampling units at MH108 and LS431. The inlet for the Isco samplers and the flow sensors were mounted adjacent to each other on stainless steel scissors brackets. As outlined in the preliminary stormwater sampling SAP (SAIC 2009a), the flow sensor and Isco inlet were installed upstream of the filtered solids effluent pump at MH108. However, the large vault-like drain configuration at the lift station prevented upstream installation of the bracket at LS431. Instead, the flow sensor and inlet were installed about 1.5 meters (5 feet) downstream of the effluent pump. The output from the filtered solids sampler was designed to discharge an additional 0.6 meter (2 feet) farther downstream.

Flow-weighted sampling programs were selected for each Isco unit prior to a sampling event. Flow weighting consists of collecting equal volume aliquots at predetermined volume intervals. The aliquot volume was constant at 500 milliliters (mL) for all sampled events. The volume interval was calculated using forecasted rainfall totals and the relationship between rainfall and stormwater flow established from previous rain events.

All samples were collected in 5-gallon glass carboys. During sampling, the carboy and collected water were stored on ice in the base of the Isco unit. After sampling, the carboy was delivered to the analytical laboratory, where the sample was split for analysis. The laboratory was responsible for decontamination of the carboy as specified in the SAP/QAPP Addendum (SAIC 2010b). Additional information regarding whole water sample events is listed in Table 1.

2.2.3 Base Flow Samples

The methods described above for filtered suspended solids and whole water sampling were also used to collect base flow samples from MH108 and LS431. During dry periods, the lift station pumps are active for less than an hour per day. Base flow sampling spanned a multiple-day dry period to in order to collect enough solids at the lift station. At the lift station, the Isco sampler was set to collect an aliquot every lift station pump cycle. At MH108, the Isco was set to collect an aliquot every 4 hours. The filtered solids pump at MH108 was set on a timer at a rate of one-half hour on, one-half hour off to avoid damage to the pump. A base flow sample was collected at CB173 during the second base flow event. The pump ran for one day without a timer. A timer was installed on the second day for the remainder of sampling. Table 2 lists the dates of the base flow samples.

2.2.4 Particle Size Fractionation Samples

Three composite samples were collected for analysis of PCBs, metals, and PAHs by grain size fraction. Each sample was split into four size categories: <63 µm, 63 to 250 µm, 250 to 500 µm, and >500 µm. A large filtration system consisting of four parallel filter bags was constructed in order to obtain enough material for analysis. The system was installed in the lift station vault to avoid the intermittent flow at the downstream side of the lift station.

The sampler was only activated during periods of continuous precipitation in an effort to collect solids from stormwater rather than base flow. Precipitation events for these samples did not follow the event-based criteria of the regular storm events (Section 3.1.4). Each sample consisted of four filters from three events.

Filters for the first sample were collected between March 26 and March 30, 2010. The second sample was collected between April 27 and May 5. The third sample was a composite of two different time periods. The first set of filters was collected April 3, the second on April 9, and the third on May 20.

2.2.5 Parking Lot Surface Solids Samples

Filtered solids collected from the MH434 SD are not representative of stormwater runoff. To better evaluate the parking lot as a potential source of contaminated sediment to Slip 4, six surface solids samples were collected on July 13, 2010 (Figure 4).

The channel drains in the parking lot were sampled for surface material. Because drains D434A and D435B are long, samples were collected from the north and south ends of both of these structures. Additional samples were collected from channel drains D283A and D436A located southeast of Building 3-370. Composite samples were obtained from each of these areas to create a representative sample of sufficient size for analysis. These composite samples were collected from empty parking spaces within several lateral feet of each structure. A separate push broom was used at each location. Surface sweepings included surface material such as fragments of pavement, vehicle debris, soil, gravel, other fine particulate debris, and organic matter from each area. Cigarette butts were removed from the sample. Areas of liquid oily material or sheen were avoided when collecting surface solids.

Material collected for each sample was combined and homogenized in a clean stainless-steel bowl using a clean stainless-steel spoon. The material was placed into appropriately sized sample jars, labeled, and stored on ice. Material greater than 6 millimeters (1/4 inch) was removed by the sampler prior to filling the sample jars.

2.3 Chemical Analysis

All chemical and physical analytical procedures were performed by subcontracted laboratories in accordance with Ecology guidelines as outlined in the SAP/QAPP Addendum (SAIC 2010b).

2.3.1 Filtered Suspended Solids Samples

After collection, all filters were delivered to Analytical Resources, Inc. (ARI), of Tukwila, WA, for processing and analysis. Table 3 lists the filtered suspended solids samples selected for analysis. Filtered solids from the "A" filter of the parallel filter setup were first scraped to obtain material for analysis of metals and grain size. Approximately 10 grams of material were needed for metals analysis, and approximately 20 grams for grain size. If insufficient sample material was obtained, mercury was analyzed first, followed by other metals, then grain size. The remainder of the filter bag was dried to determine the dry weight of material captured during filtration. The dry filter bag was extracted and analyzed for PCB Aroclors.

The "B" filters from Events 6, 7, 8, and 10 were analyzed for PAHs. Due to the volatility of PAHs, the filter was not dried prior to extraction. The "B" filters from Events 9, 9b, Base Flow Event 1, and Base Flow Event 2 were dried and weighed by ARI and sent to Axys Analytical Services, Ltd (Axys) of Sidney, BC, for analysis of dioxin/furan congeners by Method E1613. Dioxin/furan extracts from Event 9 and 9b were combined for CB423 to ensure enough material for analysis.

Analytical methods are listed in the chemistry summary (Tables 4 through 7).

2.3.2 Whole Water Samples

The carboys containing whole water samples were delivered to ARI for splitting and analysis. Samples from LS431 and MH108 were analyzed from Storm Events 6, 7, 8, 9, and 10 and Base Flow Events 1 and 2 for conventional parameters (hardness, pH, alkalinity, anions, total organic carbon [TOC], dissolved organic carbon [DOC], total suspended solids [TSS]), volatile organic compounds (VOC), semi-volatile organic carbon (SVOC), SVOC by Selective Ion Monitoring (SIM), low level PCBs, and total and dissolved metals.

Due to instrument problems at ARI, analysis of metals for Event 6 and Base Flow Event 1 were sub-contracted to Fremont Analytical, Seattle, WA. All analytical methods are listed in the chemistry summary in Tables 8 and 9.

2.3.3 Particle Size Fractionation Samples

After sampling a precipitation event, filters were delivered to ARI. ARI scraped and composited solids from each filter. Solids were archived until a sufficient volume was collected. Total mass for each sample ranged from 2,500 to 4,300 grams. ARI passed the composited sample through appropriately-sized sieves for separation into particle size fractions. During processing, filters

and other equipment were rinsed with stormwater collected from the filter housings at the lift station vault.

Samples were alternatively analyzed for PCBs, metals, and PAHs. Analytical methods are listed in Table 10.

2.3.4 Surface Solids Samples

Six surface solids samples were delivered to ARI for analysis. All samples were analyzed for TOC, grain size, SIM SVOC, PCB Aroclors, and metals. Analytical methods are listed in Table 11.

3.0 Flow Measurement Results

This section presents a summary of flow measurements collected from the NBF lateral SD lines. Measured values for flow are compared to the total area in each of the lateral SD line drainage areas.

3.1 Flow Measurements and Precipitation

Flow data logged by the Isco equipment was managed using the Isco program Flowlink (Version 5.10.206). All data incorporated into Flowlink are stored in a Microsoft Access database. Local precipitation and tide height data were added to the Access database to aid interpretation of the storm hydrographs.

3.1.1 Precipitation

Precipitation data from the Seattle Boeing Field-King County International Airport rain gauge (identified as "KBFI") was used to represent rainfall at NBF-GTSP (Figure 1). Trace amounts of precipitation are reported as "T", and were replaced with 0.0254 millimeter (mm) (0.001 inch) when added to the Access database. Precipitation data from March through July 2010 were added to the database. There were no gaps or other obvious recording issues during this time period.

3.1.2 Tide

Validated tidal data from the Seattle tide station (Station ID 9447130) were used to determine tidal inflow at MH434 and LS431. Tide data between October 1, 2009, and June 30, 2010, were downloaded from the National Oceanic and Atmospheric Administration (NOAA) website (http://coops.nos.noaa.gov/data_menu.shtml?stn=9447130%20Seattle,%20Puget%20Sound,%20WA,%20WA&type=Tide%20Data). All data were added to the Access database in units of meters above mean lower low water (MLLW).

The heights of the sensors at MH434 and LS431 were determined by comparing the level measurements made by the Isco flow sensors with the NOAA tide height. The sensor at MH434 sits at 3.32 meters MLLW (10.9 feet). The sensor at LS431 sits at 3.84 meters MLLW (12.6 feet). Figures showing total flow, tidal height, and rainfall for each event at LS431 and MH434 are presented in Appendix B. The tide was above the level of the sensor at LS431 during Events 5, 7, and 8. The tide was above the level of the sensor at MH434 during Events 8, 9, 9B, and 10.

3.1.3 Stormwater Flow Records

This section summarizes the flow measurements collected from mid-February through early July, 2010. A regression between volume of stormwater (liters) and precipitation amount (mm) for all recorded rain events was created for each location. The intercept of each regression was set to zero to prevent negative flow volumes at low precipitation amounts. The slope of each regression is a constant representing runoff from each of the lateral line drainage areas.

LS431. Flow through the lift station is described in the preliminary stormwater sampling data report (SAIC 2010a). Briefly, stormwater runoff from NBF drains to the lift station where it collects in an underground storage vault. Up to four pumps are activated to lift the water above

sea level for discharge to Slip 4. Errors with the flow sensor's level measurements resulted in flows from the lift station being underreported. The original flow was modified by adding a 0.2-meter (8-inch) correction factor to the level data. Volume versus precipitation regressions for both the original (Figure 5, graph A) and modified flow (Figure 5, graph B) were calculated to show the range of possible values. As in the preliminary data report, the modified flows are used in the report text and figures to describe conditions at the lift station.

Lift station flow remained between 0.8 and 0.95 m^3/s (12,700 to 15,000 gpm) through March. Beginning in early April, flows became more variable between pump cycles. Discussions with the county revealed that the individual pumps rotate activation. The variable flow is either due to calibration issues with the flow sensor or that the lift station pumps need servicing.

Base flow through LS431 decreased over the duration of expanded stormwater sampling. In mid-February, base flow was approximately 2,300,000 liters (590,000 gal) per day, equating to an average of five pump cycles. Base flow had decreased to just over four pump cycles per day in early March. By late June, the pumps were only activated three times per day.

Figure 5, graphs A and B, show the volume versus precipitation relationships between the original and modified flows at LS431. The slope of the original regression is 213,880 liters of stormwater per millimeter of precipitation. The slope of the modified relationship is over three times higher at 722,689 L/mm rain ($r^2 = 0.923$).

There were three periods where measurements at the lift station were not recorded. The first spanned February 5 through February 19. The second spanned March 12 through March 17. The third spanned May 20 through June 1.

MH356. The portion of the south lateral SD line between the lift station and MH353 is part of the storage capacity of the lift station. The water level in this area is dictated by the cycling of the lift station. As a result, the flow profile at MH356 is similar to that of LS431 (see Appendix B).

During base flow conditions, one lift station pump is activated when the water level at MH356 reaches 0.9 meter (3 feet). Over the course of the 8- to 10-minute pump cycle, the water level drops to 0.35 meter (1.1 feet). After the lift station pump shuts off, the water level rapidly increases to about 0.6 meter (2 feet). The velocity and flow are negative during this period of rapid level rise. This implies that water is flowing backward over the sensor from elsewhere in the water storage area behind the lift station. The water level continues to rise to 0.9 meter. Velocity is too slow to measure during this period of slow level rise.

The same general pattern is observed during precipitation events. However, the large amount of water coming through the south lateral SD line during storm events prevents much of the backward flow of water over the sensor. Given the complexities of the sensor location, it is difficult to determine if there is any base flow input from the south lateral SD line.

Figure 5, graph C shows the relationship between volume and precipitation at MH356. The slope of the regression is 152,279 L/mm rain ($r^2 = 0.912$). Flow at MH356 is 21 percent of the modified flow at LS431.

There were gaps in data collection at MH356 between April 21 and May 4, and between June 2 and June 10.

MH369. The flow sensor at MH369 was installed in a 1.52-meter (5-foot) diameter SD that serves as part of the lift station's storage overflow in the south-central lateral line. During base flow, water level at MH369 varied with the activation of the lift station. The lift station pump was activated when the water level reached 0.78 meter (2.6 feet). The level dropped to 0.44 meter (1.5 feet) after the pump turned off. There was no negative flow of water over the sensor comparable to that observed at MH356.

During base flow, velocity readings were approximately 0.06 m/s (0.2 ft/s) when the lift station was activated. During storm flow, the water near the sensor was agitated due to input from an elevated SD line and from an upstream bend in the south-central SD line. As a result, velocity readings during storm flow were variable and frequently negative. Total flows could not be measured during storm events.

When the flow sensor was installed, it was mistakenly believed the only input to MH369 were two 0.3-meter (1-foot) surface drains located 1.2 meters (4 feet) beneath the surface. On May 7, the flow sensor was moved from the 1.52-meter drain to the only one of these drains with stormwater flow. The intent was to measure at least a portion of flow entering MH369.

The volume versus precipitation relationship at this location has a slope of 11,045 L/mm rain (r^2 = 0.899). This slope is only 1.5 percent of the modified LS431 flow. This is much smaller than the expected amount of runoff from this area. Flow from the small drain at MH369 was not representative of total flow in the south-central SD line. Close inspection of the CAD files showed that the larger and deeper line where the sensor was originally installed was the correct location for flow through the south-central SD line. This location was not suitable for flow measurements due to the conditions noted above.

None of the flow data from MH369 is considered usable.

MH226. There were no major issues with data collection at MH226. Flow data spanning the entire time period were successfully collected. Maximum level readings were 0.21 meter (0.7 feet) and velocity reached a maximum of 1 m/s (3 ft/s). Between precipitation events, level and velocity were slow to reach zero, although the impact this had on flow was negligible.

The volume versus precipitation relationship is shown in Figure 5, graph D. The slope is 63,569 L/mm rain (r^2 = 0.964).

MH108. The most persistent issue encountered at MH108 during the preliminary stormwater sampling was errors in the velocity measurements while sampling (SAIC 2010a). Velocity readings would increase as the first flush of stormwater hit the sensor, and then remain elevated after the stormwater flow was reduced. This issue was present for Events 1 through 5.

The problem was less severe, but not solved, for the expanded stormwater sampling. Flow data from Events 6 and 10 were impacted the most. As a precaution, flow from these two events has been calculated from the volume versus precipitation regression. Event 7 did not seem to be impacted by this problem. Events 8 and 9 had some issues with velocity, but the velocity profile was still a good match with the storm hydrograph. Flow from Events 7 through 9 is usable as measured.

With the exception of the velocity measurement problems during sampling events, there were no issues at MH108. All measurements were successfully collected through the end of June.

Maximum water levels at MH108 were close to 0.5 meter (1.5 feet), and maximum velocities approached 0.9 m/s (2.95 ft/s). The slope of the relationship between volume and precipitation was 111,562 L/mm rain ($r^2 = 0.940$) (Figure 5, graph E).

CB423. There were no major issues with data collection at CB423. Data spanning the entire time period was successfully measured. Maximum level readings were 0.09 meter (0.3 feet) and velocity reached a maximum of 0.55 m/s (1.8 ft/s). As with MH226, level and velocity were slow to reach zero between precipitation events.

Figure 5, graph F shows the volume and precipitation regression for CB423. The slope is 8,335 L/mm rain ($r^2 = 0.919$). CB423 drains the area around Building 3-380 and is the smallest area draining to the lift station. It represents about 1.2 percent of the total modified flow from the lift station.

MH434. Flow data from storm events was not successfully measured at MH434. Tides entered MH434 with a frequency that made it difficult to isolate flows associated with precipitation events. There were a few instances where there was precipitation and no tide. During these times, level readings from the flow sensor did not exceed 0.04 meter (1.5 inches). By comparison, tidal depths ranged up to 0.5 meter (1.5 feet).

3.1.4 Event Summaries

The same precipitation criteria were applied to Storm Events 6 through 10 as for the preliminary stormwater sampling (SAIC 2010a). The goal of each storm event was to meet criteria established by Ecology's Environmental Assessment Program's (EAP) standard operating procedures (SOPs) for stormwater monitoring (Ecology 2009). All sample event figures are presented in Appendix B.

A qualifying storm event was defined as follows:

- At least 3.8 mm (0.15 inch) of rainfall;
- Event duration of at least 5 hours;
- No more than 1 mm (0.04 inch) of rainfall during the preceding 24 hours;
- Sampling duration that includes at least 75% of the storm event hydrograph, or at least 75% of the first 24 hours of the storm if the storm lasted more than 24 hours;
- Collection of at least 10 sample aliquots, with a minimum volume of 200 mL.

All sampled events had at least 3.8 mm of precipitation and lasted for at least 5 hours. For Events 7 and 9, 4.6 mm (0.11 inch) and 2.8 mm (0.11 inch) fell in the preceding 24 hours, respectively. Less than 1 mm fell before all other events. Determination of storm hydrographs was difficult for many of the events due to the inconsistent nature of spring rainfall. For Event 8, the entire storm hydrograph was sampled. A period of at least 20 hours was sampled for all other events. Nine aliquots were sampled at LS431 for Event 10. A sufficient number of aliquots were collected for all other events.

The only criteria for the base flow sampling were to avoid precipitation and make sure enough aliquots were collected to be representative of the sampling period. At least 10 aliquots were collected for each of the base flow events. During the first base flow sampling event, a trace

amount of precipitation fell during the last hour of sampling. During the second full base flow event, a trace amount of precipitation fell midway through sampling.

4.0 Chemistry Results

This section presents and summarizes analytical results for the expanded stormwater sampling effort. Results from the preliminary stormwater sampling are included in the discussion as relevant. The particle size fractionation results and parking lot surface solids samples are summarized separately. Chemical data validation results are summarized in Section 5.0.

4.1 Filtered Suspended Solids Sampling

Filtered suspended solids sampling results from LS431 and MH108 are summarized in Tables 4 and 5, respectively. Results from the additional locations on the north lateral SD line are presented in Table 6. Results from sampling of additional SD lateral lines are presented in Table 7. Included in each table are the mass of solids from each filter bag, the flow through each totalizer, and if available, the total volume of stormwater at each location. Laboratory data summaries are available in Appendix C.

4.1.1 Physical Parameters

Two measures of filtered solids mass are included in the tables. "Total extracted solids" represents the dried mass of the sample filter (after wet weight splits were removed for grain size and metals) minus the pre-weighed mass of the filter. In other words, total extracted solids are the mass of material extracted for PCB Aroclor and dioxin/furan congener analysis. "Estimated total solids" represents the total extracted solids mass plus an assumed dry weight of the grain size and metals splits.

The calculated TSS is the estimated total solids mass divided by flow through the totalizer. However, the filtration system design likely resulted in inflated totalizer flows relative to collected solids. One problem was the variable velocity of water through the filtration system over the course of an event. As solids were collected on the filter, the flow through the filter became restricted. The decrease in flow decreased the line velocity and may have resulted in the settling of some of the larger suspended solids prior to reaching the filter.

A second problem was related to the seal between the filter bag and the top of the filter housing. A felt gasket on top of the filter bag formed a seal between the filter bag and the filter housing during sampling. As the filter bag collected solids, the pressure on the bag increased. It is possible that the pressure became high enough during sampling to separate the seal and bypass the filter. This would allow water to flow through the totalizer without contributing solids to the filter. TSS as measured by the filtration system should be used with reservations. Filtered solids and whole water TSS measurements are compared in Section 4.2.

Because neither of these issues occurred until a sufficient amount of solids had accumulated on the filter, the physical and chemical data analyzed from the collected solids are believed to be representative of stormwater suspended solids.

Grain size analysis was conducted when sufficient material could be scraped from the filter bag. Eight samples each were analyzed from the storm events at MH108 and LS431, plus the two base flow events. There was no consistent particle size distribution at LS431. Events 4, 7, and 8

had percent fines at 97.4 percent, 99.6 percent, and 99.3 percent, respectively. In contrast, percent fines in Events 1, 2, 6, and 9 ranged between 13.8 percent and 65.9 percent.

The particle size distribution at MH108 was more uniform across storm events. Percent fines for Events 1 through 6 and Events 8 and 9 ranged between 37.7 and 66.6 percent. Most of the coarse material for these events was in the sand fraction. Event 7 differed from the rest with 99.9 percent fines. The particle size distribution between silt and clay was similar between LS431 and MH108 for Event 7. Both were near 66 percent silt and 33 percent clay.

Percent fines for base flow events were expected to be high. Fines for Base Flow Event 1 (March 20, 2010) at LS431 was 92.4 percent, and 99.9 percent at MH108 (February 23, 2010). Percent fines for Base Flow Event 2 at LS431 were 99.9 percent. Fines for Base Flow Event 2 at MH108 were 57.9 percent, with 26.2 percent of the particle size distribution consisting of coarse sand.

Grain size was measured in two other locations representing NBF drainages. Two samples were analyzed from MH434, containing 97.5 and 99 percent fines. Both events were tidally influenced, suggesting river water as the source of the fines. One sample was analyzed from CB423. It contained 81.7 percent fines and 17.2 percent sand. There was visible sand at the bottom of the catch basin at this location.

Seven grain size samples from four locations were collected from the north lateral SD line locations. Percent fines ranged between 73.6 and 100 percent for all samples.

4.1.2 Chemical Analysis

Metals

Metals results were compared to the Washington State Sediment Management Standards (SMS) numeric Sediment Quality Standards (SQS) and Cleanup Screening Levels (CSL) criteria (Washington Administrative Code [WAC] 173-204). PCBs and PAHs were compared to the lowest apparent effects threshold (LAET) and the second LAET (2LAET) (PTI 1988). The LAET and 2LAET are functionally equivalent to the SMS/CSL values, but are not organic carbon normalized. Collection of TOC data from the filters was not possible due to interference from the organic polypropylene filter bag.

Metals were analyzed in all of the filtered suspended solids samples collected as part of the expanded stormwater sampling effort. Silver and arsenic were frequently not detected. Of the detected concentrations of silver, only one exceeded the SQS/CSL. During Event 9 at CB165, silver concentrations were 160 milligrams per kilogram (mg/kg). Arsenic was detected in about half of the filtered solids samples. Undetected samples frequently exceeded the SQS and CSL criteria due to elevated reporting limits. Detected arsenic concentrations exceeded the criteria at MH369, MH226, MH133D, and MH138 (Tables 4 through 7).

Chromium and lead had one exceedance each. Chromium exceeded the CSL at MH133D during Event 10 with a concentration of 274 mg/kg. The only exceedance for lead occurred at MH108 during Event 4 of the preliminary stormwater sampling. Copper exceeded the SQS/CSL criteria in a total of six samples. Five of these exceedances were from locations in the north lateral SD line. The only other exceedance was Event 10 at MH226 in the north-central lateral line.

With the exception of one exceedance at LS431, all exceedances for mercury occurred in the north lateral line (Figure 6). MH133D, CB173, and CB165 had the highest average concentrations. Both CB165 and CB173 had individual measurements of mercury over 10 mg/kg (Figure 6, graph C). Average concentrations at MH152 and MH108 were also elevated at levels above 0.7 mg/kg. Unlike other locations in the north lateral SD line, concentrations at MH178 and MH138 were below the SQS. Stormwater at MH178 enters from off site at the north end of the drainage. MH138 is at the downstream end of a small drainage within the north SD line. Concentrations at LS431 averaged 0.4 ± 0.6 mg/kg. Combined concentrations at all remaining drainage lines averaged 0.23 ± 0.09 mg/kg.

Zinc and cadmium were detected at levels that exceed the SQS and CSL criteria at nearly all locations. The highest cadmium concentrations were 78 mg/kg and 102 mg/kg from Events 9 and 10 at MH133D, respectively. These were the only two samples collected at MH133D. Measured concentrations of cadmium at all other locations ranged between 3.0 and 31.2 mg/kg. Zinc exceeded the CSL in at least one sample at all locations except MH369 and MH178.

Base flow filtered solids samples were analyzed for metals at MH108, LS431, and CB173. At CB173, base flow concentrations were comparable to those found during storm events. Arsenic, cadmium, mercury, and zinc were detected in base flow at CB173 at concentrations above the SQS. At LS431 and MH108, base flow concentrations were lower than during storm events with two exceptions. The highest lead concentration at LS431 was measured during Base Flow Event 1. The second highest mercury concentration at MH108 (2.29 mg/kg) was also measured during Base Flow Event 1.

Many of the metals show a pattern where concentrations are lowest at LS431. This is true for cadmium, chromium, copper, lead, and zinc. It is not clear what could have resulted in higher concentrations in the individual lateral lines than in the combined output. Though not directly comparable, the concentrations of metals from samples collected for size fractionation from the lift station vault (Section 4.3) do appear to be higher than concentrations from the downstream side of the lift station.

PCBs

Total PCB concentrations were reported as micrograms (µg)/filter and converted to µg/kg by dividing by the mass of total extracted solids. Total PCBs were calculated as the sum of detected Aroclors 1221, 1232, 1242, 1016, 1248, 1254, and 1260. Total PCBs exceeded the LAET or 2LAET in all samples with the exception of Event 9 at MH178.

Average total PCB concentrations at LS431 over 11 events (plus Event 9b) were 1.3 ± 0.8 mg/kg, compared with 6.4 ± 5.9 mg/kg at MH108. MH108 had the highest average PCB concentration of the major lateral lines. Total PCBs exceeded the 2LAET in every sample collected at MH108. Average concentrations in the other three lateral SD lines were closer to 0.5 mg/kg (Figure 7b).

The base flow samples had some of the highest PCB concentrations measured in this study (Figure 7a and 7c). Base Flow Event 1 and 2 at MH108 had concentrations of 25 mg/kg and 22 mg/kg, respectively. One base flow sample was collected at CB173. The concentration in this sample was 43 mg/kg. There is some question as to whether this sample was representative of base flow or stormwater holdover. The structure CB173 is lower than the exiting SD. Boeing has

observed no base flow entering the structure from upstream, but has indicated that base flow from downstream may be flowing into this location. Two base flow samples were also collected at LS431. Both samples fell within the range of concentrations measured during the storm events. These results indicate that base flow is responsible for higher PCB concentrations in the north lateral SD line, but that these higher concentrations do not have a significant impact at LS431, possibly due to dilution with cleaner base flow from other areas of the site.

There were also differences in the Aroclor distribution between storm event and base flow samples. Aroclors 1254 and 1260 were most commonly detected in the storm events. Aroclors 1242 and 1254 were detected in the base flow samples.

PCBs in the north lateral SD line were higher than in other locations. The locations with the highest concentrations were those on the main branch of the north lateral SD line. Concentrations at CB165 averaged 3.8 ± 3.2 mg/kg over the course of three events, while concentrations at CB173 averaged 14.2 ± 3.7 mg/kg. MH178 is located next to CB173. However, unlike CB173, much of the stormwater flow at MH178 comes from off site. Concentrations at MH178 were over an order of magnitude lower than those at CB173 (Table 7, Figure 7, graph C).

There is a small positive correlation ($r^2 = 0.666$) between MH108 and LS431 PCB concentrations, suggesting that elevated concentrations at LS431 are influenced by MH108. While there is no overall correlation between rainfall (stormwater volume) and concentration, the two events with the lowest rainfall at both MH108 and LS431 had the highest PCB concentrations.

PAHs

PAHs were measured in filters from Events 3, 6, 7, 8, and 10. Total high molecular weight PAHs (HPAHs) were calculated as the sum of the detected compounds fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene. Total low molecular weight PAHs (LPAHs) are the sum of detected compounds of naphthalene, acenaphthylene, acenapthene, fluorene, phenanthrene, and anthracene.

Phenanthrene frequently exceeded the LAET or 2LAET criteria. Other LPAHs were often not detected. Total LPAH concentrations were typically about one-tenth as high as total HPAH concentrations.

Total HPAH concentrations were variable between LS431 and MH108 (Figure 8, graph A). However, the average concentration of HPAH across the five events was similar at both locations, at 17.8 mg/kg for MH108 and 18.8 mg/kg for LS431. MH369 had the lowest concentrations found in the main lateral lines, while MH226 and MH356 had the highest (Figure 8, graph B).

Locations in the north lateral SD line were just as variable. HPAH ranged between 3.8 and 7.0 mg/kg at CB173 and CB165. The concentration from the lone sample collected from MH133D was 97.8 mg/kg.

Dioxins/Furans

Dioxin/furan congeners were analyzed from Events 2, 4, and 9, with select samples analyzed from Event 9b. The first base flow sample from MH108 was analyzed for dioxin/furan congeners. Filters from MH108, LS431, and CB173 were analyzed from the second base flow event.

Concentrations of each congener were normalized to the toxicity of 2,3,7,8-TCDD (tetrachlorodibenzodioxin) using toxic equivalency factors (TEFs) updated by the World Health Organization (WHO) in 2005 (Van den Berg et al. 2006). The toxic equivalent quotient (TEQ) is equal to the sum of the concentrations of individual congeners multiplied by their TEF. TEQ values are reported using 0 and ½ times the method detection limits for nondetected congeners.

TEQ concentrations at both LS431 and MH108 were much higher for Events 2 and 4 than for Event 9. At MH108, Event 2 and 4 concentrations were 144 and 157 picograms per gram (pg/g) TEQ, respectively. For Event 9, the concentration was 10.6 pg TEQ/g (ND=0). There was a similar decrease at LS431. Base flow concentrations at MH108 and LS431 were similar in magnitude to Event 9. At CB173, the Base Flow Event 2 concentration was 65 pg TEQ/g, compared with 18.5 pg TEQ/g for storm Event 9.

All locations were sampled as part of Event 9 or 9b. Of the lateral line locations, MH356 was most similar to the lift station with a concentration of 6.58 pg TEQ/g. MH369 and MH226 had concentrations of 17.2 and 44.6 pg TEQ/g (ND=0), respectively. As with the metals, it is not clear why the dioxin/furan concentration at LS431 is lower than those at the other lateral lines. MH434 in the parking lot drainage had a TEQ of 65.6 pg/g.

Samples from the north drain line during Event 9 ranged from 10.6 to 49.6 pg/g TEQ. There is no clear pattern to the concentrations (Tables 6 and 7).

4.2 Whole Water Sampling

Whole water sampling results from LS431 and MH108 are summarized in Tables 9 and 10, respectively. Concentrations are compared to the lower of the chronic marine water or freshwater criteria (WAC 173-201A-240). Contaminants lacking marine or freshwater criteria are compared to the human health water quality criteria for consumption of organisms (HHO) (USEPA 2006). Laboratory data summaries are presented in Appendix C.

4.2.1 Physical Parameters

Conventional parameters including pH, alkalinity, hardness, TSS, chloride, nitrate, sulfate, DOC, and TOC were measured in each of the whole water samples. The pH was consistently higher at LS431, although all events at both locations ranged between pH values of 6.7 and 7.7. Correspondingly, alkalinity was also higher at LS431. At both locations, alkalinity was highest during the two base flow samples. Chloride varied over the course of 10 events, particularly at LS431. There was no relationship between chloride and tidal influx into LS431 (Section 3.1.2).

TOC ranged between 6.5 and 21.2 mg/L and averaged 8.7 mg/L at LS431. TOC ranged between 4.3 and 31.8 mg/L and averaged 7.2 mg/L at MH108.

Figure 9 presents whole water TSS for all storm and base flow events at LS431 and MH108. Calculated TSS from the filtered solids are included for comparison. As stated, TSS data from the filtered solids collection are biased low due to excess water flow through the totalizer (Section 4.1.1). Given the problems with calculating TSS from the filtration system, whole water TSS are considered more representative of stormwater conditions. Sampling and analytical methods support this. The whole water samples analyzed for TSS were volume weighted over the course of a storm event and were sampled using a consistent pump flow and velocity. In the laboratory, a known volume of water was passed through a 0.45-micron filter.

The relationship between the whole water and filtered solids TSS at LS431 and MH108 can hopefully be extrapolated to the sampling locations in the other drainage basins to allow for better loading estimates.

Average TSS concentrations were 27.5 mg/L at LS431 and 24.2 mg/L at MH108. There was some variability around these averages. Concentrations ranged between 3.3 and 75.9 mg/L. There was a positive correlation between TSS at the two locations ($r^2 = 0.678$).

4.2.2 Chemical Analysis

Cadmium, copper, lead, and zinc were detected at concentrations above the marine water criteria (MWC). Copper had more exceedances than the other metals. Average total copper concentrations were 8.5 µg/L at LS431 and 15.7 µg/L at MH108 for all 10 storm events. Base flow concentrations were lower than for storm events, although total copper did exceed the MWC for Base Flow Event 2 at MH108. Dissolved copper concentrations were usually about one half that of total copper.

Total cadmium was detected above the MWC in Event 6 at MH108 and Base Flow Event 1 at both LS431 and MH108. Total lead exceeded the MWC in one storm event at LS431, and three at MH108. Both cadmium and lead were rarely detected in the dissolved phase. Total zinc was detected at the highest concentration in the whole water samples. There were two exceedances at LS431 and four at MH108. Base flow concentrations of zinc were four to seven times lower than those found in stormwater.

Mercury was analyzed in all samples but never detected. The reporting limits for mercury are higher than the freshwater criteria (FC) of 0.012 µg/L.

Total PCB concentrations for each event are presented in Figure 10. Total PCBs from filtered solids are included for comparison. PCBs were detected in all samples analyzed from MH108, with concentrations ranging from 0.016 to 0.15 µg/L for the stormwater events. Base flow concentrations were higher, at 0.22 µg/L and 0.27 µg/L for Base Flow Events 1 and 2, respectively.

Total PCB concentrations at LS431 were lower than MH108. PCBs were undetected in Events 1, 2, and 10. Event 4 was below the FC. All other events exceeded the criteria. Using the reporting limit in place of undetected values, the average PCB concentration at LS431 was 0.029 for stormwater events. The concentrations from the base flow samples were lower, at 0.014 and 0.016 µg/L. The conclusion drawn from the base flow samples for filtered solids is the same for whole water: base flow is responsible for higher concentrations in the north drain line, with little impact at the lift station.

There is no direct correlation between PCBs in filtered solids and in whole water at either location (Figure 10). If whole water PCBs are normalized to mg/kg using the TSS, there is a slight correlation at MH108 ($r^2 = 0.553$) for all 10 storm events. The same correlation is not present at LS431. TSS normalized whole water concentrations are similar in magnitude to total solids concentrations at both locations.

HPAHs were detected more frequently than LPAHs. Several HPAHs, including benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, and dibenz(a,h)anthracene, have a water quality criterion (HHO) of 0.018 µg/L. These compounds frequently exceeded the HHO at LS431. HPAH concentrations were typically higher at LS431. The HHO criterion was exceeded with about half this frequency at MH108 (Tables 9 and 10).

Average HPAH concentration was 2.1 µg/L at LS431 and 1.9 µg/L at MH108. Base flow concentrations were an order of magnitude lower. PAHs in stormwater are likely a result of surface runoff, rather than groundwater infiltration.

Additional SVOCs were analyzed but seldom detected. Bis(2-ethylhexyl)phthalate was detected at levels that exceeded the HHO criteria during Events 4 and 7 at MH108. Additional phthalates, including di-n-octyl phthalate, diethylphthalate, and di-n-butyl phthalate, were detected at both locations.

VOCs detected as part of the preliminary stormwater sampling were also present in Events 6 through 10. Methylene chloride, acetone, and 2-butanone were detected in most samples. Each of these VOCs was detected in at least one of the base flow samples at each location at concentrations comparable to the stormwater samples.

4.3 Particle Size Fractionation

Results of the particle size fractionation analysis are described in the Slip 4 Sediment Recontamination Modeling Report (SAIC 2010c). Briefly, the highest total PCB concentrations were found in the finest (<63 µm) and coarsest (>500 µm) fractions in all three samples. Concentrations in both of these fractions were similar, ranging from 0.77 to 1.4 mg/kg DW. The concentrations in the medium two size fractions were 20 to 50 percent of these values (Table 10).

The metals cadmium, chromium, copper, lead, mercury, and zinc were detected in all size fractions from Composite 1. The highest concentrations of metals were found in the fine fraction and the second highest concentrations in the coarsest fraction.

Both LPAHs and HPAHs were detected in all fractions analyzed. Again, the greatest concentrations were in the fine and coarse fractions. In Composite 4, the coarsest fraction (>500 µm) contained LPAHs and HPAHs an order of magnitude higher than other fractions.

The percentage of each grain size fraction in the total composites is unknown. As such, sample concentrations cannot be reconstructed. This prevents a direct comparison of filtered solids between the lift station vault and downstream side of the lift station.

4.4 Surface Solids Samples

Parking lot surface solids samples are summarized in Table 11. Grain size analysis was conducted on each of the six samples. Total fines ranged from 7.9 to 17.2 percent. Total sand was the dominant fraction in all samples, falling in the narrow range of 75.7 to 84.2 percent. The sweep samples consist of a much coarser grain size distribution than the TSS samples collected by the filter bags.

PCBs, metals, and PAHs were analyzed in each of the samples. Concentrations were similar across the six locations for all analytes. The results were compared to the LAET and 2LAET criteria on the assumption that a portion of these solids may end up in the SD system (Table 11).

Aroclors 1254 and 1260 were detected at all locations, and Aroclor 1248 was detected at four of the locations. Total PCB concentrations ranged between 0.20 and 0.34 mg/kg, with five of the locations exceeding the LAET.

Concentrations of most metals were lower than those found in the filtered suspended solids samples. Lead and chromium were exceptions. Concentrations of these two metals were toward the high end of the range of concentrations from the filtered solids. PAH concentrations were lower than in the filtered solids. Total HPAH ranged between 1.0 and 6.3 mg/kg DW. None of the PAH or metals concentrations exceeded the LAET.

5.0 Quality Assurance/Quality Control

A full Level IV data validation was performed by EcoChem, Inc. of Seattle, WA on all analytical results, including all quality assurance/quality control (QA/QC) samples. All reported results are considered acceptable for use as qualified. The data validation report is presented in Appendix D.

Field QA/QC samples such as field replicates, whole water equipment rinseates (rinseates from the Isco samplers), and blank filter bag analyses were conducted as part of the preliminary stormwater sampling and were not repeated for the expanded stormwater sampling. During the preliminary stormwater sampling, an equipment rinseate was also collected from the filtration system; however, prior to the preliminary sampling the paint from the bottom of the sump pump was stripped using chemical strippers and abrasives. Some metals were detected in the rinseate blank. For the expanded sampling events, the paint from the bottom of the sump pump was not removed. To account for this difference, an additional equipment rinseate blank was collected during the expanded stormwater sampling to provide a quality control check on the potential for contamination from sampling equipment.

The equipment rinseate blank was collected by running de-ionized water through the filtration system, and was analyzed for SVOCs, PCBs, and dissolved metals. Bis(2-ethylhexyl)phthalate was detected at a concentration of 2.1 µg/L and copper was detected at a concentration of 1.4 mg/L. All of the associated stormwater samples that were less than the action level of 10x the rinseate blank concentration for bis(2-ethylhexyl)phthalate, a common laboratory contaminant, or 5x the rinsate blank concentration for copper, were re-qualified as non-detect during data validation.

6.0 Summary

Expanded stormwater sampling was a continuation of the preliminary sampling at NBF-GTSP. As part of this effort, the collection of filtered suspended solids and whole water samples continued at LS431 and MH108 for five additional storm events and two base flow events. Sampling of filtered suspended solids was added at selected locations in the north SD line and at the downstream end of the other lateral SD lines. Continuous flow measurements were collected at the lift station and at each of the SD lateral lines.

Sufficient flow measurements were collected from LS431, MH108, MH226, CB423, and MH356 to characterize the relationship between precipitation amount and the volume of stormwater runoff for each location. In addition, the presence of the flow meters in each lateral line helped to determine the extent of the storage capacity of the lift station. Both MH369 and MH356 were affected by the activation of the lift station pumps.

Concentrations of metals in filtered suspended solids were variable. Cadmium and zinc exceeded the LAET criteria at nearly all locations, while mercury concentrations were highest in the north lateral SD line. Concentrations of most metals in base flow were lower than the stormwater samples.

PCB concentrations for both filtered suspended solids and whole water were highest in the north lateral SD line. Base flow concentrations from the north SD line had higher concentrations than the storm events. However, base flow concentrations at LS431 were within the same range as the storm event samples, suggesting that the inflow of PCBs from the north lateral was not enough to alter base flow concentrations at the lift station. The Aroclor distribution of PCBs varied between storm events and base flow. Aroclors 1254 and 1260 were most commonly detected in stormwater, while Aroclors 1242 and 1254 were most common in base flow.

Additional parameters were analyzed in the whole water samples. Phthalates were detected occasionally, but only bis(2-ethylhexyl)phthalate exceeded the HHO criteria. Methylene chloride, acetone, and 2-butanone continued to be detected in whole water samples. Base flow concentrations of these VOCs were similar to the storm event concentrations.

Filtered suspended solids samples from MH434 were not representative of parking lot runoff due to tidal intrusion. Six surface solids samples were collected to determine whether the parking lot is a potential source of contaminants to Slip 4. PCBs exceeded the LAET in five of the samples, but concentrations were lower than those in the lateral SD lines. No metals or PAHs exceeded the LAET criteria.

7.0 References

Ecology. 2009. Standard Operating Procedure for Automatic Sampling for Stormwater Monitoring. Washington State Department of Ecology. Draft Version 1.0.

Landau. 2010. Revised Work Plan, Storm Drain System Catch Basin, Manhole, and Oil/Water Separator Sampling and Storm Drain System Cleaning, North Boeing Field, Seattle, Washington. Prepared for The Boeing Company by Landau Associates, Edmonds, WA. March 26, 2010.

PTI. 1988. Sediment Quality Values Refinement: 1988 Update and Evaluation of Puget Sound AET. Volume I. Final Report. Prepared for Tetra Tech, Inc., Bellevue, WA, and the U.S. Environmental Protection Agency, Region 10, Seattle, WA. Prepared by PTI Environmental Services, Bellevue, WA.

SAIC. 2009a. North Boeing Field/Georgetown Steam Plant Site Remedial Investigation/ Feasibility Study: Sampling and Analysis Plan and Quality Assurance Project Plan for Preliminary Stormwater and Filtered Suspended Solids Sampling. Prepared for Toxics Cleanup Program, Northwest Regional Office, Washington State Department of Ecology, by SAIC, Bothell, WA. August 2009.

SAIC. 2009b. North Boeing Field and Georgetown Steam Plant, Supplemental Report: Summary of Existing Information and Identification of Data Gaps. Prepared for Toxics Cleanup Program, Northwest Regional Office, Washington State Department of Ecology, by SAIC, Bothell, WA. August 2009.

SAIC. 2010a. North Boeing Field/Georgetown Steam Plant Site Remedial Investigation/ Feasibility Study: Preliminary Stormwater Sampling Interim Data Report. Prepared for Toxics Cleanup Program, Northwest Regional Office, Washington State Department of Ecology, by SAIC, Bothell, WA. May 2010.

SAIC. 2010b. North Boeing Field/Georgetown Steam Plant Site Remedial Investigation/ Feasibility Study: Work Plan and SAP/QAPP Addendum Expanded Stormwater Monitoring. Prepared for Toxics Cleanup Program, Northwest Regional Office, Washington State Department of Ecology, by SAIC, Bothell, WA. March 2010.

SAIC. 2010c. North Boeing Field/Georgetown Steam Plant Site Remedial Investigation/ Feasibility Study: Slip 4 Sediment Recontamination Modeling Report. Prepared for Toxics Cleanup Program, Northwest Regional Office, Washington State Department of Ecology, by SAIC, Bothell, WA. July 2010.

USEPA. 2006. National Recommended Water Quality Criteria. Prepared by United States Environmental Protection Agency, Office of Water, Office of Science and Technology. 2006.

Van den Berg, M., L.S. Bimbaum, M. Denison, M. De Vito, W. Farland, M. Feeley, H. Fiedler, H. Hakansson, A. Hanberg, L. Haws, M. Rose, S. Safe, D. Schrenk, C. Tohyama, A. Tritscher, J. Tuomisto, M. Tysklind, N. Walker, and R. Peterson. 2006. The 2005 World Health Organization Re-Evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. Prepared for the World Health Organization (WHO). ToxSci Advance Access published July 7, 2006. Published by Oxford University Press on behalf of the Society of Toxicology.

Figures

Figure 1. Overview of NBF-GTSP Location

0 500 1,000 2,000 Feet

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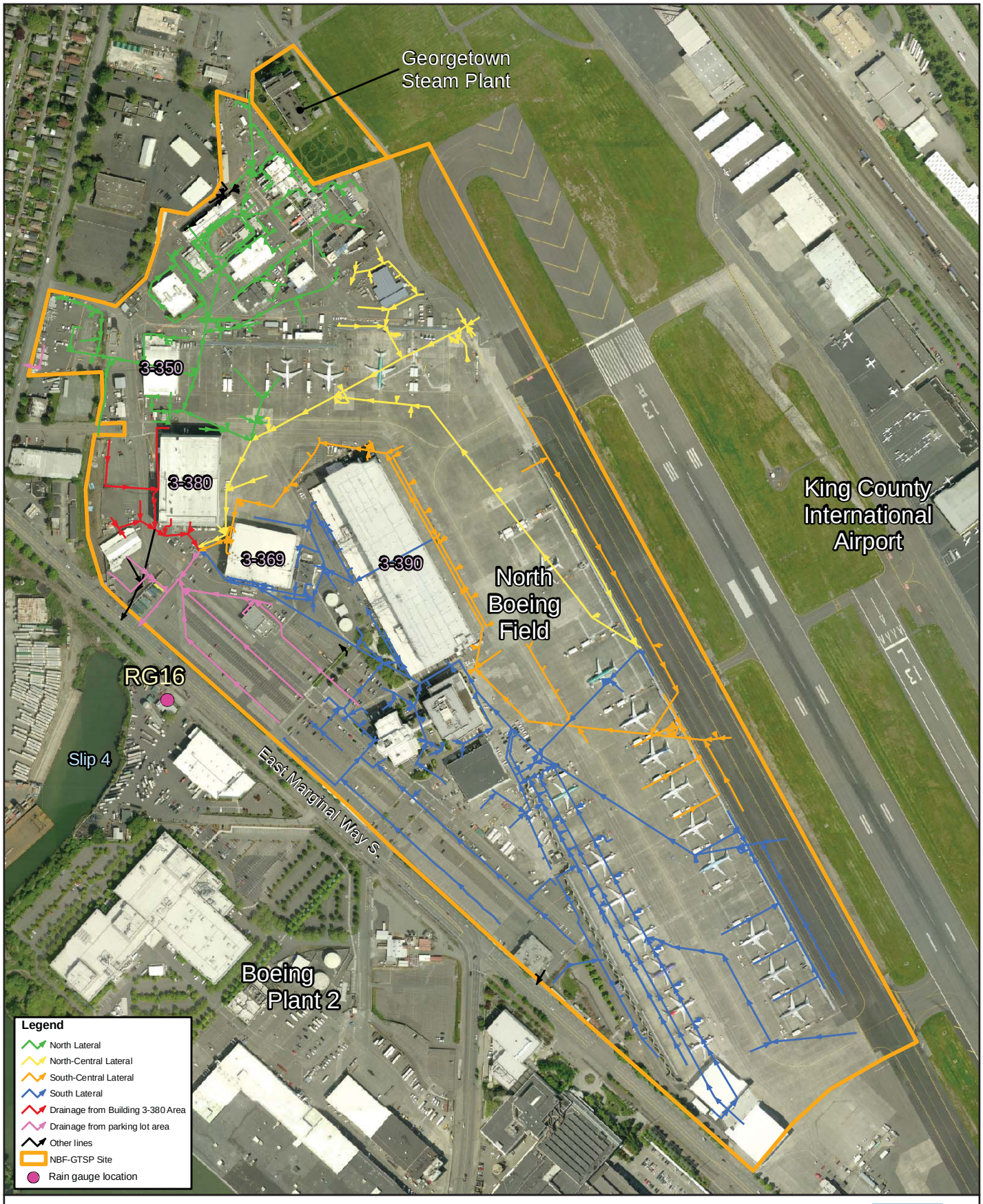

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Figure 2. NBF Storm Drain Lines

0 300 600 1,200 Feet

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State of Washington

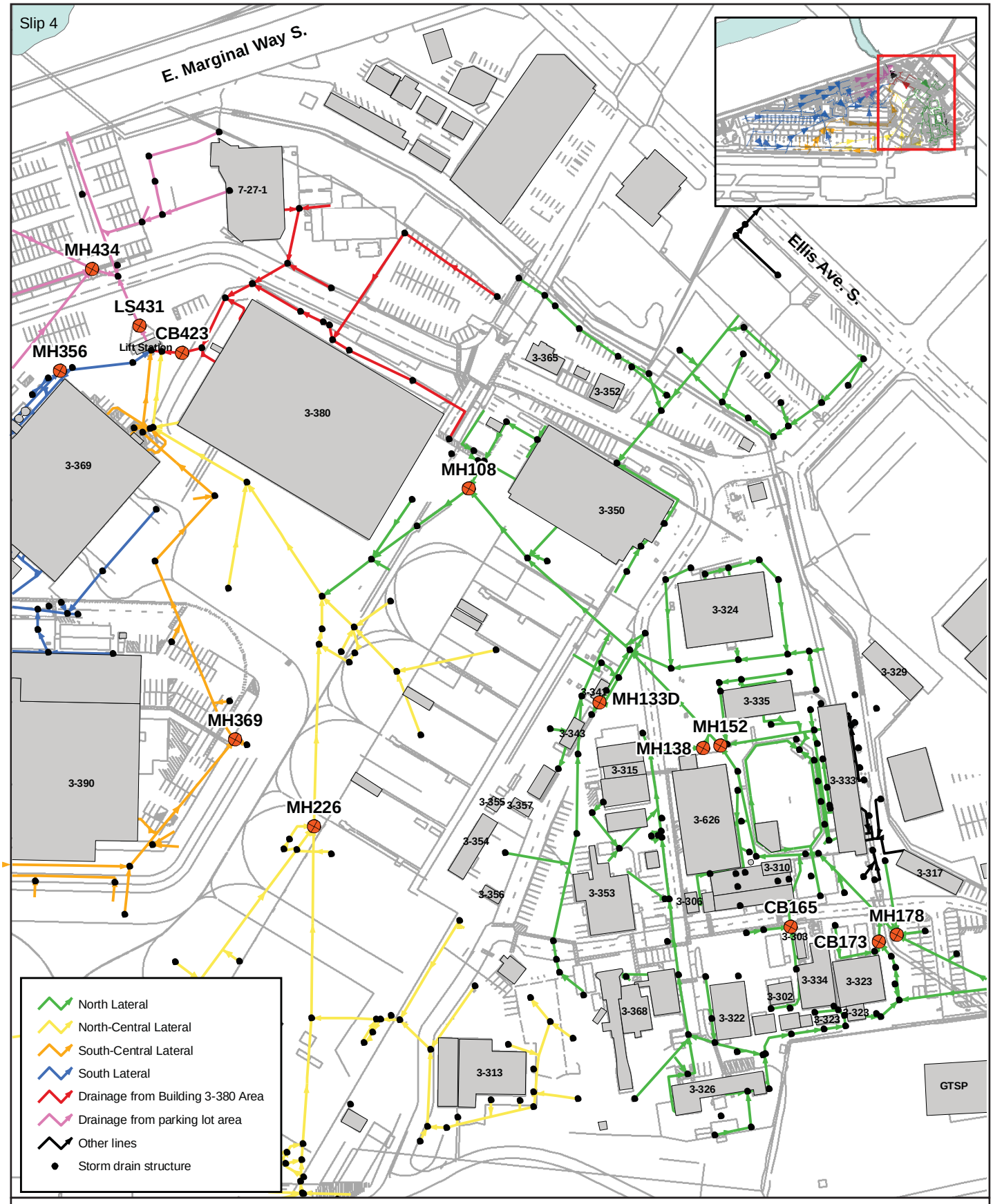

Figure 3. Expanded Stormwater Sampling Locations

0 100 200 400 Feet

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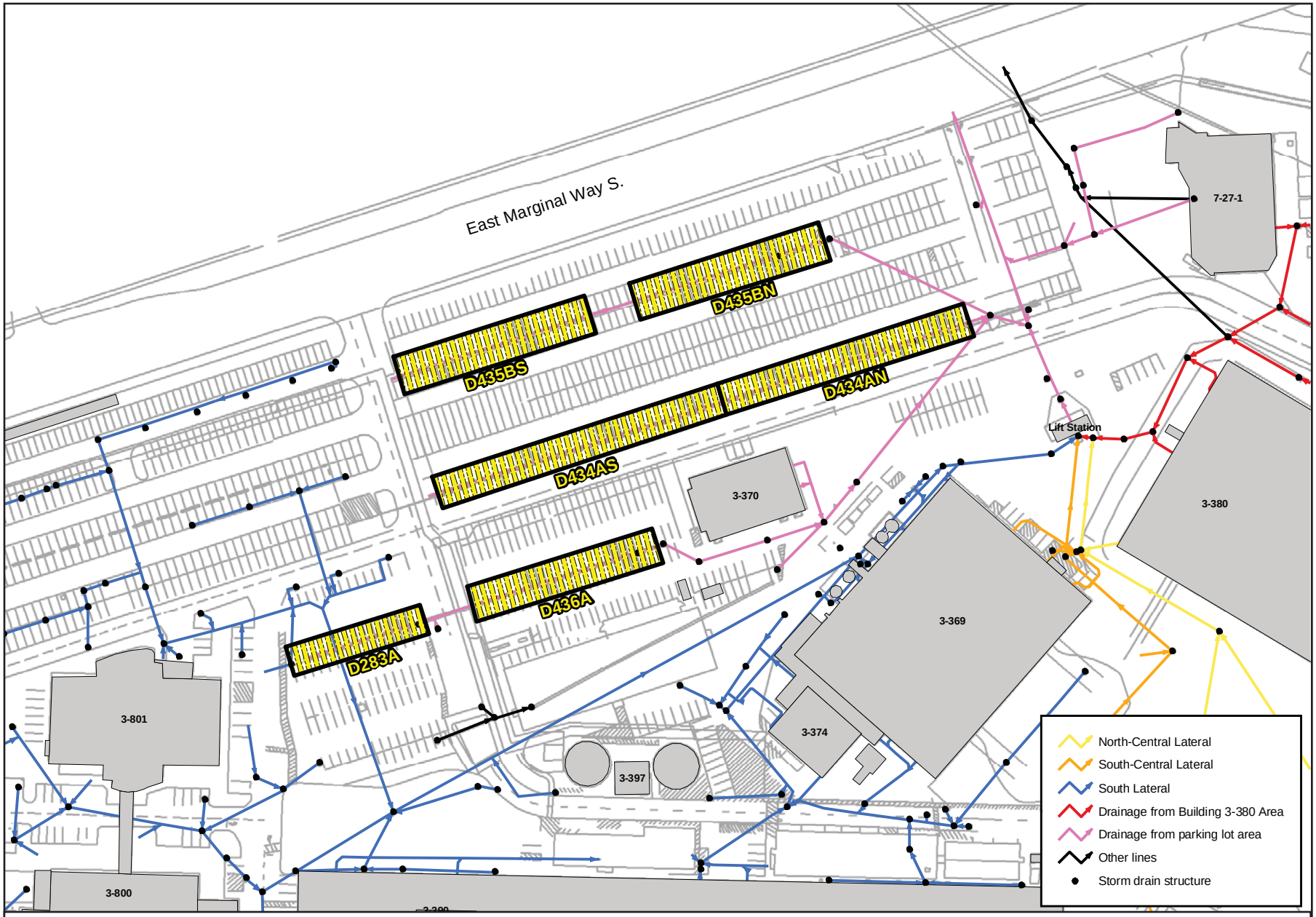

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Figure 4. Parking Lot Surface Solids Sampling Locations

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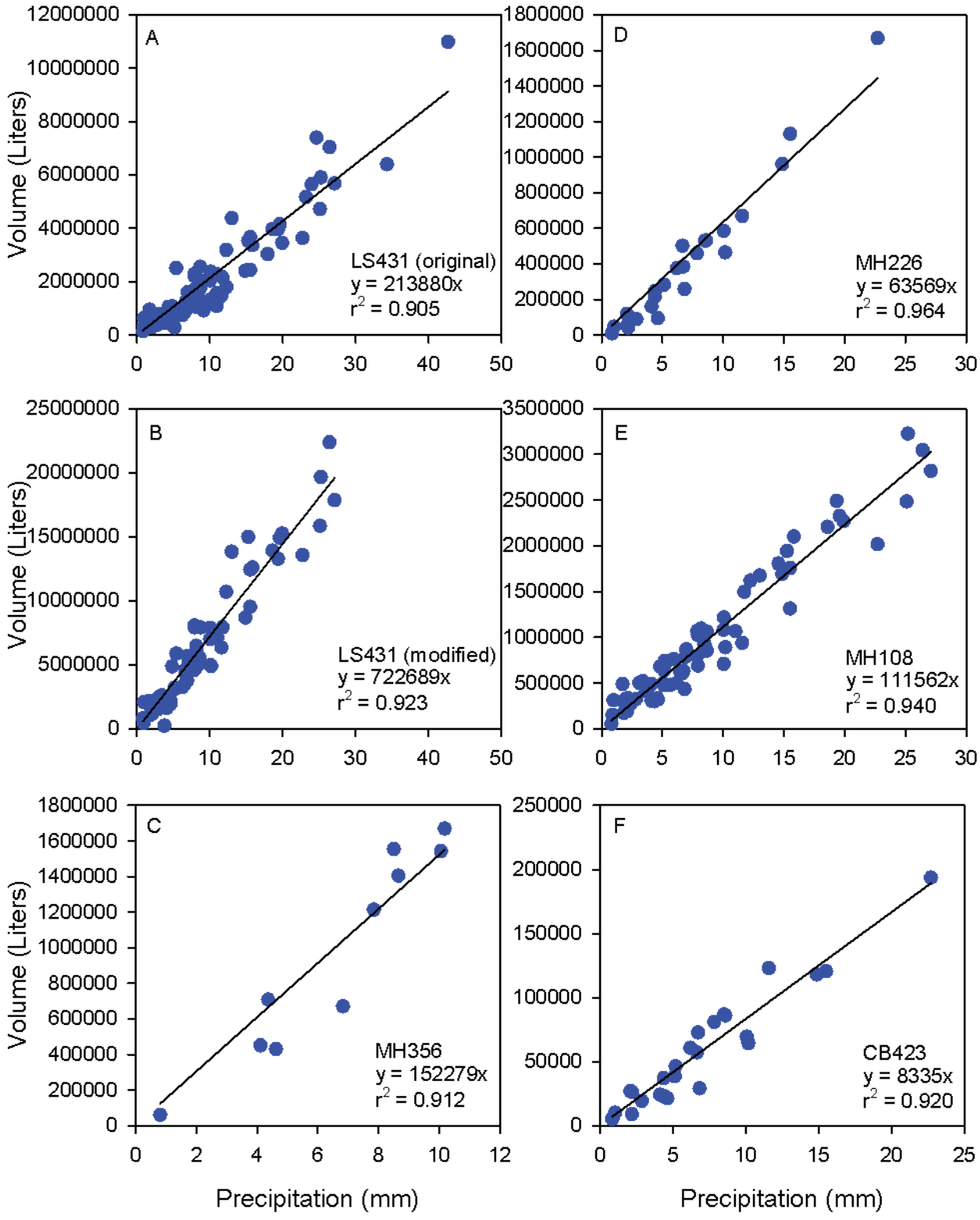

Figure 5. Runoff Volume Versus Precipitation

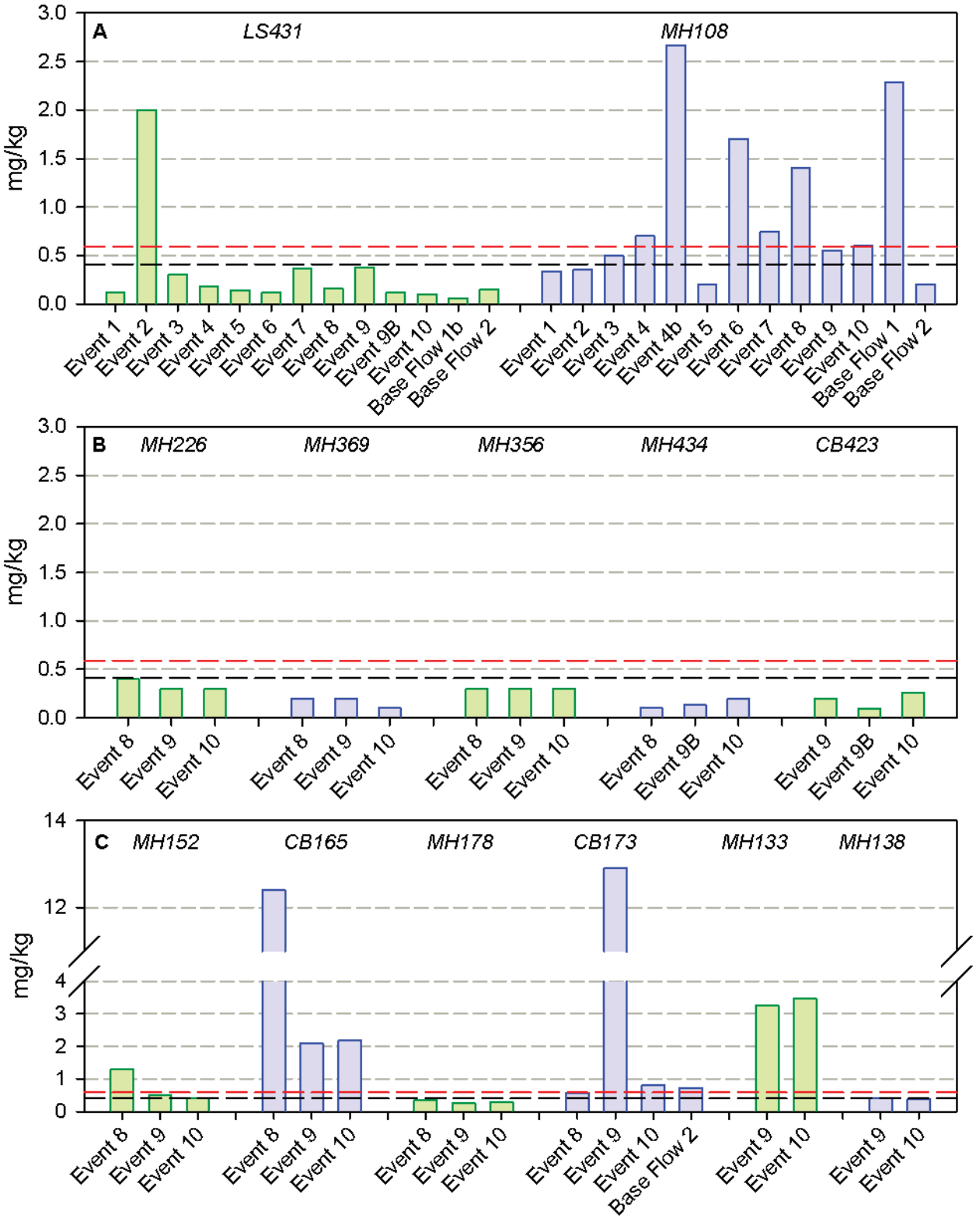

Figure 6. Mercury Concentrations in Filtered Suspended Solids

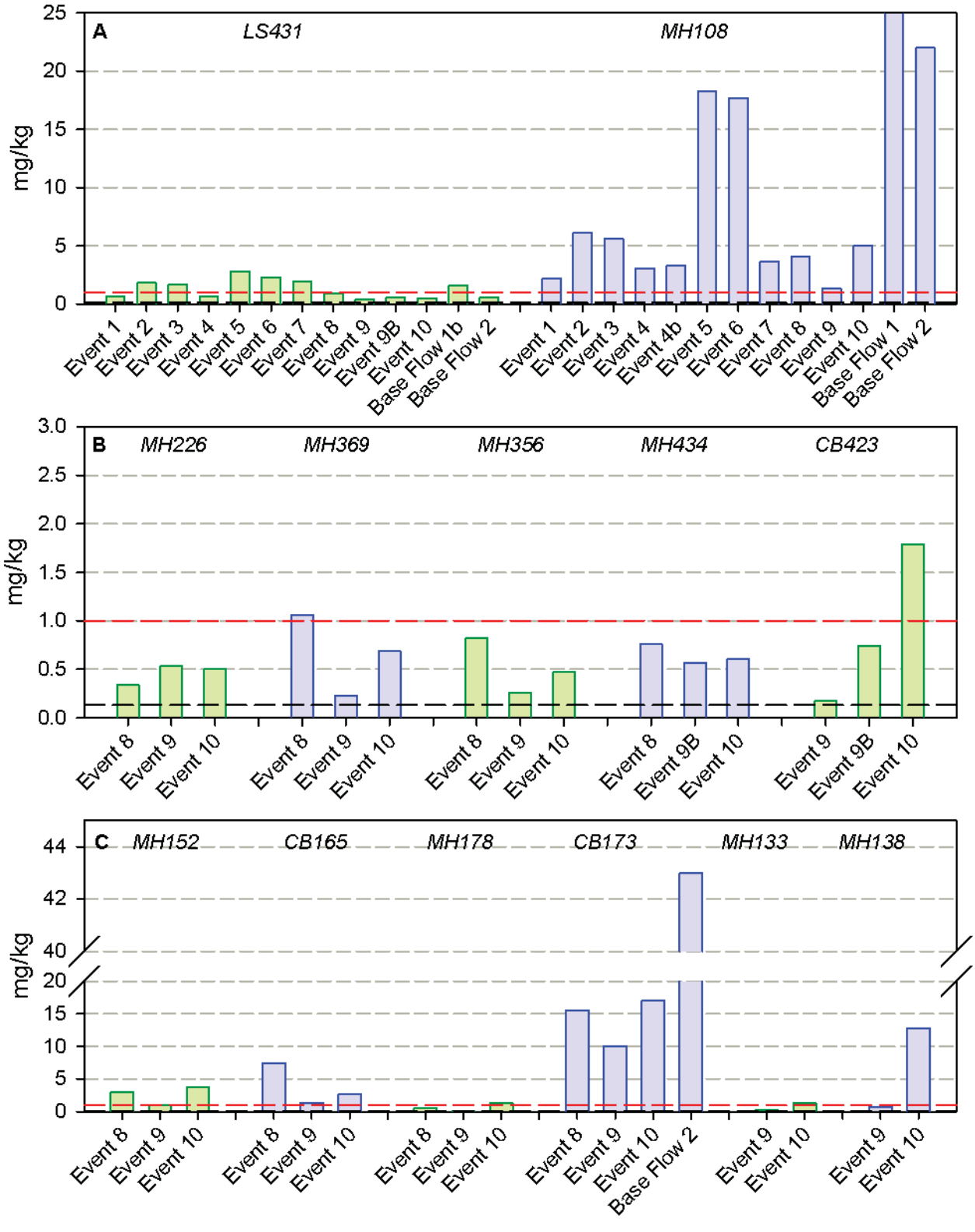

Figure 7. Total PCB Concentrations in Filtered Suspended Solids

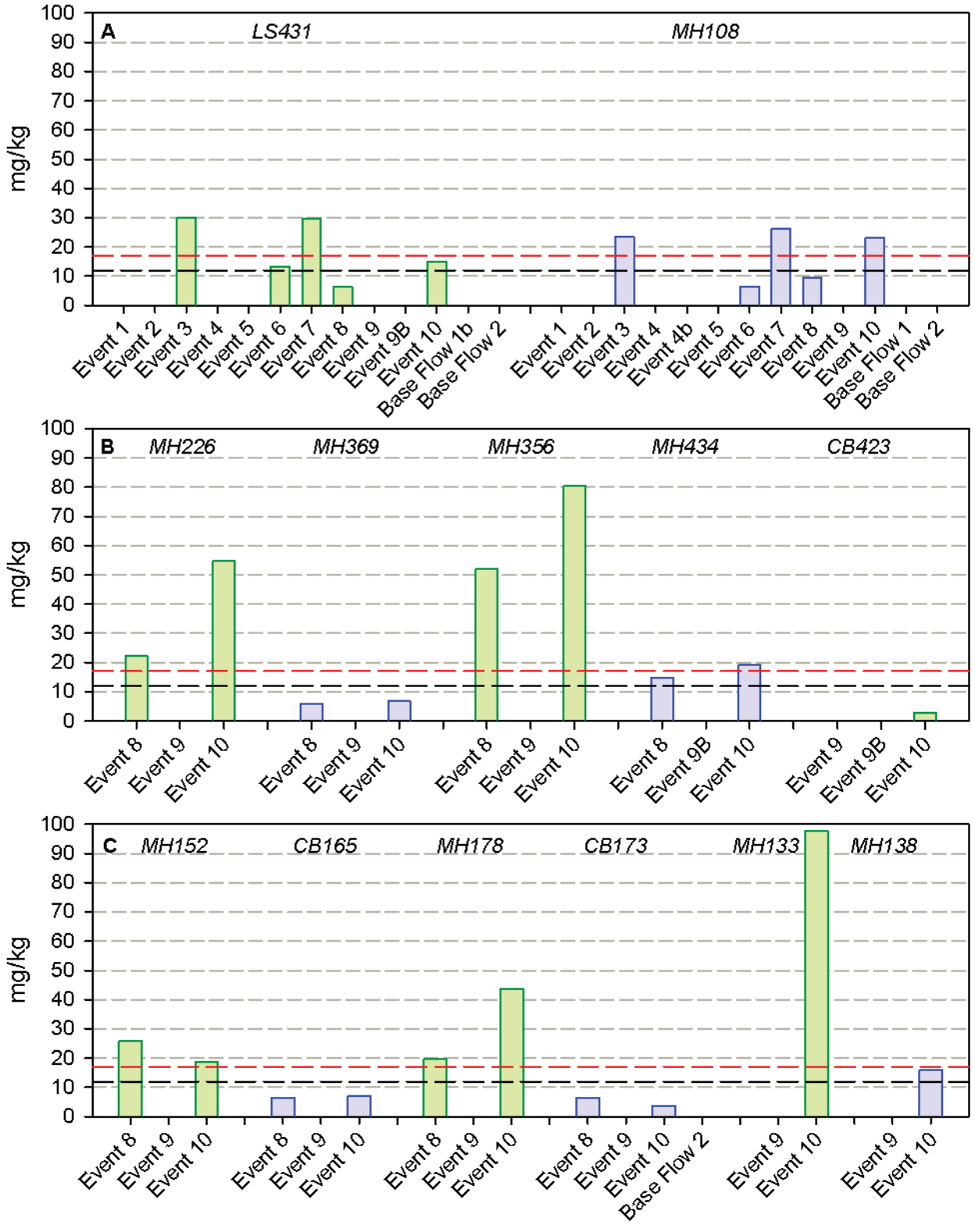

Figure 8. Total HPAH Concentrations in Filtered Suspended Solids

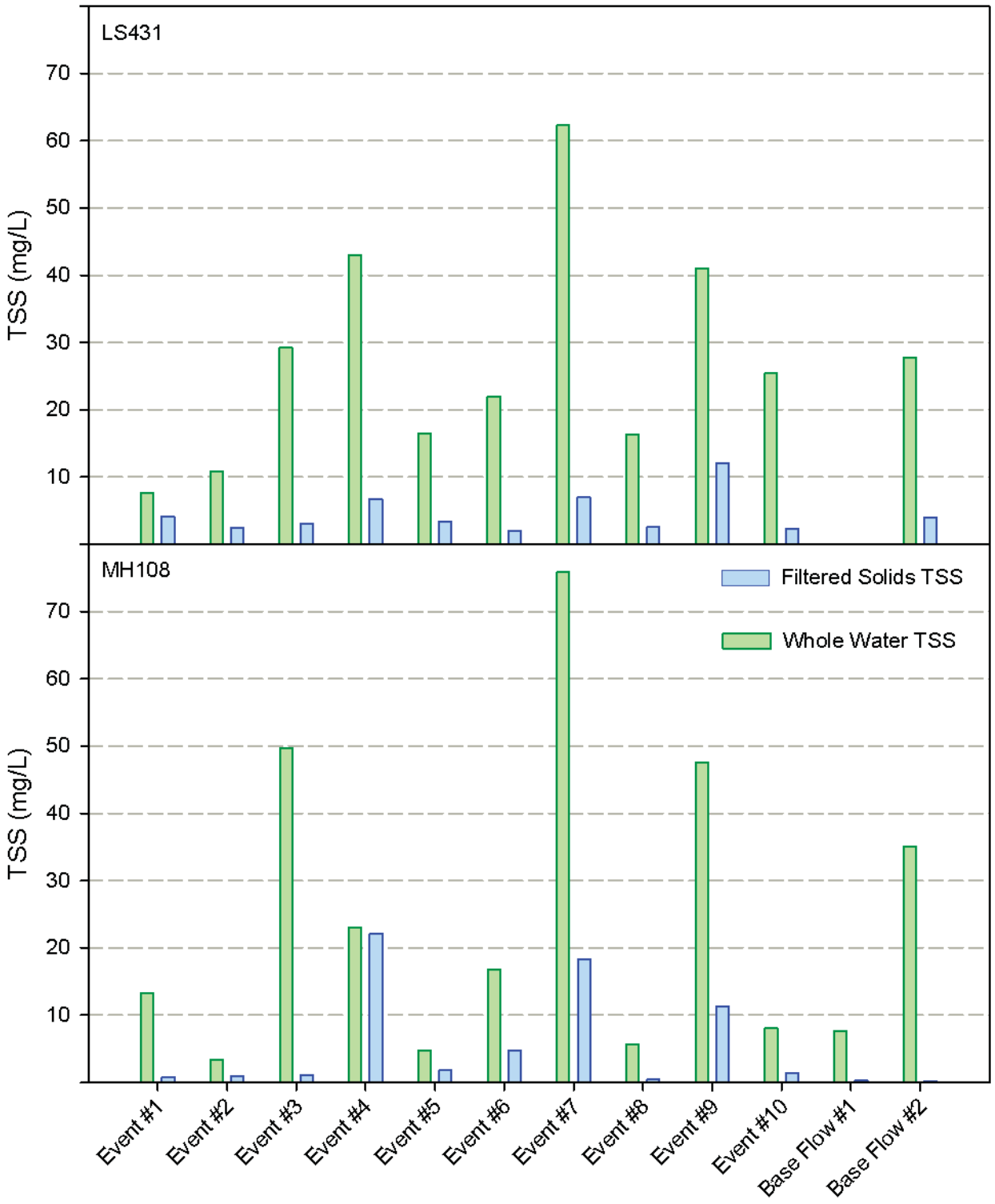

Figure 9. TSS Concentrations in Whole Water and Filtered Suspended Solids

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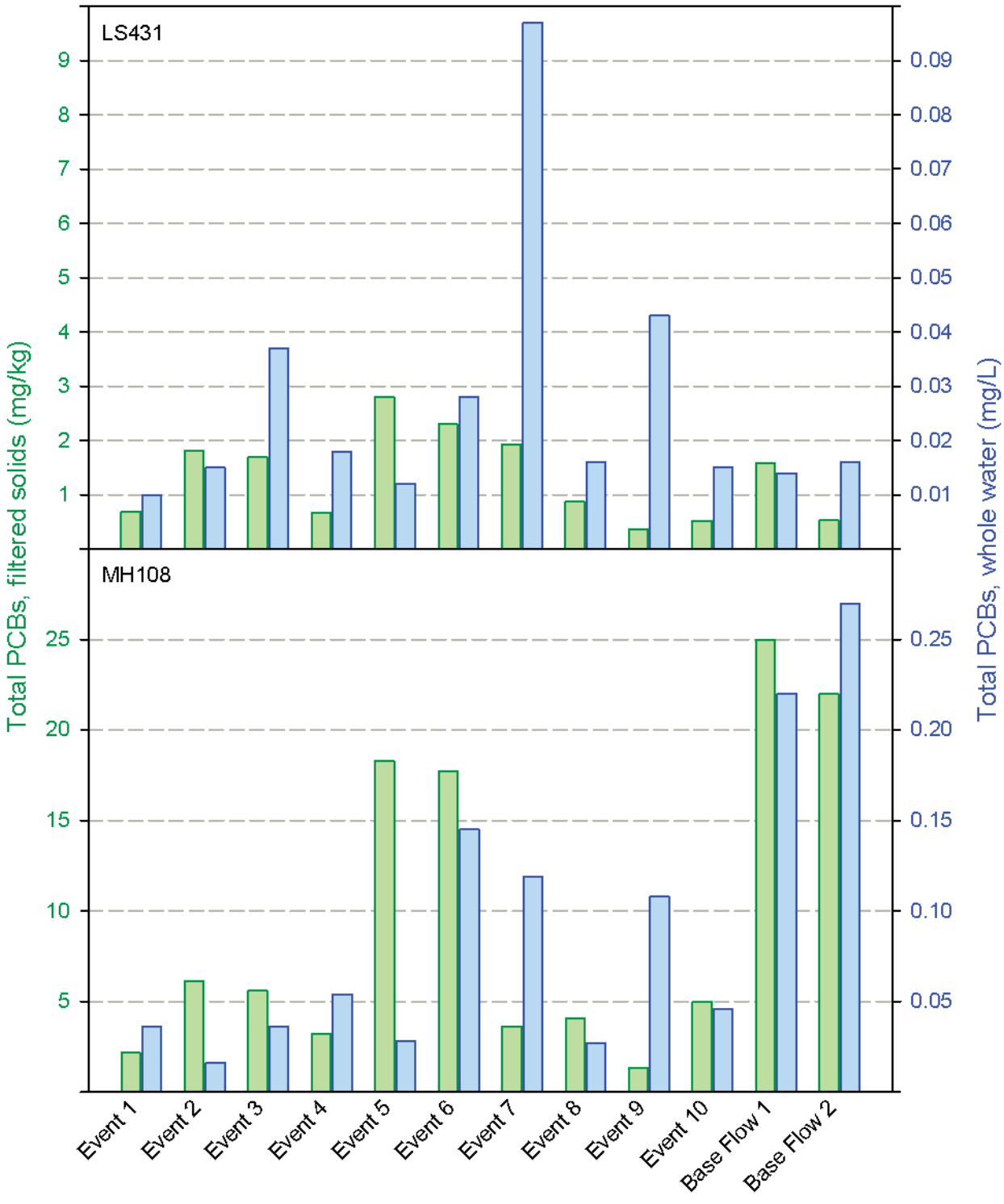

Figure 10. Total PCB Concentrations in Whole Water and Filtered Suspended Solids

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Tables

Table 1
Samples Collected and Issues Encountered During Stormwater Sampling Events

Storm Drain Line	Location ID	Sample Event 6 2/11/2010	Sample Event 7 3/29/2010	Sample Event 8 4/27/2010	Modifications Performed 5/7/10	Sample Event 9 5/20/2010	Modifications Performed 5/25/10	Sample Event 9b 5/28/2010	Sample Event 10 6/2/2010	Total Samples per Location by Media
Lift Station	**LS431**	Solids and whole water sample	Solids and whole water sample	Solids and whole water sample	--	Solids and whole water sample	--	Solids sample	Solids and whole water sample	S - 6 W - 5
North Lateral SD Line	**MH108**	Solids and whole water sample	Solids and whole water sample	Solids and whole water sample	--	Solids and whole water sample	--	Solids and whole water sample		S - 5 W - 5
	MH133D	--	--	--	Installed sandbag to back up water and allow for sample collection	Solids sample	--	--	Solids sample	S -3
	MH138	--	--	--	Manufactured temporary sandbag to be installed during each sample event and back water up and allow for sample collection	Solids sample	--	--	Solids sample	S -3
	MH152	--	--	Solids sample		Solids sample	--	--	Solids sample	S -3
	CB165	--	--	Solids sample	Removed discharge pipe, water from sample unit being recirculated	Solids sample	--	--	Solids sample	S - 3
	CB173	--	--	Solids sample		Solids sample	--	--	Solids sample	S - 3
	MH178	--	--	Solids sample	Installed sandbag to back up water and allow for sample collection	Solids sample	Installed additional sandbag to back water up and allow for sample collection	--	Solids sample	S - 3

Table 1
Samples Collected and Issues Encountered During Stormwater Sampling Events

Storm Drain Line	Location ID	Sample Event 6 2/11/2010	Sample Event 7 3/29/2010	Sample Event 8 4/27/2010	Modifications Performed 5/7/10	Sample Event 9 5/20/2010	Modifications Performed 5/25/10	Sample Event 9b 5/28/2010	Sample Event 10 6/2/2010	Total Samples per Location by Media
North Central Lateral SD Line	**MH226**	--	--	Solids sample		Solids sample	--	--	Solids sample	S - 3
South Central Lateral SD Line	**MH369**	--	--	Solids sample	Sensor moved from 1.52 meter (5 feet) pipe to 0.3 meter (12 inch) pipe	Solids sample	--	--	Solids sample	S - 3
South Lateral SD Line	**MH356**	--	--	Solids sample		Solids sample	--	--	Solids sample	S - 3
Building 3-380 Drainage Area	**CB423**	--	--	Solids sample collected, insufficient volume	Installed sandbag to back water up and allow for sample collection, removed brick from under pump	Solids sample	--	Solids sample	Solids sample	S - 3
Parking Lot Drainage SD Line	**MH434**	--	--	Solids Sample, may not be representative of parking lot runoff	--		Installed weir to back up water and allow for sample collection, discharge water from sample unit being recirculated	Solids Sample, may not be representative of parking lot runoff	Solids Sample, may not be representative of parking lot runoff	S -3

W - Whole Water
S - Solids
SD - Storm Drain Line

Table 2
Samples Collected and Issues Encountered During Base Flow Sampling Events

Storm Drain Line	Location ID	Base Flow Sample Event 1 2/23/2010	Base Flow Sample Event 1b 3/20/2010	Base Flow Sample Event 2 6/30/2010	Total Base Flow Samples per Location by Media
Lift Station	**LS431**	Water sample, no solids sample collected due to sampling error	Solids sample, dioxin sample analysis failed	Solids and whole water sample	S - 2 W -2
North Lateral SD Line	**MH108**	Solids and whole water sample	--	Solids and whole water sample	S - 2 W - 2
	CB173	--	--	Solids sample - may represent retained stormwater in addition to base flow	S -1

Table 3
Chemical and Physical Analysis of Filtered Stormwater Solids Samples

Sampling Event	Sample ID	Date Sampled	Grain Size	PAHs	PCB Aroclors	Metals + Mercury	Dioxin/ Furan Congeners
Event 6	MH108A-021110-S	2/11/2010	X		X	X	
	MH108B-021110-S	2/11/2010		X			
	LS431A-021110-S	2/11/2010	X		X	X	
	LS431B-021110-S	2/11/2010		X			
Event 7	MH108A-032910-S	3/29/2010	X		X	X	
	MH108B-032910-S	3/29/2010		X			
	LS431A-032910-S	3/29/2010	X		X	X	
	LS431B-032910-S	3/29/2010		X			
Event 8	MH108A-042710-S	4/27/2010	X		X	X	
	MH108B-042710-S	4/27/2010		X			
	LS431A-042710-S	4/27/2010	X		X	X	
	LS431B-042710-S	4/27/2010		X			
	MH434A-042710-S	4/27/2010			X	X	
	MH434B-042710-S	4/27/2010		X			
	MH356A-042710-S	4/27/2010			X	X	
	MH356B-042710-S	4/27/2010		X			
	MH369A-042710-S	4/27/2010			X	X	
	MH369B-042710-S	4/27/2010		X			
	MH226A-042710-S	4/27/2010			X	X	
	MH226B-042710-S	4/27/2010		X			
	MH152A-042710-S	4/27/2010	X		X	X	
	MH152B-042710-S	4/27/2010		X			
	CB165A-042710-S	4/27/2010	X		X	X	
	CB165B-042710-S	4/27/2010		X			
	MH178A-042710-S	4/27/2010	X		X	X	
	MH178B-042710-S	4/27/2010		X			
	CB173A-042710-S	4/27/2010	X		X	X	
	CB173B-042710-S	4/27/2010		X			
Event 9	MH108A-052010-S	5/20/2010	X		X	X	
	MH108B-052010-S	5/20/2010					X
	LS431A-052010-S	5/20/2010	X		X	X	
	LS431B-052010-S	5/20/2010					X
	MH356A-052010-S	5/20/2010			X	X	
	MH356B-052010-S	5/20/2010					X
	MH369A-052010-S	5/20/2010			X	X	
	MH369B-052010-S	5/20/2010					X
	MH226A-052010-S	5/20/2010			X	X	
	MH226B-052010-S	5/20/2010					X
	CB423A-052010-S	5/20/2010	X		X	X	
	CB423B-052010-S	5/20/2010					X[1]
	MH152A-052010-S	5/20/2010	X		X	X	
	MH152B-052010-S	5/20/2010					X
	CB165A-052010-S	5/20/2010			X	X	
	CB165B-052010-S	5/20/2010					X
	MH178A-052010-S	5/20/2010	X		X	X	
	MH178B-052010-S	5/20/2010					X
	CB173A-052010-S	5/20/2010			X	X	

Table 3
Chemical and Physical Analysis of Filtered Stormwater Solids Samples

Sampling Event	Sample ID	Date Sampled	Grain Size	PAHs	PCB Aroclors	Metals + Mercury	Dioxin/ Furan Congeners
	CB173B-052010-S	5/20/2010					X
	MH133A-052010-S	5/20/2010			X	X	
	MH133B-052010-S	5/20/2010					X
	MH138A-052010-S	5/20/2010			X	X	
	MH138B-052010-S	5/20/2010					X
Event 9b	LS431A-052810-S	5/28/2010			X	X	
	MH434A-052810-S	5/28/2010	X		X	X	
	MH434B-052810-S	5/28/2010					X
	MH423A-052810-S	5/28/2010			X	X	
	MH423B-052810-S	5/28/2010					X[1]
Event 10	MH108A-060210-S	6/2/2010			X	X	
	MH108B-060210-S	6/2/2010		X			
	LS431A-060210-S	6/2/2010			X	X	
	LS431B-060210-S	6/2/2010		X			
	MH434A-060210-S	6/2/2010	X		X	X	
	MH434B-060210-S	6/2/2010		X			
	MH356A-060210-S	6/2/2010			X	X	
	MH356B-060210-S	6/2/2010		X			
	MH369A-060210-S	6/2/2010			X	X	
	MH369B-060210-S	6/2/2010		X			
	MH226A-060210-S	6/2/2010			X	X	
	MH226B-060210-S	6/2/2010		X			
	MH423A-060210-S	6/2/2010			X	X	
	MH423B-060210-S	6/2/2010		X			
	MH152A-060210-S	6/2/2010			X	X	
	MH152B-060210-S	6/2/2010		X			
	CB165A-060210-S	6/2/2010			X	X	
	CB165B-060210-S	6/2/2010		X			
	MH178A-060210-S	6/2/2010	X		X	X	
	MH178B-060210-S	6/2/2010		X			
	CB173A-060210-S	6/2/2010			X	X	
	CB173B-060210-S	6/2/2010		X			
	MH133A-060210-S	6/2/2010			X	X	
	MH133B-060210-S	6/2/2010		X			
	MH138A-060210-S	6/2/2010			X	X	
	MH138B-060210-S	6/2/2010		X			
Base Flow 1	MH108A-022310-S	2/23/2010	X		X	X	
	MH108B-022310-S	2/23/2010					X
Base Flow 1b	LS431A-032010-S	3/20/2010	X		X	X	
Base Flow 2	MH108A-063010-S	6/30/2010	X		X	X	X
	LS431A-063010-S	6/30/2010	X		X	X	X
	CB173A-063010-S	6/30/2010	X		X	X	X

X[1] - extracts from two samples were combined

Table 4
Summary of Results for Filtered Suspended Solids Samples at LS431

Location ID				LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431
Filter				A	B	A	B	A	B	A	B	A	A	B	A	A	B
Sampling Event				Event 6	Event 6	Event 7	Event 7	Event 8	Event 8	Event 9	Event 9	Event 9B	Event 10	Event 10	Base Flow 1b	Base Flow 2	Base Flow 2
Collection Date	Method	SQS/LAET	CSL/2LAET	2/11/2010	2/11/2010	3/29/2010	3/29/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	5/28/2010	6/2/2010	6/2/2010	3/20/2010	6/30/2010	6/30/2010
Estimated Total Solids (g/filter DW)[1]				9.5	NA	46.9	NA	16.8	NA	31.7	54.8	17.1	11.7	NA	24.5	28	NA
Total Solids extracted for PCBs from (g/filter DW)[2]				9.16	NA	43.19	NA	15.35	NA	28.32	54.81	16.74	11.1	NA	22.62	25.09	48.46
Volume of water through filter (liters)				4,717	3,127	6,991	3,842	6,655	7,950	2,645	2,653	4,318	5,026	4,686	5,314	7,065	8,432
Calculated TSS (mg/L)				2.0	NA	6.7	NA	2.5	NA	12	20.7	4.0	2.3	NA	4.6	4.0	NA
Total Stormwater Flow (L)[8]				3,230,000	3,230,000	16,260,000	16,260,000	5,868,000	5,868,000	4,901,000	4,901,000	6,351,000	5,187,000	5,187,000	10,400,000	7,108,000	7,108,000
Grain Size (%)																	
Gravel	ASTM_D422			0.1 U	NA	0.1 U	NA	0.1 U	NA	8.7	NA	NA	NA	NA	0.1	0.1 U	NA
Very Coarse Sand	ASTM_D422			1.2	NA	0.1 U	NA	0.1	NA	1.4	NA	NA	NA	NA	0.2	0.2	NA
Coarse Sand	ASTM_D422			4.6	NA	0.1	NA	0.1	NA	2.8	NA	NA	NA	NA	1.2	0.3	NA
Medium Sand	ASTM_D422			29	NA	0.2	NA	0.2	NA	5.6	NA	NA	NA	NA	3.4	0.7	NA
Fine Sand	ASTM_D422			22	NA	0.1 U	NA	0.2	NA	6.8	NA	NA	NA	NA	2.1	0.6	NA
Very Fine Sand	ASTM_D422			6.2	NA	0.1	NA	0.1	NA	8.8	NA	NA	NA	NA	0.6	0.2	NA
Coarse Silt	ASTM_D422			NA	NA	13	NA	0.4	NA	3.1	NA	NA	NA	NA	1.2	4.4	NA
Medium Silt	ASTM_D422			NA	NA	35	NA	2.5	NA	17	NA	NA	NA	NA	3.6	16	NA
Fine Silt	ASTM_D422			NA	NA	9.1	NA	10	NA	9.4	NA	NA	NA	NA	2.6	13	NA
Very Fine Silt	ASTM_D422			NA	NA	11	NA	13	NA	5.3	NA	NA	NA	NA	3.1	8.9	NA
Clay	ASTM_D422			NA	NA	32.3	NA	72.9	NA	31.5	NA	NA	NA	NA	81.9	55.4	NA
Percent Fines (<0.06mm)	ASTM_D422			36.9	NA	99.6	NA	99.3	NA	65.9	NA	NA	NA	NA	92.4	98.0	NA
Metals - Total (mg/kg)																	
Arsenic	SW6010B	57	93	50 U	NA	10	NA	50 U	NA	40 U	NA	40 U	40 U	NA	20 U	50 U	NA
Cadmium	SW6010B	5.1	6.7	5.0	NA	7.0	NA	7.0	NA	6.0	NA	5.0	5.0	NA	4.9	3.0	NA
Chromium	SW6010B	260	270	36	NA	54	NA	44 J	NA	49	NA	36 J	40	NA	61 J	27	NA
Copper	SW6010B	390	390	68	NA	151	NA	85	NA	137 J	NA	72	75	NA	50.9 J	26	NA
Lead	SW6010B	450	530	30	NA	134	NA	50	NA	100	NA	70	70	NA	293 J	20 U	NA
Mercury	SW7471A	0.41	0.59	0.12	NA	0.37 J	NA	0.16 J	NA	0.38 J	NA	0.12	0.10 J	NA	0.06	0.15 J	NA
Silver	SW6010B	6.1	6.1	3.0 U	NA	0.7 U	NA	3.0 U	NA	2.0 U	NA	2.0 U	3.0 U	NA	1.0 U	3.0 U	NA
Zinc	SW6010B	410	960	450	NA	704	NA	610 J	NA	705	NA	491	487	NA	245 J	220	NA
PCBs (mg/kg DW)[3]																	
Aroclor 1221	SW8082			1.1 U	NA	0.12 U	NA	0.13 U	NA	0.035 U	NA	0.12 U	0.18 U	NA	0.044 U	0.04 U	NA
Aroclor 1232	SW8082			1.1 U	NA	0.12 U	NA	0.13 U	NA	0.035 U	NA	0.12 U	0.18 U	NA	0.044 U	0.04 U	NA
Aroclor 1242	SW8082			1.2	NA	0.12 U	NA	0.13 U	NA	0.035 U	NA	0.12 U	0.18 U	NA	0.53	0.29	NA
Aroclor 1016	SW8082			1.1 U	NA	0.12 U	NA	0.13 U	NA	0.035 U	NA	0.12 U	0.18 U	NA	0.044 U	0.04 U	NA
Aroclor 1248	SW8082			1.1 U	NA	0.58 U	NA	0.49 U	NA	0.14 U	NA	0.30 U	0.36 U	NA	0.044 U	0.04 U	NA
Aroclor 1254	SW8082			1.1	NA	1.4	NA	0.72	NA	0.30	NA	0.42 J	0.52	NA	0.71	0.24	NA
Aroclor 1260	SW8082			1.1 U	NA	0.53	NA	0.15	NA	0.064	NA	0.18 J	0.18 U	NA	0.34	0.04 U	NA
Total PCBs	SW8082	0.13	1.0	2.3	NA	1.9	NA	0.87	NA	0.36	NA	0.60	0.52	NA	1.6	0.53	NA
PAHs (mg/kg DW)[4]																	
Naphthalene	SW8270D	2.1	2.4	NA	0.26	NA	0.11	NA	0.089	NA	NA	NA	NA	0.094	NA	NA	NA
Acenaphthylene	SW8270D	1.3	1.3	NA	0.053 U	NA	0.11 U	NA	0.018 J	NA	NA	NA	NA	0.085 U	NA	NA	NA
Acenaphthene	SW8270D	0.5	0.73	NA	0.49	NA	0.12	NA	0.095	NA	NA	NA	NA	0.085 U	NA	NA	NA
Fluorene	SW8270D	0.54	1.0	NA	0.39	NA	0.16	NA	0.12	NA	NA	NA	NA	0.14	NA	NA	NA

Table 4
Summary of Results for Filtered Suspended Solids Samples at LS431

Location ID				LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431
Filter				A	B	A	B	A	B	A	B	A	A	B	A	B
Sampling Event				Event 6	Event 6	Event 7	Event 7	Event 8	Event 8	Event 9	Event 9	Event 9B	Event 10	Event 10	Base Flow 1b	Base Flow 2	Base Flow 2
Collection Date	Method	SQS/LAET	CSL/2LAET	2/11/2010	2/11/2010	3/29/2010	3/29/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	5/28/2010	6/2/2010	6/2/2010	3/20/2010	6/30/2010	6/30/2010
Phenanthrene	SW8270D	1.5	5.4	NA	2.2	NA	2.8	NA	0.65	NA	NA	NA	NA	1.3	NA	NA	NA
Anthracene	SW8270D	0.96	4.4	NA	0.52	NA	0.26	NA	0.048	NA	NA	NA	NA	0.094	NA	NA	NA
1-Methylnaphthalene	SW8270D			NA	0.28	NA	0.11 U	NA	0.18 U	NA	NA	NA	NA	0.085 U	NA	NA	NA
2-Methylnaphthalene	SW8270D	0.67	1.4	NA	0.39	NA	0.11 U	NA	0.089	NA	NA	NA	NA	0.094	NA	NA	NA
Fluoranthene	SW8270D	1.7	2.5	NA	3.3	NA	6.6	NA	1.5	NA	NA	NA	NA	3.2	NA	NA	NA
Pyrene	SW8270D	2.6	3.3	NA	1.9	NA	4.1	NA	0.95 J	NA	NA	NA	NA	1.9	NA	NA	NA
Benzo(a)anthracene	SW8270D	1.3	1.6	NA	0.81	NA	1.2	NA	0.20 J	NA	NA	NA	NA	0.61	NA	NA	NA
Chrysene	SW8270D	1.4	2.8	NA	1.8	NA	4.3	NA	0.89 J	NA	NA	NA	NA	2.4	NA	NA	NA
Benzo(b)fluoranthene	SW8270D			NA	1.3 N	NA	3.0 N	NA	0.60 N	NA	NA	NA	NA	1.7 N	NA	NA	NA
Benzo(k)fluoranthene	SW8270D			NA	1.3 N	NA	3.0 N	NA	0.60 N	NA	NA	NA	NA	1.7 N	NA	NA	NA
Total benzofluoranthenes	SW8270D	3.2	3.6	NA	2.6	NA	6.0	NA	1.2	NA	NA	NA	NA	3.4	NA	NA	NA
Benzo(a)pyrene	SW8270D	1.6	3	NA	0.95	NA	2.6	NA	0.31 J	NA	NA	NA	NA	1.0	NA	NA	NA
Indeno(1,2,3-cd)pyrene	SW8270D	0.6	0.69	NA	0.81	NA	2.0	NA	0.50 J	NA	NA	NA	NA	1.1	NA	NA	NA
Dibenz(a,h)anthracene	SW8270D	0.23	0.54	NA	0.27	NA	0.58	NA	0.18 J	NA	NA	NA	NA	0.36	NA	NA	NA
Benzo(g,h,i)perylene	SW8270D	0.67	0.72	NA	0.84	NA	2.1	NA	0.50 J	NA	NA	NA	NA	1.2	NA	NA	NA
Total LPAH[5]	SW8270D	5.2	13	NA	3.9	NA	3.5	NA	1.0	NA	NA	NA	NA	1.6	NA	NA	NA
Total HPAH[6]	SW8270D	12	17	NA	13	NA	29	NA	6.2	NA	NA	NA	NA	15	NA	NA	NA
Dibenzofuran	SW8270D	0.54	0.7	NA	0.32	NA	0.16	NA	0.11	NA	NA	NA	NA	0.17	NA	NA	NA
Dioxins and Furans (pg/g DW)[7]																	
2,3,7,8-TCDD	E1613			NA	NA	NA	NA	NA	NA	NA	0.288 J	NA	NA	NA	NA	NA	0.138 J
1,2,3,7,8-PECDD	E1613			NA	NA	NA	NA	NA	NA	NA	1.44 U	NA	NA	NA	NA	NA	0.532 U
1,2,3,4,7,8-HXCDD	E1613			NA	NA	NA	NA	NA	NA	NA	2.15 U	NA	NA	NA	NA	NA	1.04 J
1,2,3,6,7,8-HXCDD	E1613			NA	NA	NA	NA	NA	NA	NA	4.85 J	NA	NA	NA	NA	NA	2.21 J
1,2,3,7,8,9-HXCDD	E1613			NA	NA	NA	NA	NA	NA	NA	6.06	NA	NA	NA	NA	NA	2.52
1,2,3,4,6,7,8-HPCDD	E1613			NA	NA	NA	NA	NA	NA	NA	76.1	NA	NA	NA	NA	NA	39.2
OCDD	E1613			NA	NA	NA	NA	NA	NA	NA	650 B	NA	NA	NA	NA	NA	297 B
2,3,7,8-TCDF	E1613			NA	NA	NA	NA	NA	NA	NA	3.54	NA	NA	NA	NA	NA	1.94
1,2,3,7,8-PECDF	E1613			NA	NA	NA	NA	NA	NA	NA	1.04 J	NA	NA	NA	NA	NA	0.39 U
2,3,4,7,8-PECDF	E1613			NA	NA	NA	NA	NA	NA	NA	2.43 J	NA	NA	NA	NA	NA	0.896 J
1,2,3,4,7,8-HXCDF	E1613			NA	NA	NA	NA	NA	NA	NA	3.58 J	NA	NA	NA	NA	NA	0.988 J
1,2,3,6,7,8-HXCDF	E1613			NA	NA	NA	NA	NA	NA	NA	2.1 J	NA	NA	NA	NA	NA	0.565 J
1,2,3,7,8,9-HXCDF	E1613			NA	NA	NA	NA	NA	NA	NA	0.0847 U	NA	NA	NA	NA	NA	0.0974 U
2,3,4,6,7,8-HXCDF	E1613			NA	NA	NA	NA	NA	NA	NA	1.82 J	NA	NA	NA	NA	NA	0.617 J
1,2,3,4,6,7,8-HPCDF	E1613			NA	NA	NA	NA	NA	NA	NA	19.2	NA	NA	NA	NA	NA	7.64 B
1,2,3,4,7,8,9-HPCDF	E1613			NA	NA	NA	NA	NA	NA	NA	1.34 J	NA	NA	NA	NA	NA	0.576 J
OCDF	E1613			NA	NA	NA	NA	NA	NA	NA	47.1 B	NA	NA	NA	NA	NA	14.6 B
TOTAL TEQ, ND*0	E1613			NA	NA	NA	NA	NA	NA	NA	4.42	NA	NA	NA	NA	NA	1.96
TOTAL TEQ, ND*0.5	E1613			NA	NA	NA	NA	NA	NA	NA	5.25	NA	NA	NA	NA	NA	2.24

Table 4
Summary of Results for Filtered Suspended Solids Samples at LS431

Location ID				LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431	LS431
Filter				A	B	A	B	A	B	A	B	A	A	B	A	A	B
Sampling Event				Event 6	Event 6	Event 7	Event 7	Event 8	Event 8	Event 9	Event 9	Event 9B	Event 10	Event 10	Base Flow 1b	Base Flow 2	Base Flow 2
Collection Date	Method	SQS/LAET	CSL/2LAET	2/11/2010	2/11/2010	3/29/2010	3/29/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	5/28/2010	6/2/2010	6/2/2010	3/20/2010	6/30/2010	6/30/2010

MRLs reported for all undetected results

Green highlighting indicates chemical not detected at a reporting limit that exceeds the SQS/LAET

Gray highlighting indicates exceedance of the SQS/LAET

Red highlighting indicates exceedance of the CSL/2LAET

NA - Not available

1. Estimated mass of total solids that accounts for the aliquots removed for analysis of metals and grain size.
2. Actual mass of total solids analyzed for PCBs.
3. ug of PCBs divided by solids extracted for PCBs.
4. ug of PAH divided by estimated mass of total solids from PCB filter.
5. Total LPAH were calculated as the sum of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene
6. Total HPAH were calculated as the sum of benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, total benzofluoranthenes, chrysene, benzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene
7. pg of dioxin divided by total extracted solids.
8. Total stormwater volume calculated from regression for Events 6 and 10

B - Analyte detedted in an associated method blank.

D - The spiked compund not detected due to sample extract dilution.

J - Estimated concentration when the value is less than established reporting limits.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".

Q - Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% Drift or minimum RRF).

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

SQS/LAET - Sediment Quality Standards/Lowest Apparent Effects Threshold

CSL/2LAET - Cleanup Screening Level/Second Lowest Apparent Effects Threshold

Table 5
Summary of Results for Filtered Suspended Solids at MH108

Location ID				MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108
Filter				A	B	A	B	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 6	Event 6	Event 7	Event 7	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Base Flow 1	Base Flow 1	Base Flow 2	Base Flow 2
Collection Date	Method	SQS/LAET	CSL/2LAET	2/11/2010	2/11/2010	3/29/2010	3/29/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	2/23/2010	2/23/2010	6/30/2010	6/30/2010
Estimated Total Solids (g/filter DW)[1]				11.9	NA	47.5	NA	9.3	NA	38.5	46.2	14.5	NA	42.6	45.3	31.7	NA
Total Solids extracted for PCBs from (g/filter DW)[2]				10.95	NA	43.04	NA	8.78	NA	35.53	46.24	13.87	NA	39.32	45.33	28.54	35.78
Volume of water through filter (liters)				2,494	2,211	2,592	5,122	22,232	19,359	3,404	2,791	10,110	12,879	139,808	147,905	161,889	202,613
Calculated TSS (mg/L)				4.8	NA	18.3	NA	0.4	NA	11.3	16.6	1.4	NA	0.3	0.3	0.2	NA
Total Stormwater Flow (L)[8]				498,700	498,700	2,541,000	2,541,000	1,168,000	1,168,000	756,700	756,700	955,000	955,000	585,700	585,700	890,600	890,600
Grain Size (%)																	
Gravel	ASTM_D422			9.2	NA	0.1 U	NA	3.7	NA	1	NA	NA	NA	0.1 U	NA	0.2	NA
Very Coarse Sand	ASTM_D422			6.3	NA	0.1 U	NA	6.3	NA	3.3	NA	NA	NA	0.1	NA	26.2	NA
Coarse Sand	ASTM_D422			2.9	NA	0.1 U	NA	6	NA	6.7	NA	NA	NA	0.1 U	NA	5.5	NA
Medium Sand	ASTM_D422			4.6	NA	0.1 U	NA	6.7	NA	8.9	NA	NA	NA	0.1 U	NA	4.5	NA
Fine Sand	ASTM_D422			7.1	NA	0.1	NA	6.5	NA	10.7	NA	NA	NA	0.1 U	NA	4	NA
Very Fine Sand	ASTM_D422			4.5	NA	0.1 U	NA	4.2	NA	8.8	NA	NA	NA	0.1 U	NA	1.8	NA
Coarse Silt	ASTM_D422			NA	NA	9	NA	0.1 U	NA	4.5	NA	NA	NA	0.3	NA	0.3	NA
Medium Silt	ASTM_D422			NA	NA	21.3	NA	19.5	NA	17.6	NA	NA	NA	0.2	NA	0.1	NA
Fine Silt	ASTM_D422			NA	NA	17	NA	12.5	NA	6.9	NA	NA	NA	0.3	NA	0.1 U	NA
Very Fine Silt	ASTM_D422			NA	NA	18.8	NA	4.5	NA	7.3	NA	NA	NA	0.8	NA	0.1 U	NA
Clay	ASTM_D422			NA	NA	33.8	NA	31.5	NA	24.3	NA	NA	NA	98.5	NA	57.6	NA
Percent Fines (<0.06mm)	ASTM_D422			65.3	NA	99.9	NA	66.6	NA	60.6	NA	NA	NA	99.9	NA	57.9	NA
Metals - Total (mg/kg)																	
Arsenic	SW6010B	57	93	80 U	NA	20	NA	60 U	NA	30	NA	30	NA	120 U	NA	70	NA
Cadmium	SW6010B	5.1	6.7	6.0	NA	6.1	NA	10	NA	9.1	NA	7.0	NA	5.0 U	NA	4.0	NA
Chromium	SW6010B	260	270	52	NA	65	NA	53 J	NA	76	NA	59	NA	30	NA	22	NA
Copper	SW6010B	390	390	311	NA	319	NA	329	NA	386 J	NA	247	NA	165	NA	71	NA
Lead	SW6010B	450	530	90	NA	210	NA	120	NA	239	NA	170	NA	50 U	NA	30	NA
Mercury	SW7471A	0.41	0.59	1.7	NA	0.75 J	NA	1.4 J	NA	0.55 J	NA	0.60 J	NA	2.3	NA	0.20	NA
Silver	SW6010B	6.1	6.1	5.0 U	NA	1.2	NA	4.0 U	NA	1.0 U	NA	1.0 U	NA	7.0 U	NA	4.0 U	NA
Zinc	SW6010B	410	960	880	NA	921	NA	950 J	NA	1230	NA	901	NA	310	NA	320	NA
PCBs (mg/kg DW)[3]																	
Aroclor 1221	SW8082			0.91 U	NA	0.12 U	NA	0.11 U	NA	0.14 U	NA	0.72 U	NA	0.64 U	NA	1.8 U	NA
Aroclor 1232	SW8082			0.91 U	NA	0.12 U	NA	0.11 U	NA	0.14 U	NA	0.72 U	NA	0.64 U	NA	1.8 U	NA
Aroclor 1242	SW8082			6.6	NA	0.12 U	NA	0.11 U	NA	0.14 U	NA	0.72 U	NA	14	NA	15	NA
Aroclor 1016	SW8082			0.91 U	NA	0.12 U	NA	0.11 U	NA	0.14 U	NA	0.72 U	NA	0.64 U	NA	1.8 U	NA
Aroclor 1248	SW8082			0.91 U	NA	1.4 U	NA	2.1 U	NA	0.56 U	NA	2.5 U	NA	0.64 U	NA	1.8 U	NA
Aroclor 1254	SW8082			9.1	NA	3.0	NA	3.4	NA	1.1	NA	4.1	NA	11	NA	7.0	NA
Aroclor 1260	SW8082			2.0	NA	0.63	NA	0.64	NA	0.22	NA	0.87	NA	1.3 U	NA	1.8 U	NA
Total PCBs	SW8082	0.13	1.0	18	NA	3.6	NA	4.0	NA	1.3	NA	5.0	NA	25	NA	22	NA
PAHs (mg/kg DW)[4]																	
Naphthalene	SW8270D	2.1	2.4	NA	0.31	NA	0.088	NA	0.17	NA	NA	NA	0.21	NA	NA	NA	NA
Acenaphthylene	SW8270D	1.3	1.3	NA	0.13 U	NA	0.053 U	NA	0.054 U	NA	NA	NA	0.21 U	NA	NA	NA	NA
Acenaphthene	SW8270D	0.5	0.73	NA	0.13 U	NA	0.084	NA	0.054	NA	NA	NA	0.21 U	NA	NA	NA	NA
Fluorene	SW8270D	0.54	1.0	NA	0.13	NA	0.11	NA	0.17	NA	NA	NA	0.21 U	NA	NA	NA	NA
Phenanthrene	SW8270D	1.5	5.4	NA	0.61	NA	2.3	NA	1.3	NA	NA	NA	2.6	NA	NA	NA	NA

Table 5
Summary of Results for Filtered Suspended Solids at MH108

Location ID Filter Sampling Event Collection Date	Method	SQS/LAET	CSL/2LAET	MH108 A Event 6 2/11/2010	MH108 B Event 6 2/11/2010	MH108 A Event 7 3/29/2010	MH108 B Event 7 3/29/2010	MH108 A Event 8 4/27/2010	MH108 B Event 8 4/27/2010	MH108 A Event 9 5/20/2010	MH108 B Event 9 5/20/2010	MH108 A Event 10 6/2/2010	MH108 B Event 10 6/2/2010	MH108 A Base Flow 1 2/23/2010	MH108 B Base Flow 1 2/23/2010	MH108 A Base Flow 2 6/30/2010	MH108 B Base Flow 2 6/30/2010
Anthracene	SW8270D	0.96	4.4	NA	0.13 U	NA	0.23	NA	0.065	NA	NA	NA	0.21 U	NA	NA	NA	NA
1-Methylnaphthalene	SW8270D			NA	0.41 Q	NA	0.053 U	NA	0.31 U	NA	NA	NA	0.21 U	NA	NA	NA	NA
2-Methylnaphthalene	SW8270D	0.67	1.4	NA	0.62	NA	0.061	NA	0.12	NA	NA	NA	0.21 U	NA	NA	NA	NA
Fluoranthene	SW8270D	1.7	2.5	NA	1.5	NA	5.9	NA	2.7	NA	NA	NA	5.9	NA	NA	NA	NA
Pyrene	SW8270D	2.6	3.3	NA	0.92	NA	2.7	NA	1.7	NA	NA	NA	3.4	NA	NA	NA	NA
Benzo(a)anthracene	SW8270D	1.3	1.6	NA	0.24	NA	1.1	NA	0.27	NA	NA	NA	0.83	NA	NA	NA	NA
Chrysene	SW8270D	1.4	2.8	NA	1.0	NA	3.4	NA	1.4	NA	NA	NA	3.4	NA	NA	NA	NA
Benzo(b)fluoranthene	SW8270D			NA	0.70 J	NA	2.3 J	NA	0.80 J	NA	NA	NA	2.3 J	NA	NA	NA	NA
Benzo(k)fluoranthene	SW8270D			NA	0.70 J	NA	2.3 J	NA	0.80 J	NA	NA	NA	2.3 J	NA	NA	NA	NA
Total benzofluoranthenes	SW8270D	3.2	3.6	NA	1.4	NA	4.6	NA	1.6	NA	NA	NA	4.6	NA	NA	NA	NA
Benzo(a)pyrene	SW8270D	1.6	3	NA	0.47	NA	2.5	NA	0.43	NA	NA	NA	1.4	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	SW8270D	0.6	0.69	NA	0.39	NA	1.7	NA	0.62	NA	NA	NA	1.4	NA	NA	NA	NA
Dibenz(a,h)anthracene	SW8270D	0.23	0.54	NA	0.13 U	NA	0.53	NA	0.19	NA	NA	NA	0.40	NA	NA	NA	NA
Benzo(g,h,i)perylene	SW8270D	0.67	0.72	NA	0.55	NA	1.8	NA	0.67	NA	NA	NA	1.7	NA	NA	NA	NA
Total LPAH[5]	SW8270D	5.2	13	NA	1.1	NA	2.8	NA	1.8	NA	NA	NA	2.8	NA	NA	NA	NA
Total HPAH[6]	SW8270D	12	17	NA	6.5	NA	24	NA	9.6	NA	NA	NA	23	NA	NA	NA	NA
Dibenzofuran	SW8270D	0.54	0.7	NA	0.13 U	NA	0.14	NA	0.17	NA	NA	NA	0.21 U	NA	NA	NA	NA
Dioxins and Furans (pg/g DW)[7]																	
2,3,7,8-TCDD	E1613			NA	NA	NA	NA	NA	NA	NA	0.766 J	NA	NA	NA	1.35	NA	0.66 J
1,2,3,7,8-PECDD	E1613			NA	NA	NA	NA	NA	NA	NA	3.91 U	NA	NA	NA	4.72	NA	1.22 U
1,2,3,4,7,8-HXCDD	E1613			NA	NA	NA	NA	NA	NA	NA	5.38 U	NA	NA	NA	3.68	NA	1.5 J
1,2,3,6,7,8-HXCDD	E1613			NA	NA	NA	NA	NA	NA	NA	10.7	NA	NA	NA	7.88	NA	3.41 U
1,2,3,7,8,9-HXCDD	E1613			NA	NA	NA	NA	NA	NA	NA	11.7	NA	NA	NA	14.9	NA	5.03 J
1,2,3,4,6,7,8-HPCDD	E1613			NA	NA	NA	NA	NA	NA	NA	193	NA	NA	NA	121 B	NA	46.1 D
OCDD	E1613			NA	NA	NA	NA	NA	NA	NA	1230 B	NA	NA	NA	743 B	NA	265 D
2,3,7,8-TCDF	E1613			NA	NA	NA	NA	NA	NA	NA	8.69	NA	NA	NA	7.92	NA	4.08
1,2,3,7,8-PECDF	E1613			NA	NA	NA	NA	NA	NA	NA	2.44 J	NA	NA	NA	1.86 J	NA	0.738 D
2,3,4,7,8-PECDF	E1613			NA	NA	NA	NA	NA	NA	NA	5.86	NA	NA	NA	9.95	NA	4.75 J
1,2,3,4,7,8-HXCDF	E1613			NA	NA	NA	NA	NA	NA	NA	10.4	NA	NA	NA	21.4	NA	10.4 D
1,2,3,6,7,8-HXCDF	E1613			NA	NA	NA	NA	NA	NA	NA	6.83	NA	NA	NA	9.04	NA	4.53 J
1,2,3,7,8,9-HXCDF	E1613			NA	NA	NA	NA	NA	NA	NA	0.292 U	NA	NA	NA	0.265 J	NA	0.222 D
2,3,4,6,7,8-HXCDF	E1613			NA	NA	NA	NA	NA	NA	NA	4.07 J	NA	NA	NA	2.98	NA	1.56 J
1,2,3,4,6,7,8-HPCDF	E1613			NA	NA	NA	NA	NA	NA	NA	38.9	NA	NA	NA	25.4	NA	8.8 D
1,2,3,4,7,8,9-HPCDF	E1613			NA	NA	NA	NA	NA	NA	NA	4 J	NA	NA	NA	5.12	NA	2.51 J
OCDF	E1613			NA	NA	NA	NA	NA	NA	NA	78.7 B	NA	NA	NA	55.6 B	NA	14.9 D
TOTAL TEQ, ND*0	E1613			NA	NA	NA	NA	NA	NA	NA	10.6	NA	NA	NA	17.7	NA	4.82
TOTAL TEQ, ND*0.5	E1613			NA	NA	NA	NA	NA	NA	NA	12.8	NA	NA	NA	17.7	NA	5.94

Table 5
Summary of Results for Filtered Suspended Solids at MH108

Location ID				MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108	MH108
Filter				A	B	A	B	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 6	Event 6	Event 7	Event 7	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Base Flow 1	Base Flow 1	Base Flow 2	Base Flow 2
Collection Date	Method	SQS/LAET	CSL/2LAET	2/11/2010	2/11/2010	3/29/2010	3/29/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	2/23/2010	2/23/2010	6/30/2010	6/30/2010

MRLs reported for all undetected results

Green highlighting indicates chemical not detected at a reporting limit that exceeds the SQS/LAET

Gray highlighting indicates exceedance of the SQS/LAET

Red highlighting indicates exceedance of the CSL/2LAET

NA - Not available

1. Estimated mass of total solids that accounts for the aliquots removed for analysis of metals and grain size.
2. Actual mass of total solids analyzed for PCBs.
3. ug of PCBs divided by solids extracted for PCBs.
4. ug of PAH divided by estimated mass of total solids from PCB filter.
5. Total LPAH were calculated as the sum of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene
6. Total HPAH were calculated as the sum of benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, total benzofluoranthenes, chrysene, benzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene
7. pg of dioxin divided by total extracted solids.
8. Total stormwater volume calculated from regression for Events 6 and 10

B - Analyte detedted in an associated method blank.

D - The spiked compund not detected due to sample extract dilution.

J - Estimated concentration when the value is less than established reporting limits.

N - The analysis indicates the presence of an analyte for□which there is presumptive evidence to make a□"tentative identification".

Q - Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% Drift or minimum RRF).

U - The analyte was analyzed for, but was not detected□above the reported sample quantitation limit.

SQS/LAET - Sediment Quality Standards/Lowest Apparent Effects Threshold

CSL/2LAET - Cleanup Screening Level/Second Lowest Apparent Effects Threshold

Table 6
Summary of Results for Filtered Suspended Solids Samples in the NBF North Lateral Storm Drain

Location ID				MH133D	MH133D	MH133D	MH133D	MH152	MH152	MH152	MH152	MH152	MH152	MH138	MH138	MH138	MH138	CB165	CB165	CB165	CB165
Filter				A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9
Collection Date	Method	SQS/LAET	CSL/2LAET	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010
Estimated Total Solids (g/filter DW)[1]				73.1	25.9	13.2	NA	13.9	NA	56.4	31.3	10	NA	27.7	11.5	6	NA	25.2	NA	37.9	25.3
Total Solids extracted for PCBs from (g/filter DW)[2]				67.09	25.9	12.57	NA	13.13	NA	50.41	31.28	9.91	NA	26.21	11.52	5.81	NA	22.86	NA	35.57	25.29
Volume of water through filter (liters)				15,039	15,667	17,279	16,720	28,245	33,829	4,262	5,135	17,977	13,687	2,611	2,450	1,247	1,542	4,731	4,625	46,987	44,995
Grain Size (%)																					
Gravel	ASTM_D422			NA	NA	NA	NA	7.6	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA	0.6	NA	NA	NA
Very Coarse Sand	ASTM_D422			NA	NA	NA	NA	3.1	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA	0.1 U	NA	NA	NA
Coarse Sand	ASTM_D422			NA	NA	NA	NA	2.4	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA	0.1 U	NA	NA	NA
Medium Sand	ASTM_D422			NA	NA	NA	NA	3.1	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA	0.1 U	NA	NA	NA
Fine Sand	ASTM_D422			NA	NA	NA	NA	4.2	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA	0.1 U	NA	NA	NA
Very Fine Sand	ASTM_D422			NA	NA	NA	NA	6.1	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA	0.1 U	NA	NA	NA
Coarse Silt	ASTM_D422			NA	NA	NA	NA	2.7	NA	1.6	NA	NA	NA	NA	NA	NA	NA	10.8	NA	NA	NA
Medium Silt	ASTM_D422			NA	NA	NA	NA	1.2	NA	28.5	NA	NA	NA	NA	NA	NA	NA	43.2	NA	NA	NA
Fine Silt	ASTM_D422			NA	NA	NA	NA	9.7	NA	38.7	NA	NA	NA	NA	NA	NA	NA	9.4	NA	NA	NA
Very Fine Silt	ASTM_D422			NA	NA	NA	NA	9.5	NA	8.3	NA	NA	NA	NA	NA	NA	NA	6.8	NA	NA	NA
Clay	ASTM_D422			NA	NA	NA	NA	50.5	NA	22.9	NA	NA	NA	NA	NA	NA	NA	29.2	NA	NA	NA
Percent Fines (<0.06mm)	ASTM_D422			NA	NA	NA	NA	73.6	NA	100	NA	NA	NA	NA	NA	NA	NA	99.4	NA	NA	NA
Metals - Total (mg/kg)																					
Arsenic	SW6010B	57	93	90	NA	110	NA	30 U	NA	20	NA	50	NA	90	NA	30	NA	30	NA	9.0	NA
Cadmium	SW6010B	5.1	6.7	78	NA	102	NA	7.0	NA	4.6	NA	6.0	NA	10	NA	11	NA	13	NA	3.2	NA
Chromium	SW6010B	260	270	78	NA	274	NA	59 J	NA	56	NA	58	NA	100	NA	78	NA	133 J	NA	79	NA
Copper	SW6010B	390	390	125 J	NA	134	NA	393	NA	328 J	NA	419	NA	126 J	NA	149	NA	278	NA	87 J	NA
Lead	SW6010B	450	530	120	NA	230	NA	190	NA	189	NA	210	NA	120	NA	90	NA	320	NA	205	NA
Mercury	SW7471A	0.41	0.59	3.24 J	NA	3.46 J	NA	1.3 J	NA	0.52 J	NA	0.40 J	NA	0.40 J	NA	0.37 J	NA	12 J	NA	2.1 J	NA
Silver	SW6010B	6.1	6.1	4.0 U	NA	4.0 U	NA	2.0 U	NA	1.0 U	NA	2.0 U	NA	4.0 U	NA	1.0 U	NA	2.0 U	NA	160	NA
Zinc	SW6010B	410	960	2200	NA	2650	NA	869 J	NA	686	NA	1160	NA	2890	NA	1250	NA	4770 J	NA	1640	NA
PCBs (mg/kg DW)[3]																					
Aroclor 1221	SW8082			0.03 U	NA	0.16 U	NA	0.38 U	NA	0.20 U	NA	1.0 U	NA	0.076 U	NA	1.7 U	NA	0.22 U	NA	0.28 U	NA
Aroclor 1232	SW8082			0.03 U	NA	0.16 U	NA	0.38 U	NA	0.20 U	NA	1.0 U	NA	0.076 U	NA	1.7 U	NA	0.22 U	NA	0.28 U	NA
Aroclor 1242	SW8082			0.03 U	NA	0.16 U	NA	0.38 U	NA	0.20 U	NA	1.0 U	NA	0.076 U	NA	1.7 U	NA	0.22 U	NA	0.28 U	NA
Aroclor 1016	SW8082			0.03 U	NA	0.16 U	NA	0.38 U	NA	0.20 U	NA	1.0 U	NA	0.076 U	NA	1.7 U	NA	0.22 U	NA	0.28 U	NA
Aroclor 1248	SW8082			0.045 U	NA	0.24 U	NA	1.9 U	NA	0.60 U	NA	3.0 U	NA	0.19 U	NA	3.4 U	NA	3.7	NA	1.4 U	NA
Aroclor 1254	SW8082			0.13	NA	0.53	NA	2.5	NA	0.99	NA	3.7	NA	0.61	NA	10	NA	3.1	NA	1.3	NA
Aroclor 1260	SW8082			0.14	NA	0.73	NA	0.43	NA	0.20 U	NA	1.0 U	NA	0.16	NA	2.8	NA	0.66	NA	0.28 U	NA
Total PCBs	SW8082	0.13	1.0	0.27	NA	1.3	NA	2.9	NA	0.99	NA	3.7	NA	0.77	NA	13	NA	7.5	NA	1.3	NA
PAHs (mg/kg DW)[4]																					
Naphthalene	SW8270D	2.1	2.4	NA	NA	NA	0.91 U	NA	0.17	NA	NA	NA	0.16	NA	NA	NA	0.83 U	NA	0.13	NA	NA
Acenaphthylene	SW8270D	1.3	1.3	NA	NA	NA	0.91 U	NA	0.022 J	NA	NA	NA	0.10 U	NA	NA	NA	0.83 U	NA	0.024 J	NA	NA
Acenaphthene	SW8270D	0.5	0.73	NA	NA	NA	1.2	NA	0.043	NA	NA	NA	0.10 U	NA	NA	NA	0.83 U	NA	0.048	NA	NA
Fluorene	SW8270D	0.54	1.0	NA	NA	NA	1.4	NA	0.16	NA	NA	NA	0.10	NA	NA	NA	0.83 U	NA	0.083	NA	NA
Phenanthrene	SW8270D	1.5	5.4	NA	NA	NA	13	NA	2.8	NA	NA	NA	2.2	NA	NA	NA	1.8	NA	0.83	NA	NA
Anthracene	SW8270D	0.96	4.4	NA	NA	NA	2.2	NA	0.086	NA	NA	NA	0.10 U	NA	NA	NA	0.83 U	NA	0.091	NA	NA
1-Methylnaphthalene	SW8270D			NA	NA	NA	0.91 U	NA	0.19 U	NA	NA	NA	0.10 U	NA	NA	NA	0.83 U	NA	0.15 U	NA	NA

Table 6
Summary of Results for Filtered Suspended Solids Samples in the NBF North Lateral Storm Drain

Location ID				CB165	CB165	CB173	CB173	CB173	CB173	CB173	CB173	CB173	CB173	MH178	MH178	MH178	MH178	MH178	MH178
Filter				A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Base Flow 2	Base Flow 2	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10
Collection Date	Method	SQS/LAET	CSL/2LAET	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	6/30/2010	6/30/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010
Estimated Total Solids (g/filter DW)[1]				21.2	NA	20.7	NA	40.6	20.3	18.5	NA	36.2	NA	20.7	NA	41.9	26.4	12.8	NA
Total Solids extracted for PCBs from (g/filter DW)[2]				19.47	NA	19.39	NA	38.75	20.26	18.42	NA	34.9	31	18.73	NA	37.08	26.39	11.76	NA
Volume of water through filter (liters)				47,100	52,910	56,627	61,218	37,465	34,982	65,148	67,032	305,574	336,588	4,611	4,024	1,503	1,709	33,550	35,269
Grain Size (%)																			
Gravel	ASTM_D422			NA	NA	2.3	NA	NA	NA	NA	NA	NA	NA	5.2	NA	0.5	NA	0.1	NA
Very Coarse Sand	ASTM_D422			NA	NA	4	NA	NA	NA	NA	NA	NA	NA	0.2	NA	0.1	NA	0.1	NA
Coarse Sand	ASTM_D422			NA	NA	2.5	NA	NA	NA	NA	NA	NA	NA	0.3	NA	0.2	NA	0.1	NA
Medium Sand	ASTM_D422			NA	NA	1.6	NA	NA	NA	NA	NA	NA	NA	0.5	NA	0.3	NA	0.2	NA
Fine Sand	ASTM_D422			NA	NA	1.2	NA	NA	NA	NA	NA	NA	NA	0.5	NA	0.5	NA	0.2	NA
Very Fine Sand	ASTM_D422			NA	NA	0.9	NA	NA	NA	NA	NA	NA	NA	1.1	NA	0.5	NA	0.2	NA
Coarse Silt	ASTM_D422			NA	NA	1.2	NA	NA	NA	NA	NA	NA	NA	2.1	NA	6.9	NA	8.5	NA
Medium Silt	ASTM_D422			NA	NA	16.5	NA	NA	NA	NA	NA	NA	NA	12	NA	26.9	NA	36.3	NA
Fine Silt	ASTM_D422			NA	NA	21.1	NA	NA	NA	NA	NA	NA	NA	12.8	NA	20.7	NA	14.9	NA
Very Fine Silt	ASTM_D422			NA	NA	18.2	NA	NA	NA	NA	NA	NA	NA	15.8	NA	18.4	NA	10.7	NA
Clay	ASTM_D422			NA	NA	32.3	NA	NA	NA	NA	NA	NA	NA	49.5	NA	25	NA	28.7	NA
Percent Fines (<0.06mm)	ASTM_D422			NA	NA	87.5	NA	NA	NA	NA	NA	NA	NA	92.2	NA	97.9	NA	99.1	NA
Metals - Total (mg/kg)																			
Arsenic	SW6010B	57	93	20	NA	20 U	NA	20 U	NA	40 U	NA	90	NA	20	NA	20	NA	40	NA
Cadmium	SW6010B	5.1	6.7	6.3	NA	8.3	NA	31	NA	9.0	NA	11	NA	6.2	NA	4.5	NA	4.0	NA
Chromium	SW6010B	260	270	117	NA	67 J	NA	81	NA	74	NA	74	NA	57 J	NA	63	NA	55	NA
Copper	SW6010B	390	390	150	NA	245	NA	278 J	NA	311	NA	382	NA	352	NA	397 J	NA	413	NA
Lead	SW6010B	450	530	332	NA	142	NA	202	NA	210	NA	211	NA	237	NA	230	NA	240	NA
Mercury	SW7471A	0.41	0.59	2.2 J	NA	0.57 J	NA	13 J	NA	0.80 J	NA	0.73	NA	0.36 J	NA	0.25 J	NA	0.30 J	NA
Silver	SW6010B	6.1	6.1	0.70 U	NA	1.0 U	NA	1.0 U	NA	2.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	2.0 U	NA
Zinc	SW6010B	410	960	2810	NA	2040 J	NA	1910	NA	2090	NA	2320	NA	652 J	NA	812	NA	565	NA
PCBs (mg/kg DW)[3]																			
Aroclor 1221	SW8082			0.51 U	NA	1.0 U	NA	0.52 U	NA	2.7 U	NA	1.4 U	NA	0.053 U	NA	0.027 U	NA	0.21 U	NA
Aroclor 1232	SW8082			0.51 U	NA	1.0 U	NA	0.52 U	NA	2.7 U	NA	1.4 U	NA	0.053 U	NA	0.027 U	NA	0.21 U	NA
Aroclor 1242	SW8082			0.51 U	NA	1.0 U	NA	0.52 U	NA	2.7 U	NA	22	NA	0.053 U	NA	0.027 U	NA	0.21 U	NA
Aroclor 1016	SW8082			0.51 U	NA	1.0 U	NA	0.52 U	NA	2.7 U	NA	1.4 U	NA	0.053 U	NA	0.027 U	NA	0.21 U	NA
Aroclor 1248	SW8082			3.9 U	NA	19	NA	2.6 U	NA	27 U	NA	1.4 U	NA	0.13 U	NA	0.04 U	NA	0.53 U	NA
Aroclor 1254	SW8082			2.1	NA	14	NA	10	NA	17	NA	21	NA	0.38	NA	0.084	NA	0.94	NA
Aroclor 1260	SW8082			0.51	NA	1.5 U	NA	0.77 U	NA	2.7 U	NA	1.4 U	NA	0.21	NA	0.032	NA	0.36	NA
Total PCBs	SW8082	0.13	1.0	2.6	NA	33	NA	10	NA	17	NA	43	NA	0.59	NA	0.12	NA	1.3	NA
PAHs (mg/kg DW)[4]																			
Naphthalene	SW8270D	2.1	2.4	NA	0.12	NA	0.20	NA	NA	NA	0.14 U	NA	NA	NA	0.13	NA	NA	NA	0.39 U
Acenaphthylene	SW8270D	1.3	1.3	NA	0.12 U	NA	0.043 J	NA	NA	NA	0.14 U	NA	NA	NA	0.029 J	NA	NA	NA	0.39 U
Acenaphthene	SW8270D	0.5	0.73	NA	0.12 U	NA	0.072	NA	NA	NA	0.14 U	NA	NA	NA	0.077	NA	NA	NA	0.39 U
Fluorene	SW8270D	0.54	1.0	NA	0.12 U	NA	0.14	NA	NA	NA	0.14 U	NA	NA	NA	0.17	NA	NA	NA	0.39 U
Phenanthrene	SW8270D	1.5	5.4	NA	0.94	NA	0.92	NA	NA	NA	0.48	NA	NA	NA	2.0	NA	NA	NA	4.8
Anthracene	SW8270D	0.96	4.4	NA	0.12 U	NA	0.097	NA	NA	NA	0.14 U	NA	NA	NA	0.14	NA	NA	NA	0.39 U
1-Methylnaphthalene	SW8270D			NA	0.12 U	NA	0.22 U	NA	NA	NA	0.14 U	NA	NA	NA	0.18 U	NA	NA	NA	0.39 U

Table 6
Summary of Results for Filtered Suspended Solids Samples in the NBF North Lateral Storm Drain

Location ID				MH133D	MH133D	MH133D	MH133D	MH152	MH152	MH152	MH152	MH152	MH152	MH138	MH138	MH138	MH138	CB165	CB165	CB165	CB165
Filter				A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9
Collection Date	Method	SQS/LAET	CSL/2LAET	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010
2-Methylnaphthalene	SW8270D	0.67	1.4	NA	NA	NA	0.91 U	NA	0.12	NA	NA	NA	0.11	NA	NA	NA	0.83 U	NA	0.12	NA	NA
Fluoranthene	SW8270D	1.7	2.5	NA	NA	NA	22	NA	12	NA	NA	NA	4.8	NA	NA	NA	4.0	NA	1.3	NA	NA
Pyrene	SW8270D	2.6	3.3	NA	NA	NA	14	NA	2.3 J	NA	NA	NA	2.8	NA	NA	NA	3.5	NA	1.3	NA	NA
Benzo(a)anthracene	SW8270D	1.3	1.6	NA	NA	NA	8.3	NA	0.69	NA	NA	NA	0.50	NA	NA	NA	0.83 U	NA	0.44	NA	NA
Chrysene	SW8270D	1.4	2.8	NA	NA	NA	11	NA	4.0 J	NA	NA	NA	3.0	NA	NA	NA	2.0	NA	0.87	NA	NA
Benzo(b)fluoranthene	SW8270D			NA	NA	NA	8.3 J	NA	1.7 J	NA	NA	NA	1.9 J	NA	NA	NA	1.2 J	NA	0.52 J	NA	NA
Benzo(k)fluoranthene	SW8270D			NA	NA	NA	8.3 J	NA	1.7 J	NA	NA	NA	1.9 J	NA	NA	NA	1.2 J	NA	0.52 J	NA	NA
Total benzofluoranthenes	SW8270D	3.2	3.6	NA	NA	NA	17	NA	3.4	NA	NA	NA	3.8	NA	NA	NA	2.4	NA	1.0	NA	NA
Benzo(a)pyrene	SW8270D	1.6	3.0	NA	NA	NA	9.8	NA	0.57	NA	NA	NA	0.93	NA	NA	NA	1.3	NA	0.52	NA	NA
Indeno(1,2,3-cd)pyrene	SW8270D	0.6	0.69	NA	NA	NA	6.2	NA	1.2	NA	NA	NA	1.3	NA	NA	NA	1.1	NA	0.37	NA	NA
Dibenz(a,h)anthracene	SW8270D	0.23	0.54	NA	NA	NA	2.7	NA	0.33	NA	NA	NA	0.34	NA	NA	NA	0.83 U	NA	0.14	NA	NA
Benzo(g,h,i)perylene	SW8270D	0.67	0.72	NA	NA	NA	6.8	NA	1.2	NA	NA	NA	1.6	NA	NA	NA	1.5	NA	0.48	NA	NA
Total LPAH[5]	SW8270D	5.2	13	NA	NA	NA	18	NA	3.3	NA	NA	NA	2.5	NA	NA	NA	1.8	NA	1.2	NA	NA
Total HPAH[6]	SW8270D	12	17	NA	NA	NA	97	NA	26	NA	NA	NA	19	NA	NA	NA	16	NA	6.5	NA	NA
Dibenzofuran	SW8270D	0.54	0.70	NA	NA	NA	0.91 U	NA	0.24	NA	NA	NA	0.20	NA	NA	NA	0.83 U	NA	0.071	NA	NA
Dioxins and Furans (pg/g DW)[7]																					
2,3,7,8-TCDD	E1613			NA	2.02	NA	NA	NA	NA	NA	1.91	NA	NA	NA	0.793 U	NA	NA	NA	NA	NA	1.44 J
1,2,3,7,8-PECDD	E1613			NA	9.27 J	NA	NA	NA	NA	NA	12.5	NA	NA	NA	3.68 U	NA	NA	NA	NA	NA	6.6 J
1,2,3,4,7,8-HXCDD	E1613			NA	14.9	NA	NA	NA	NA	NA	43.5	NA	NA	NA	6.93 J	NA	NA	NA	NA	NA	30.6
1,2,3,6,7,8-HXCDD	E1613			NA	28.2	NA	NA	NA	NA	NA	44.1	NA	NA	NA	12.8 J	NA	NA	NA	NA	NA	30.1
1,2,3,7,8,9-HXCDD	E1613			NA	29.6	NA	NA	NA	NA	NA	69.4	NA	NA	NA	17.1 J	NA	NA	NA	NA	NA	82.6
1,2,3,4,6,7,8-HPCDD	E1613			NA	421	NA	NA	NA	NA	NA	742	NA	NA	NA	240	NA	NA	NA	NA	NA	755
OCDD	E1613			NA	3750 B	NA	NA	NA	NA	NA	3680 B	NA	NA	NA	1750 B	NA	NA	NA	NA	NA	5140 B
2,3,7,8-TCDF	E1613			NA	26.4	NA	NA	NA	NA	NA	16	NA	NA	NA	10.9	NA	NA	NA	NA	NA	41.5
1,2,3,7,8-PECDF	E1613			NA	6.1 J	NA	NA	NA	NA	NA	5.47 J	NA	NA	NA	3.68 U	NA	NA	NA	NA	NA	10.2
2,3,4,7,8-PECDF	E1613			NA	12.3	NA	NA	NA	NA	NA	10.2	NA	NA	NA	11.7 J	NA	NA	NA	NA	NA	27.4
1,2,3,4,7,8-HXCDF	E1613			NA	11.8	NA	NA	NA	NA	NA	20.4	NA	NA	NA	19.4 J	NA	NA	NA	NA	NA	24.3
1,2,3,6,7,8-HXCDF	E1613			NA	9 J	NA	NA	NA	NA	NA	13.2	NA	NA	NA	9.29 J	NA	NA	NA	NA	NA	11.3
1,2,3,7,8,9-HXCDF	E1613			NA	0.88 U	NA	NA	NA	NA	NA	0.422 J	NA	NA	NA	0.483 U	NA	NA	NA	NA	NA	0.494 J
2,3,4,6,7,8-HXCDF	E1613			NA	13.1	NA	NA	NA	NA	NA	8.6 J	NA	NA	NA	6.01 J	NA	NA	NA	NA	NA	9.61 J
1,2,3,4,6,7,8-HPCDF	E1613			NA	92.3	NA	NA	NA	NA	NA	107	NA	NA	NA	53.3	NA	NA	NA	NA	NA	76.7
1,2,3,4,7,8,9-HPCDF	E1613			NA	7.18 J	NA	NA	NA	NA	NA	9.49	NA	NA	NA	8.16 J	NA	NA	NA	NA	NA	7.08 J
OCDF	E1613			NA	189 B	NA	NA	NA	NA	NA	124 B	NA	NA	NA	120 B	NA	NA	NA	NA	NA	145 B
TOTAL TEQ, ND*0	E1613			NA	34.8	NA	NA	NA	NA	NA	48.9	NA	NA	NA	15.3	NA	NA	NA	NA	NA	49.6
TOTAL TEQ, ND*0.5	E1613			NA	34.9	NA	NA	NA	NA	NA	48.9	NA	NA	NA	17.6	NA	NA	NA	NA	NA	49.6

Table 6
Summary of Results for Filtered Suspended Solids Samples in the NBF North Lateral Storm Drain

Location ID				CB165	CB165	CB173	CB173	CB173	CB173	CB173	CB173	CB173	CB173	MH178	MH178	MH178	MH178	MH178	MH178
Filter				A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Base Flow 2	Base Flow 2	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10
Collection Date	Method	SQS/LAET	CSL/2LAET	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	6/30/2010	6/30/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010
2-Methylnaphthalene	SW8270D	0.67	1.4	NA	0.13	NA	0.21	NA	NA	NA	0.14 U	NA	NA	NA	0.087	NA	NA	NA	0.39 U
Fluoranthene	SW8270D	1.7	2.5	NA	1.6	NA	1.2	NA	NA	NA	0.86	NA	NA	NA	3.7	NA	NA	NA	12
Pyrene	SW8270D	2.6	3.3	NA	1.3	NA	1.4	NA	NA	NA	0.76	NA	NA	NA	3.1	NA	NA	NA	6.0
Benzo(a)anthracene	SW8270D	1.3	1.6	NA	0.43	NA	0.27	NA	NA	NA	0.17	NA	NA	NA	0.72	NA	NA	NA	1.3
Chrysene	SW8270D	1.4	2.8	NA	1.0	NA	1.0	NA	NA	NA	0.76	NA	NA	NA	2.9	NA	NA	NA	6.8
Benzo(b)fluoranthene	SW8270D			NA	0.57 J	NA	0.58 J	NA	NA	NA	0.36 J	NA	NA	NA	1.9 J	NA	NA	NA	4.6 J
Benzo(k)fluoranthene	SW8270D			NA	0.57 J	NA	0.58 J	NA	NA	NA	0.36 J	NA	NA	NA	1.9 J	NA	NA	NA	4.6 J
Total benzofluoranthenes	SW8270D	3.2	3.6	NA	1.1	NA	1.2	NA	NA	NA	0.72	NA	NA	NA	3.8	NA	NA	NA	9.2
Benzo(a)pyrene	SW8270D	1.6	3.0	NA	0.57	NA	0.44	NA	NA	NA	0.24	NA	NA	NA	1.3	NA	NA	NA	2.3
Indeno(1,2,3-cd)pyrene	SW8270D	0.6	0.69	NA	0.44	NA	0.40	NA	NA	NA	0.24	NA	NA	NA	1.7	NA	NA	NA	2.6
Dibenz(a,h)anthracene	SW8270D	0.23	0.54	NA	0.17	NA	0.15	NA	NA	NA	0.14 U	NA	NA	NA	0.63	NA	NA	NA	0.70
Benzo(g,h,i)perylene	SW8270D	0.67	0.72	NA	0.80	NA	0.58	NA	NA	NA	0.59	NA	NA	NA	1.7	NA	NA	NA	2.9
Total LPAH[5]	SW8270D	5.2	13	NA	1.1	NA	1.5	NA	NA	NA	0.48	NA	NA	NA	2.5	NA	NA	NA	4.8
Total HPAH[6]	SW8270D	12	17	NA	7.5	NA	6.6	NA	NA	NA	4.3	NA	NA	NA	20	NA	NA	NA	44
Dibenzofuran	SW8270D	0.54	0.70	NA	0.12 U	NA	0.13	NA	NA	NA	0.14 U	NA	NA	NA	0.18	NA	NA	NA	0.39 U
Dioxins and Furans (pg/g DW)[7]																			
2,3,7,8-TCDD	E1613			NA	NA	NA	NA	NA	2.22 J	NA	NA	NA	2.07 J	NA	NA	NA	1.79 J	NA	NA
1,2,3,7,8-PECDD	E1613			NA	NA	NA	NA	NA	12.1 J	NA	NA	NA	9.87 D	NA	NA	NA	7.69 J	NA	NA
1,2,3,4,7,8-HXCDD	E1613			NA	NA	NA	NA	NA	18.8	NA	NA	NA	17.4 D	NA	NA	NA	10.5 J	NA	NA
1,2,3,6,7,8-HXCDD	E1613			NA	NA	NA	NA	NA	39.6	NA	NA	NA	33.5 D	NA	NA	NA	22.5	NA	NA
1,2,3,7,8,9-HXCDD	E1613			NA	NA	NA	NA	NA	41	NA	NA	NA	32.9 D	NA	NA	NA	28.4	NA	NA
1,2,3,4,6,7,8-HPCDD	E1613			NA	NA	NA	NA	NA	656	NA	NA	NA	590 D	NA	NA	NA	372	NA	NA
OCDD	E1613			NA	NA	NA	NA	NA	5580 B	NA	NA	NA	4190 D	NA	NA	NA	2880 B	NA	NA
2,3,7,8-TCDF	E1613			NA	NA	NA	NA	NA	79	NA	NA	NA	53.2	NA	NA	NA	5	NA	NA
1,2,3,7,8-PECDF	E1613			NA	NA	NA	NA	NA	14.2	NA	NA	NA	11 D	NA	NA	NA	2.54 J	NA	NA
2,3,4,7,8-PECDF	E1613			NA	NA	NA	NA	NA	48	NA	NA	NA	41.3 D	NA	NA	NA	4.13 J	NA	NA
1,2,3,4,7,8-HXCDF	E1613			NA	NA	NA	NA	NA	102	NA	NA	NA	108 D	NA	NA	NA	7.16 J	NA	NA
1,2,3,6,7,8-HXCDF	E1613			NA	NA	NA	NA	NA	48.6	NA	NA	NA	49.4 D	NA	NA	NA	5.65 J	NA	NA
1,2,3,7,8,9-HXCDF	E1613			NA	NA	NA	NA	NA	2.11 U	NA	NA	NA	1.2 J	NA	NA	NA	0.343 J	NA	NA
2,3,4,6,7,8-HXCDF	E1613			NA	NA	NA	NA	NA	17.8	NA	NA	NA	15.1 D	NA	NA	NA	5.72 J	NA	NA
1,2,3,4,6,7,8-HPCDF	E1613			NA	NA	NA	NA	NA	169	NA	NA	NA	164 D	NA	NA	NA	79.2	NA	NA
1,2,3,4,7,8,9-HPCDF	E1613			NA	NA	NA	NA	NA	31	NA	NA	NA	34.5 D	NA	NA	NA	5.04 J	NA	NA
OCDF	E1613			NA	NA	NA	NA	NA	375 B	NA	NA	NA	275 D	NA	NA	NA	151 B	NA	NA
TOTAL TEQ, ND*0	E1613			NA	NA	NA	NA	NA	74.2	NA	NA	NA	65	NA	NA	NA	24.8	NA	NA
TOTAL TEQ, ND*0.5	E1613			NA	NA	NA	NA	NA	74.3	NA	NA	NA	65	NA	NA	NA	24.8	NA	NA

Table 6
Summary of Results for Filtered Suspended Solids Samples in the NBF North Lateral Storm Drain

Location ID				MH133D	MH133D	MH133D	MH133D	MH152	MH152	MH152	MH152	MH152	MH152	MH138	MH138	MH138	MH138	CB165	CB165	CB165	CB165
Filter				A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9
Collection Date	Method	SQS/LAET	CSL/2LAET	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010

MRLs reported for all undetected results

Green highlighting indicates chemical not detected at a reporting limit that exceeds the SQS/LAET

Gray highlighting indicates exceedance of the SQS/LAET

Red highlighting indicates exceedance of the CSL/2LAET

NA - Not available

1. Estimated mass of total solids that accounts for the aliquots removed for analysis of metals and grain size.
2. Actual mass of total solids analyzed for PCBs.
3. ug of PCBs divided by solids extracted for PCBs.
4. ug of PAH divided by estimated mass of total solids from PCB filter.
5. Total LPAH were calculated as the sum of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene
6. Total HPAH were calculated as the sum of benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, total benzofluoranthenes, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene
7. pg of dioxin divided by total extracted solids.
8. Total stormwater volume calculated from regression for Events 6 and 10

B - Analyte detedted in an associated method blank.

D - The spiked compund not detected due to sample extract dilution.

J - Estimated concentration when the value is less than established reporting limits.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".

Q - Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% Drift or minimum RRF).

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

SQS/LAET - Sediment Quality Standards/Lowest Apparent Effects Threshold

CSL/2LAET - Cleanup Screening Level/Second Lowest Apparent Effects Threshold

Table 7
Summary of Results for Filtered Suspended Solids Samples in Other NBF Storm Drain Laterals

Location ID				MH226	MH226	MH226	MH226	MH226	MH226	MH369	MH369	MH369	MH369	MH369	MH369	MH356	MH356	MH356	MH356	MH356	MH356
SD Lateral				North-Central	North-Central	North-Central	North-Central	North-Central	North-Central	South-Central	South-Central	South-Central	South-Central	South-Central	South-Central	South	South	South	South	South	South
Filter				A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10
Collection Date	Method	SQS/LAET	CSL/2LAET	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010
Estimated Total Solids (g/filter DW)[1]				20.6	NA	29	10.6	12.7	NA	16.2	NA	28.4	18.6	8.6	NA	20.6	NA	36.6	66.8	22.2	NA
Total Solids extracted for PCBs from (g/filter DW)[2]				20.2	NA	28.43	10.63	12.39	NA	15.61	NA	27.67	18.59	8.28	NA	19.76	NA	34.75	66.79	21.04	NA
Volume of water through filter (liters)				31,815	39,350	8,024	9,589	12,433	14,100	7,802	7,457	16,598	15,142	16,456	14,942	16,478	17,071	15,985	16,051	23,992	23,647
Calculated TSS (mg/L)				0.6	NA	3.6	1.1	1.0	NA	2.1	NA	1.7	1.2	0.5	NA	1.3	NA	2.3	4.2	0.9	NA
Total Stormwater Flow (L)[8]				679,100	679,100	417,100	417,100	524,000	524,000	NA	NA	NA	NA	NA	NA	1,594,000	1,594,000	1,523,000	1,523,000	1,352,000	1,352,000
Grain Size (%)																					
Gravel	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Very Coarse Sand	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Coarse Sand	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Medium Sand	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fine Sand	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Very Fine Sand	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Coarse Silt	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Medium Silt	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fine Silt	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Very Fine Silt	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Clay	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Percent Fines (<0.06mm	ASTM_D422			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals - Total (mg/kg)																					
Arsenic	SW6010B	57	93	40 U	NA	40	NA	60	NA	90 U	NA	70	NA	70	NA	60 U	NA	50 U	NA	70 U	NA
Cadmium	SW6010B	5.1	6.7	10	NA	13	NA	22	NA	9.0	NA	6.0	NA	5.0	NA	16	NA	14	NA	14	NA
Chromium	SW6010B	260	270	56 J	NA	97	NA	132	NA	108 J	NA	98	NA	80	NA	94 J	NA	98	NA	101	NA
Copper	SW6010B	390	390	211	NA	291 J	NA	469	NA	133	NA	111 J	NA	86	NA	226	NA	254 J	NA	250	NA
Lead	SW6010B	450	530	200	NA	308	NA	300	NA	130	NA	90	NA	60	NA	180	NA	250	NA	200	NA
Mercury	SW7471A	0.41	0.59	0.40 J	NA	0.30 J	NA	0.30 J	NA	0.20 J	NA	0.20 J	NA	0.10 J	NA	0.30 J	NA	0.30 J	NA	0.30 J	NA
Silver	SW6010B	6.1	6.1	2.0 U	NA	1.0 U	NA	3.0 U	NA	5.0 U	NA	4.0 U	NA	4.0 U	NA	3.0 U	NA	3.0 U	NA	4.0 U	NA
Zinc	SW6010B	410	960	1170 J	NA	1710	NA	2540	NA	820 J	NA	630	NA	630	NA	1420 J	NA	1460	NA	1320	NA
PCBs (mg/kg DW)[3]																					
Aroclor 1221	SW8082			0.05 U	NA	0.07 U	NA	0.081 U	NA	0.16 U	NA	0.036 U	NA	0.12 U	NA	0.13 U	NA	0.029 U	NA	0.095 U	NA
Aroclor 1232	SW8082			0.05 U	NA	0.07 U	NA	0.081 U	NA	0.16 U	NA	0.036 U	NA	0.12 U	NA	0.13 U	NA	0.029 U	NA	0.095 U	NA
Aroclor 1242	SW8082			0.05 U	NA	0.07 U	NA	0.081 U	NA	0.16 U	NA	0.036 U	NA	0.12 U	NA	0.13 U	NA	0.029 U	NA	0.095 U	NA
Aroclor 1016	SW8082			0.05 U	NA	0.07 U	NA	0.081 U	NA	0.16 U	NA	0.036 U	NA	0.12 U	NA	0.13 U	NA	0.029 U	NA	0.095 U	NA
Aroclor 1248	SW8082			0.074 U	NA	0.18 U	NA	0.081 U	NA	0.16 U	NA	0.043 U	NA	0.14 U	NA	0.31 U	NA	0.12 U	NA	0.14 U	NA
Aroclor 1254	SW8082			0.16	NA	0.39	NA	0.19	NA	0.55	NA	0.13	NA	0.36	NA	0.61	NA	0.21	NA	0.30	NA
Aroclor 1260	SW8082			0.18	NA	0.15	NA	0.31	NA	0.51	NA	0.098	NA	0.33	NA	0.21	NA	0.055	NA	0.17	NA
Total PCBs	SW8082	0.13	1.0	0.34	NA	0.54	NA	0.50	NA	1.1	NA	0.23	NA	0.69	NA	0.82	NA	0.27	NA	0.47	NA
PAHs (mg/kg DW)[4]																					
Naphthalene	SW8270D	2.1	2.4	NA	0.12	NA	NA	NA	0.24 U	NA	0.10	NA	NA	NA	0.14	NA	0.17 J	NA	NA	NA	0.23
Acenaphthylene	SW8270D	1.3	1.3	NA	0.019 J	NA	NA	NA	0.24 U	NA	0.019 J	NA	NA	NA	0.12 U	NA	0.034 J	NA	NA	NA	0.14 U
Acenaphthene	SW8270D	0.5	0.73	NA	0.044	NA	NA	NA	0.24 U	NA	0.068	NA	NA	NA	0.12 U	NA	0.13 J	NA	NA	NA	0.29

Table 7
Summary of Results for Filtered Suspended Solids Samples in Other NBF Storm Drain Laterals

Location ID				CB423	CB423	CB423	CB423	CB423	MH434	MH434	MH434	MH434	MH434	MH434
SD Lateral				Bldg 3-380	Bldg 3-380	Bldg 3-380	Bldg 3-380	Bldg 3-380	Parking Lot	Parking Lot	Parking Lot	Parking Lot	Parking Lot	Parking Lot
Filter				A	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 9	Event 9B	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9B	Event 9B	Event 10	Event 10
Collection Date	Method	SQS/LAET	CSL/2LAET	5/20/2010	5/28/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/28/2010	5/28/2010	6/2/2010	6/2/2010
Estimated Total Solids (g/filter DW)[1]				37.6	6.4	13.5	7.3	NA	12.9	NA	31.9	57.8	19.3	NA
Total Solids extracted for PCBs from (g/filter DW)[2]				32.53	6.34	13.45	7.04	NA	12.46	NA	28.16	57.85	17.01	NA
Volume of water through filter (liters)				3,986	7,617	3,906	16,668	5,680	4,997	8,060	23,630	36,212	36,575	23,848
Calculated TSS (mg/L)				9.4	0.8	3.5	0.4	NA	2.6	NA	1.3	1.6	0.5	NA
Total Stormwater Flow (L)[8]				57,420	87,970	87,970	85,210	85,210	NA	NA	NA	NA	NA	NA
Grain Size (%)														
Gravel	ASTM_D422			1.2	NA	NA	NA	NA	NA	NA	0.1	NA	0.2	NA
Very Coarse Sand	ASTM_D422			1.6	NA	NA	NA	NA	NA	NA	0.1	NA	0.5	NA
Coarse Sand	ASTM_D422			1.8	NA	NA	NA	NA	NA	NA	0.3	NA	0.6	NA
Medium Sand	ASTM_D422			3.6	NA	NA	NA	NA	NA	NA	0.3	NA	0.6	NA
Fine Sand	ASTM_D422			5.6	NA	NA	NA	NA	NA	NA	0.1	NA	0.4	NA
Very Fine Sand	ASTM_D422			4.6	NA	NA	NA	NA	NA	NA	0.1	NA	0.2	NA
Coarse Silt	ASTM_D422			2	NA	NA	NA	NA	NA	NA	16.6	NA	13.9	NA
Medium Silt	ASTM_D422			15.9	NA	NA	NA	NA	NA	NA	31	NA	30.9	NA
Fine Silt	ASTM_D422			15.6	NA	NA	NA	NA	NA	NA	15.3	NA	21.8	NA
Very Fine Silt	ASTM_D422			8.5	NA	NA	NA	NA	NA	NA	13.5	NA	15.5	NA
Clay	ASTM_D422			39.7	NA	NA	NA	NA	NA	NA	22.6	NA	15.8	NA
Percent Fines (<0.06mm	ASTM_D422			81.7	NA	NA	NA	NA	NA	NA	99	NA	97.5	NA
Metals - Total (mg/kg)														
Arsenic	SW6010B	57	93	30 U	10 U	NA	20 U	NA	60	NA	39	NA	90	NA
Cadmium	SW6010B	5.1	6.7	5.0	4.4	NA	5.0	NA	3.4	NA	3.4	NA	5.1	NA
Chromium	SW6010B	260	270	114	65 J	NA	110	NA	76 J	NA	65.8 J	NA	93	NA
Copper	SW6010B	390	390	264 J	92	NA	153	NA	130	NA	83.3	NA	162	NA
Lead	SW6010B	450	530	190	88	NA	132	NA	146	NA	219	NA	236	NA
Mercury	SW7471A	0.41	0.59	0.20 J	0.090	NA	0.26 J	NA	0.1 J	NA	0.13	NA	0.20 J	NA
Silver	SW6010B	6.1	6.1	2.0 U	0.60 U	NA	0.90 U	NA	1.0 U	NA	0.50 U	NA	0.80 U	NA
Zinc	SW6010B	410	960	1360	1630	NA	1860	NA	923 J	NA	941	NA	1350	NA
PCBs (mg/kg DW)[3]														
Aroclor 1221	SW8082			0.031 U	0.16 U	NA	0.36 U	NA	0.08 U	NA	0.071 U	NA	0.059 U	NA
Aroclor 1232	SW8082			0.031 U	0.16 U	NA	0.36 U	NA	0.08 U	NA	0.071 U	NA	0.059 U	NA
Aroclor 1242	SW8082			0.031 U	0.16 U	NA	0.36 U	NA	0.08 U	NA	0.071 U	NA	0.059 U	NA
Aroclor 1016	SW8082			0.031 U	0.16 U	NA	0.36 U	NA	0.08 U	NA	0.071 U	NA	0.059 U	NA
Aroclor 1248	SW8082			0.061 U	0.63 U	NA	0.71 U	NA	0.3 U	NA	0.28 U	NA	0.24 U	NA
Aroclor 1254	SW8082			0.092	0.38 J	NA	0.82	NA	0.47	NA	0.31 J	NA	0.34	NA
Aroclor 1260	SW8082			0.083	0.36 J	NA	0.97	NA	0.29	NA	0.26 J	NA	0.27	NA
Total PCBs	SW8082	0.13	1.0	0.18	0.74	NA	1.8	NA	0.76	NA	0.57	NA	0.61	NA
PAHs (mg/kg DW)[4]														
Naphthalene	SW8270D	2.1	2.4	NA	NA	NA	NA	0.41 U	NA	0.27	NA	NA	NA	0.17
Acenaphthylene	SW8270D	1.3	1.3	NA	NA	NA	NA	0.41 U	NA	0.047 J	NA	NA	NA	0.13 U
Acenaphthene	SW8270D	0.5	0.73	NA	NA	NA	NA	0.41 U	NA	0.11	NA	NA	NA	0.13 U

Table 7
Summary of Results for Filtered Suspended Solids Samples in Other NBF Storm Drain Laterals

Location ID				MH226	MH226	MH226	MH226	MH226	MH226	MH369	MH369	MH369	MH369	MH369	MH369	MH356	MH356	MH356	MH356	MH356	MH356
SD Lateral				North-Central	North-Central	North-Central	North-Central	North-Central	North-Central	South-Central	South-Central	South-Central	South-Central	South-Central	South-Central	South	South	South	South	South	South
Filter				A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10
Collection Date	Method	SQS/LAET	CSL/2LAET	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010
Fluorene	SW8270D	0.54	1.0	NA	0.11	NA	NA	NA	0.24 U	NA	0.13	NA	NA	NA	0.12	NA	0.19 J	NA	NA	NA	0.24
Phenanthrene	SW8270D	1.5	5.4	NA	2.9	NA	NA	NA	5.0	NA	0.99	NA	NA	NA	0.78	NA	1.7 J	NA	NA	NA	5.0
Anthracene	SW8270D	0.96	4.4	NA	0.14	NA	NA	NA	0.25	NA	0.099	NA	NA	NA	0.12 U	NA	1.6 J	NA	NA	NA	0.25
1-Methylnaphthalene	SW8270D			NA	0.097 U	NA	NA	NA	0.24 U	NA	0.15 U	NA	NA	NA	0.12 U	NA	0.18 U	NA	NA	NA	0.14 U
2-Methylnaphthalene	SW8270D	0.67	1.4	NA	0.078	NA	NA	NA	0.24 U	NA	0.093	NA	NA	NA	0.13	NA	0.17 J	NA	NA	NA	0.14
Fluoranthene	SW8270D	1.7	2.5	NA	7.8	NA	NA	NA	12	NA	1.5	NA	NA	NA	1.3	NA	18 J	NA	NA	NA	18 J
Pyrene	SW8270D	2.6	3.3	NA	2.9	NA	NA	NA	6.6	NA	0.86	NA	NA	NA	1.1	NA	4.3 J	NA	NA	NA	6.8
Benzo(a)anthracene	SW8270D	1.3	1.6	NA	0.53	NA	NA	NA	1.6	NA	0.38	NA	NA	NA	0.36	NA	1.2 J	NA	NA	NA	1.9
Chrysene	SW8270D	1.4	2.8	NA	4.0	NA	NA	NA	7.9	NA	0.99	NA	NA	NA	1.0	NA	9.7 J	NA	NA	NA	9.9
Benzo(b)fluoranthene	SW8270D			NA	1.4 J	NA	NA	NA	6.2 J	NA	0.43 J	NA	NA	NA	0.43 J	NA	6.8 J	NA	NA	NA	6.8 J
Benzo(k)fluoranthene	SW8270D			NA	1.4 J	NA	NA	NA	6.2 J	NA	0.43 J	NA	NA	NA	0.43 J	NA	6.8 J	NA	NA	NA	6.8 J
Total benzofluoranthene	SW8270D	3.2	3.6	NA	2.8	NA	NA	NA	12	NA	0.86	NA	NA	NA	0.86	NA	14	NA	NA	NA	14
Benzo(a)pyrene	SW8270D	1.6	3.0	NA	0.87	NA	NA	NA	3.7	NA	0.46 J	NA	NA	NA	0.42	NA	1.5 J	NA	NA	NA	3.5
Indeno(1,2,3-cd)pyrene	SW8270D	0.6	0.69	NA	1.4	NA	NA	NA	4.4	NA	0.31 J	NA	NA	NA	0.26	NA	1.7 J	NA	NA	NA	4.4
Dibenz(a,h)anthracene	SW8270D	0.23	0.54	NA	0.43	NA	NA	NA	1.3	NA	0.12 J	NA	NA	NA	0.12 U	NA	0.87 J	NA	NA	NA	1.4
Benzo(g,h,i)perylene	SW8270D	0.67	0.72	NA	1.5	NA	NA	NA	4.9	NA	0.40 J	NA	NA	NA	0.36	NA	1.3 J	NA	NA	NA	4.5
Total LPAH[5]	SW8270D	5.2	13	NA	3.3	NA	NA	NA	5.3	NA	1.4	NA	NA	NA	1.0	NA	3.8	NA	NA	NA	6.0
Total HPAH[6]	SW8270D	12	17	NA	22	NA	NA	NA	55	NA	5.9	NA	NA	NA	5.7	NA	52	NA	NA	NA	64
Dibenzofuran	SW8270D	0.54	0.7	NA	0.17	NA	NA	NA	0.36	NA	0.10	NA	NA	NA	0.13	NA	0.26 J	NA	NA	NA	0.37
Dioxins and Furans (pg/g DW)[7]																					
2,3,7,8-TCDD	E1613			NA	NA	NA	2.62 J	NA	NA	NA	NA	NA	0.282 U	NA	NA	NA	NA	NA	0.329 J	NA	NA
1,2,3,7,8-PECDD	E1613			NA	NA	NA	13.3 J	NA	NA	NA	NA	NA	2.61 J	NA	NA	NA	NA	NA	1.74 J	NA	NA
1,2,3,4,7,8-HXCDD	E1613			NA	NA	NA	19.4 J	NA	NA	NA	NA	NA	4.96 J	NA	NA	NA	NA	NA	2.84 J	NA	NA
1,2,3,6,7,8-HXCDD	E1613			NA	NA	NA	36.7	NA	NA	NA	NA	NA	9.84 J	NA	NA	NA	NA	NA	5.51	NA	NA
1,2,3,7,8,9-HXCDD	E1613			NA	NA	NA	44.9	NA	NA	NA	NA	NA	11.5 J	NA	NA	NA	NA	NA	6.57	NA	NA
1,2,3,4,6,7,8-HPCDD	E1613			NA	NA	NA	605	NA	NA	NA	NA	NA	195	NA	NA	NA	NA	NA	98.1	NA	NA
OCDD	E1613			NA	NA	NA	4000 B	NA	NA	NA	NA	NA	1440 B	NA	NA	NA	NA	NA	726 B	NA	NA
2,3,7,8-TCDF	E1613			NA	NA	NA	22.1	NA	NA	NA	NA	NA	34.1	NA	NA	NA	NA	NA	2.95	NA	NA
1,2,3,7,8-PECDF	E1613			NA	NA	NA	7.19 J	NA	NA	NA	NA	NA	4.58 J	NA	NA	NA	NA	NA	0.874 J	NA	NA
2,3,4,7,8-PECDF	E1613			NA	NA	NA	13.5 J	NA	NA	NA	NA	NA	13.6	NA	NA	NA	NA	NA	2.08 J	NA	NA
1,2,3,4,7,8-HXCDF	E1613			NA	NA	NA	13.4 J	NA	NA	NA	NA	NA	5.43 J	NA	NA	NA	NA	NA	2.17 J	NA	NA
1,2,3,6,7,8-HXCDF	E1613			NA	NA	NA	10.8 J	NA	NA	NA	NA	NA	3.79 J	NA	NA	NA	NA	NA	1.9 J	NA	NA
1,2,3,7,8,9-HXCDF	E1613			NA	NA	NA	1.1 U	NA	NA	NA	NA	NA	0.18 U	NA	NA	NA	NA	NA	0.11 U	NA	NA
2,3,4,6,7,8-HXCDF	E1613			NA	NA	NA	11.7 J	NA	NA	NA	NA	NA	5.59 J	NA	NA	NA	NA	NA	2.11 J	NA	NA
1,2,3,4,6,7,8-HPCDF	E1613			NA	NA	NA	110	NA	NA	NA	NA	NA	40.7	NA	NA	NA	NA	NA	22	NA	NA
1,2,3,4,7,8,9-HPCDF	E1613			NA	NA	NA	10.8 J	NA	NA	NA	NA	NA	3.01 U	NA	NA	NA	NA	NA	1.66 J	NA	NA
OCDF	E1613			NA	NA	NA	245 B	NA	NA	NA	NA	NA	115 B	NA	NA	NA	NA	NA	61.2 B	NA	NA
TOTAL TEQ, ND*0	E1613			NA	NA	NA	44.6	NA	NA	NA	NA	NA	17.2	NA	NA	NA	NA	NA	6.58	NA	NA
TOTAL TEQ, ND*0.5	E1613			NA	NA	NA	44.7	NA	NA	NA	NA	NA	17.3	NA	NA	NA	NA	NA	6.58	NA	NA

Table 7
Summary of Results for Filtered Suspended Solids Samples in Other NBF Storm Drain Laterals

Location ID				CB423	CB423	CB423	CB423	CB423	MH434	MH434	MH434	MH434	MH434	MH434
SD Lateral				Bldg 3-380	Bldg 3-380	Bldg 3-380	Bldg 3-380	Bldg 3-380	Parking Lot	Parking Lot	Parking Lot	Parking Lot	Parking Lot	Parking Lot
Filter				A	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 9	Event 9B	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9B	Event 9B	Event 10	Event 10
Collection Date	Method	SQS/LAET	CSL/2LAET	5/20/2010	5/28/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/28/2010	5/28/2010	6/2/2010	6/2/2010
Fluorene	SW8270D	0.54	1.0	NA	NA	NA	NA	0.41 U	NA	0.34	NA	NA	NA	0.13 U
Phenanthrene	SW8270D	1.5	5.4	NA	NA	NA	NA	0.53	NA	1.6	NA	NA	NA	2.1
Anthracene	SW8270D	0.96	4.4	NA	NA	NA	NA	0.41 U	NA	0.14	NA	NA	NA	0.13 U
1-Methylnaphthalene	SW8270D			NA	NA	NA	NA	0.41 U	NA	0.36 U	NA	NA	NA	0.13 U
2-Methylnaphthalene	SW8270D	0.67	1.4	NA	NA	NA	NA	0.41 U	NA	0.20	NA	NA	NA	0.23
Fluoranthene	SW8270D	1.7	2.5	NA	NA	NA	NA	0.73	NA	2.9	NA	NA	NA	4.2
Pyrene	SW8270D	2.6	3.3	NA	NA	NA	NA	0.63	NA	2.9	NA	NA	NA	3.1
Benzo(a)anthracene	SW8270D	1.3	1.6	NA	NA	NA	NA	0.41 U	NA	0.53	NA	NA	NA	0.78
Chrysene	SW8270D	1.4	2.8	NA	NA	NA	NA	0.51	NA	2.2	NA	NA	NA	2.3
Benzo(b)fluoranthene	SW8270D			NA	NA	NA	NA	0.41 U	NA	1.4 J	NA	NA	NA	2.0 J
Benzo(k)fluoranthene	SW8270D			NA	NA	NA	NA	0.41 U	NA	1.4 J	NA	NA	NA	2.0 J
Total benzofluoranthene	SW8270D	3.2	3.6	NA	NA	NA	NA	0.41 U	NA	2.8	NA	NA	NA	4.0
Benzo(a)pyrene	SW8270D	1.6	3.0	NA	NA	NA	NA	0.41 U	NA	0.93	NA	NA	NA	1.5
Indeno(1,2,3-cd)pyrene	SW8270D	0.6	0.69	NA	NA	NA	NA	0.41 U	NA	1.0	NA	NA	NA	1.3
Dibenz(a,h)anthracene	SW8270D	0.23	0.54	NA	NA	NA	NA	0.41 U	NA	0.40	NA	NA	NA	0.50
Benzo(g,h,i)perylene	SW8270D	0.67	0.72	NA	NA	NA	NA	0.48	NA	1.2	NA	NA	NA	1.7
Total LPAH[5]	SW8270D	5.2	13	NA	NA	NA	NA	0.53	NA	2.5	NA	NA	NA	2.3
Total HPAH[6]	SW8270D	12	17	NA	NA	NA	NA	2.4	NA	15	NA	NA	NA	19
Dibenzofuran	SW8270D	0.54	0.7	NA	NA	NA	NA	0.41 U	NA	0.25	NA	NA	NA	0.16
Dioxins and Furans (pg/g DW)[7]														
2,3,7,8-TCDD	E1613			NA	NA	2.16 J	NA	NA	NA	NA	NA	2.21	NA	NA
1,2,3,7,8-PECDD	E1613			NA	NA	11.2 J	NA	NA	NA	NA	NA	15.6	NA	NA
1,2,3,4,7,8-HXCDD	E1613			NA	NA	23.2	NA	NA	NA	NA	NA	30.1	NA	NA
1,2,3,6,7,8-HXCDD	E1613			NA	NA	46	NA	NA	NA	NA	NA	67.2	NA	NA
1,2,3,7,8,9-HXCDD	E1613			NA	NA	62.2	NA	NA	NA	NA	NA	66.4	NA	NA
1,2,3,4,6,7,8-HPCDD	E1613			NA	NA	833	NA	NA	NA	NA	NA	1300	NA	NA
OCDD	E1613			NA	NA	5460 B	NA	NA	NA	NA	NA	10100 B	NA	NA
2,3,7,8-TCDF	E1613			NA	NA	14.6	NA	NA	NA	NA	NA	12.8	NA	NA
1,2,3,7,8-PECDF	E1613			NA	NA	5.89 J	NA	NA	NA	NA	NA	5.64	NA	NA
2,3,4,7,8-PECDF	E1613			NA	NA	8.62 J	NA	NA	NA	NA	NA	13.6	NA	NA
1,2,3,4,7,8-HXCDF	E1613			NA	NA	13.7 J	NA	NA	NA	NA	NA	18.5	NA	NA
1,2,3,6,7,8-HXCDF	E1613			NA	NA	10.3 J	NA	NA	NA	NA	NA	22	NA	NA
1,2,3,7,8,9-HXCDF	E1613			NA	NA	0.512 J	NA	NA	NA	NA	NA	0.586 U	NA	NA
2,3,4,6,7,8-HXCDF	E1613			NA	NA	8.7 J	NA	NA	NA	NA	NA	21.3	NA	NA
1,2,3,4,6,7,8-HPCDF	E1613			NA	NA	126	NA	NA	NA	NA	NA	337	NA	NA
1,2,3,4,7,8,9-HPCDF	E1613			NA	NA	9.14 J	NA	NA	NA	NA	NA	15.4	NA	NA
OCDF	E1613			NA	NA	236 B	NA	NA	NA	NA	NA	557 B	NA	NA
TOTAL TEQ, ND*0	E1613			NA	NA	45.4	NA	NA	NA	NA	NA	65.6	NA	NA
TOTAL TEQ, ND*0.5	E1613			NA	NA	45.4	NA	NA	NA	NA	NA	65.6	NA	NA

Table 7
Summary of Results for Filtered Suspended Solids Samples in Other NBF Storm Drain Laterals

Location ID				MH226	MH226	MH226	MH226	MH226	MH226	MH369	MH369	MH369	MH369	MH369	MH369	MH356	MH356	MH356	MH356	MH356	MH356
SD Lateral				North-Central	North-Central	North-Central	North-Central	North-Central	North-Central	South-Central	South-Central	South-Central	South-Central	South-Central	South-Central	South	South	South	South	South	South
Filter				A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Sampling Event				Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10	Event 8	Event 8	Event 9	Event 9	Event 10	Event 10
Collection Date	Method	SQS/LAET	CSL/2LAET	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010	4/27/2010	4/27/2010	5/20/2010	5/20/2010	6/2/2010	6/2/2010

MRLs reported for all undetected results

Green highlighting indicates chemical not detected at a reporting limit that exceeds the SQS/LAET

Gray highlighting indicates exceedance of the SQS/LAET

Red highlighting indicates exceedance of the CSL/2LAET

NA - Not available

1. Estimated mass of total solids that accounts for the aliquots removed for analysis of metals and grain size.

2. Actual mass of total solids analyzed for PCBs.

3. ug of PCBs divided by solids extracted for PCBs.

4. ug of PAH divided by estimated mass of total solids from PCB filter.

5. Total LPAH were calculated as the sum of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene

6. Total HPAH were calculated as the sum of benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, total benzofluoranthenes, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene

7. pg of dioxin divided by total extracted solids.

8. Total stormwater volume calculated from regression for Events 6 and 10

B - Analyte detected in an associated method blank.

D - The spiked compund not detected due to sample extract dilution.

J - Estimated concentration when the value is less than established reporting limits.

indicates the presence

Q - Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% Drift or minimum RRF).

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

SQS/LAET - Sediment Quality Standard/Lowest Apparent Effects Threshold

CSL/2LAET - Cleanup Screening Level/Second Lowest Apparent Effects Threshold

Table 8
Summary of Results for Whole Water Samples at LS431

Sample ID Event Collection Date	Method	Criteria	Criteria Type	LS431 Event 6 2/11/2010	LS431 Event 7 3/29/2010	LS431 Event 8 4/27/2010	LS431 Event 9 5/20/2010	LS431 Event 10 6/2/2010	LS431 Base Flow 1 2/23/2010	LS431 Base Flow 2 6/30/2010
Total Stormwater Flow (L)[1]				3,230,000	16,260,000	5,868,000	4,901,000	5,187,000	10,400,000	7,108,000
Metals - Total (ug/L)										
Arsenic	EPA200.8	36	MWC	1.95	1.0	1.0	1.9	0.80	2.4	1.4
Cadmium	EPA200.8	9.3	MWC	4.6	0.40	0.30	0.60	0.20 U	**17**	0.20 U
Calcium	SW6010B			22200	5150	10900	9450	10200	27400	22600
Chromium	EPA200.8	57	FC	3.9	2.0	1.4	2.7	1.0	4.0	1.1
Copper	EPA200.8	3.1	MWC	2.5 U	**9.6**	**7.1**	**14**	5.0 U	0.85 J	2.2 U
Lead	EPA200.8	8.1	MWC	1.7	5.0	2.0	7.0	1.0	3.1 J	1.0 U
Magnesium	SW6010B			10200	1600	3860	3720	3830	14800	14200
Mercury	SW7470A	0.012	FC	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nickel	EPA200.8	8.2	MWC	1.1 J	1.6	1.0	1.8	1.2	1.4 J	1.1
Selenium	EPA200.8	5	FC1	3.9 J	2.0 U	0.50 U	0.50 U	0.50 U	**5.8 J**	0.50 U
Silver	EPA200.8	1.9	MWA	0.040 U	0.20 U	0.20 U	0.20 U	0.20 U	0.040 J	0.20 U
Zinc	EPA200.8	81	MWC	38 J	61	44	69	41	17 J	13
Metals - Dissolved (ug/L)										
Arsenic	EPA200.8	36	MWC	0.95 U	0.50 U	0.50	0.50	0.40	0.95 U	0.60
Cadmium	EPA200.8	9.3	MWC	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chromium	EPA200.8	57	FC	1.15	0.50 U	0.50	0.50 U	0.50	1.6	0.50 U
Copper	EPA200.8	3.1	MWC	0.40 U	2.2	**4.2**	**5.2**	3.0 U	**11 J**	1.2
Lead	EPA200.8	8.1	MWC	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 J	1.0 U
Mercury	SW7470A	0.012	FC	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Nickel	EPA200.8	8.2	MWC	1.1	0.50 U	0.90	0.80	0.70	1.5 J	1.0
Selenium	EPA200.8	5	FC1	1.0 U	2.0 U	0.50 U	0.50 U	0.50 U	1.0 J	0.50 U
Silver	EPA200.8	1.9	MWA	0.040 U	0.20 U	0.20 U	0.20 U	0.20 U	0.040 J	0.20 J
Zinc	EPA200.8	81	MWC	13 J	25	27	22	26	24	4.0 U
PCBs (ug/L)										
Aroclor 1221	SW8082			0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Aroclor 1232	SW8082			0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Aroclor 1242	SW8082			0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.014	0.016
Aroclor 1016	SW8082			0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Aroclor 1248	SW8082			0.014	0.025 U	0.024 U	0.025 U	0.015 U	0.010 U	0.010 U
Aroclor 1254	SW8082			0.014	0.081	0.016	0.031	0.010 U	0.010 U	0.010 U
Aroclor 1260	SW8082			0.010 U	0.016	0.01 U	0.012	0.010 U	0.010 U	0.010 U
Total PCBs		0.014	FC	**0.028**	**0.097**	**0.016**	**0.043**	0.015 U	0.014	**0.016**
PAHs (ug/L)										
Naphthalene	SW8270DSIM			0.050	0.028	0.020	0.27	0.021	0.035	0.039
Acenaphthylene	SW8270DSIM			0.010 U	0.010 U	0.010 U	0.060	0.010 U	0.010 U	0.010 U
Acenaphthene	SW8270DSIM	990	HHO	0.030	0.014	0.022	0.029	0.021	0.078	0.071
Fluorene	SW8270DSIM	5300	HHO	0.010 U	0.010	0.010 U	0.22	0.010 U	0.010 U	0.010 U
Phenanthrene	SW8270DSIM			0.037	0.18	0.056	1.0	0.037	0.027	0.010 U
Anthracene	SW8270DSIM	40000	HHO	0.010 U	0.010 U	0.010 U	0.16	0.010 U	0.010 U	0.010 U
1-Methylnaphthalene	SW8270DSIM			0.047	0.014	0.017	0.11	0.010 U	0.010 U	0.010 U
2-Methylnaphthalene	SW8270DSIM			0.056	0.019	0.021 Q	0.16	0.010 U	0.011	0.010 U
Fluoranthene	SW8270DSIM	140	HHO	0.094	0.42	0.13	0.86	0.15	0.053	0.015 Q
Pyrene	SW8270DSIM	4000	HHO	0.069	0.26	0.064	0.37	0.088	0.041	0.012
Benzo(a)anthracene	SW8270DSIM	0.018	HHO	**0.019**	**0.075**	0.017	**0.17**	**0.029 J**	0.015	0.010 U
Chrysene	SW8270DSIM	0.018	HHO	**0.070**	**0.18 Q**	**0.069**	**0.71**	**0.095**	**0.032**	0.010
Benzo(b)fluoranthene	SW8270DSIM	0.018	HHO	**0.042 J**	**0.14 J**	**0.042 J**	**0.30 J**	**0.064 J**	**0.025 J**	1.0 U
Benzo(k)fluoranthene	SW8270DSIM	0.018	HHO	**0.042 J**	**0.14 J**	**0.042 J**	**0.30 J**	**0.064 J**	**0.026 J**	1.0 U
Total benzofluoranthenes	SW8270DSIM			0.084	0.28	0.084	0.60	0.13	0.051	0.017
Benzo(a)pyrene	SW8270DSIM	0.018	HHO	**0.032**	**0.11**	**0.030**	**0.22**	**0.053 J**	**0.020**	0.010 U
Indeno(1,2,3-cd)pyrene	SW8270DSIM	0.018	HHO	**0.030**	**0.095**	**0.028**	**0.20**	**0.048**	0.014	0.010 U
Dibenz(a,h)anthracene	SW8270DSIM	0.018	HHO	0.010 U	**0.034**	0.010	**0.069**	0.015	0.010 U	0.010 U
Benzo(g,h,i)perylene	SW8270DSIM			0.035	0.11	0.031	0.26	0.054	0.018	0.010 U
Total LPAH[2]	SW8270DSIM			0.12	0.23	0.098	1.7	0.079	0.14	0.11
Total HPAH[3]	SW8270DSIM			0.43	1.6	0.46	3.5	0.66	0.24	0.037
Chlorinated Hydrocarbons (ug/L)										
1,3-Dichlorobenzene	SW8260C	960	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,4-Dichlorobenzene	SW8260C	190	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichlorobenzene	SW8260C	1300	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,4-Trichlorobenzene	SW8260C	70	HHO	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobenzene	SW8270D	0.0003	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Phthalates (ug/L)										
Dimethylphthalate	SW8270D	1E+06	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diethylphthalate	SW8270D	44000	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Di-n-Butylphthalate	SW8270D	4500	HHO	1.0 U	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U
Di-n-Octyl phthalate	SW8270D			1.0 U	1.0 U	1.0 U	1.8	1.1	1.0 U	1.0 U
Butylbenzylphthalate	SW8270D	1900	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
bis(2-Ethylhexyl)phthalate	SW8270D	2.2	HHO	1.0 U	1.4 U	1.8 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 8
Summary of Results for Whole Water Samples at LS431

Sample ID Event Collection Date	Method	Criteria	Criteria Type	LS431 Event 6 2/11/2010	LS431 Event 7 3/29/2010	LS431 Event 8 4/27/2010	LS431 Event 9 5/20/2010	LS431 Event 10 6/2/2010	LS431 Base Flow 1 2/23/2010	LS431 Base Flow 2 6/30/2010
Phenols (ug/L)										
Phenol	SW8270D	860000	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylphenol	SW8270D			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methylphenol	SW8270D			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,4-Dimethylphenol	SW8270D	850	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	SW8270D	7.9	MWC	5.0 U	5.0 U	5.0 J	5.0 U	5.0 U	5.0 J	5.0 U
Miscellaneous Extractables (ug/L)										
Benzyl Alcohol	SW8270D			5.0 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzoic Acid	SW8270D			10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	SW8270DSIM			0.010 U	0.010	0.010 U	0.041	0.010 U	0.010 U	0.010 U
Hexachloroethane	SW8260C			NA	NA	NA	NA	NA	NA	1.0 U
Hexachlorobutadiene	SW8260C	18	HHO	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
N-Nitrosodiphenylamine	SW8270D	6	HHO	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
Volatile Organics (ug/L)										
Trichloroethene	SW8260C	30	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,1,2-Tetrachloroethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2,2-Tetrachloroethane	SW8260C	4	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Ethylbenzene	SW8260C	2100	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
m, p-Xylene	SW8260C			0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
o-Xylene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Miscellaneous 8260 VOCs (ug/L)										
Acrolein	SW8260C	3	FWC	5.0 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl Iodide	SW8260C			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Acrylonitrile	SW8260C	0.25	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Dibromomethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dibromo-3-chloropropane	SW8260C			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	SW8260C			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,4-Dichloro-2-butene	SW8260C			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,4-Trimethylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Ethylene Dibromide	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Bromochloromethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2,2-Dichloropropane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,3-Dichloropropane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Isopropylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
n-Propylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Bromobenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Chlorotoluene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
4-Chlorotoluene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
tert-Butylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
sec-Butylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
4-Isopropyltoluene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
n-Butylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,3-Trichlorobenzene	SW8260C			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	SW8260C			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	SW8260C			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U
Vinyl Chloride	SW8260C	2.4	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Methylene Chloride	SW8260C	590	HHO	1.6	1.2	1.2	1.3	1.9	1.2	2.1
Acetone	SW8260C			5.1	7.1	9.6	8.5	7.6	5 U	7.8
Carbon Disulfide	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethene	SW8260C	7100	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-1,2-Dichloroethene	SW8260C	10000	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,2-Dichloroethene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroform	SW8260C	470	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloroethane	SW8260C	37	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Butanone	SW8260C			26	20	10	6	19	21	11 Q
1,1,1-Trichloroethane	SW8260C	16	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Carbon Tetrachloride	SW8260C	1.6	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Vinyl Acetate	SW8260C			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	SW8260C	17	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	SW8260C	15	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,3-Dichloropropene	SW8260C	21	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Dibromochloromethane	SW8260C	13	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloroethane	SW8260C	16	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Benzene	SW8260C	51	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-1,3-Dichloropropene	SW8260C	21	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Chloroethylvinylether	SW8260C			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	SW8260C	140	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
4-Methyl-2-Pentanone (MIBK)	SW8260C			5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	SW8260C			5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

Table 8
Summary of Results for Whole Water Samples at LS431

Sample ID Event Collection Date	Method	Criteria	Criteria Type	LS431 Event 6 2/11/2010	LS431 Event 7 3/29/2010	LS431 Event 8 4/27/2010	LS431 Event 9 5/20/2010	LS431 Event 10 6/2/2010	LS431 Base Flow 1 2/23/2010	LS431 Base Flow 2 6/30/2010
Tetrachloroethene	SW8260C	3.3	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Toluene	SW8260C	15000	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chlorobenzene	SW8260C	1600	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Styrene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trichlorofluoromethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloro-1,2,2-trifluoroethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Miscellaneous 8270 SVOCs (ug/L)										
2,2'-Oxybis(1-Chloropropane)	SW8270D			NA	NA	NA	NA	NA	NA	1.0 U
2,4,5-Trichlorophenol	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
2,4,6-Trichlorophenol	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
2,4-Dichlorophenol	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
2,4-Dinitrophenol	SW8270D			NA	NA	NA	NA	NA	NA	10 U
2,4-Dinitrotoluene	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
2,6-Dinitrotoluene	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
2-Chloronaphthalene	SW8270D			NA	NA	NA	NA	NA	NA	1.0 U
2-Chlorophenol	SW8270D			NA	NA	NA	NA	NA	NA	1.0 U
2-Nitroaniline	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
2-Nitrophenol	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
3,3'-Dichlorobenzidine	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
3-Nitroaniline	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
4,6-Dinitro-2-Methylphenol	SW8270D			NA	NA	NA	NA	NA	NA	10 U
4-Bromophenyl-phenylether	SW8270D			NA	NA	NA	NA	NA	NA	1.0 U
4-Chloro-3-methylphenol	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
4-Chloroaniline	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
4-Chlorophenyl-phenylether	SW8270D			NA	NA	NA	NA	NA	NA	1.0 U
4-Nitroaniline	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
4-Nitrophenol	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
bis(2-Chloroethoxy) Methane	SW8270D			NA	NA	NA	NA	NA	NA	1.0 U
Bis-(2-Chloroethyl) Ether	SW8270D			NA	NA	NA	NA	NA	NA	1.0 U
Carbazole	SW8270D			NA	NA	NA	NA	NA	NA	1.0 U
Hexachlorocyclopentadiene	SW8270D			NA	NA	NA	NA	NA	NA	5.0 U
Isophorone	SW8270D			NA	NA	NA	NA	NA	NA	1.0 U
Nitrobenzene	SW8270D			NA	NA	NA	NA	NA	NA	1.0 J
N-Nitroso-Di-N-Propylamine	SW8270D			NA	NA	NA	NA	NA	NA	1.0 U
Conventionals										
pH (SU)	PH			7.45	6.82	7.07	7.07	7.69	7.43	7.7
Alkalinity (mg/L)	SM2320			116	24.9	55.4	53.2	59.1	172	172
Alkalinity as Carbonate (mg/L)	SM2320			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Alkalinity as Bicarbonate (mg/L)	SM2320			116	24.9	55.4	53.2	59.1	172	172
Alkalinity as Hydroxide (mg/L)	SM2320			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hardness as CaCO3 - Total (mg/l)	SW6010B			89	19	43	39	41	110	110
TSS (mg/L)	EPA160.2			22.0 J	62.3 J	16.3	41.0	25.4	27.8	27.8
Chloride (mg/L)	EPA300.0			23.6	3.4	7.7	8.5	8.5	34.3	34.1
Nitrate (mg/L)	EPA300.0			0.30	0.10	0.20	0.20	0.20	0.30	0.60
Sulfate (mg/L)	EPA300.0			6.6	1.6	3.0	2.4	2.2	6.5	3.3
DOC (mg/L)	EPA415.1			5.05	2.76	3.51	5.22	3.79	5.29	6.35
TOC (mg/L)	EPA415.1			6.51	4.28	4.51	6.34	4.91	6.5	9.11

MRLs reported for all undetected results

Gray highlighting indicates exceedance of the listed WQC

Green highlighting indicates chemical not detected at a reporting limit that exceeds the water quality criteria

NA - Not available

1. Total stormwater volume calculated from regression for Events 6 and 10

2. Total LPAH were calculated as the sum of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene

3. Total HPAH were calculated as the sum of benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, total benzofluoranthenes, chrysene, benzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene

(a) Limit is based on total recoverable fraction of the metal

(b) Chlorinated hydrocarbons analyzed by 8270D

FC - Freshwater Chronic Critera

FA - Freshwater Acute Criteria

MWC - Marine Chronic Criteria

MWA - Marine Acute Criteria

HHO - Human Health Criteria, organisms only; based on dissolved contaminant conc'ns

B - Analyte detedted in an associated method blank.

D - The spiked compund not detected due to sample extract dilution.

J - Estimated concentration when the value is less than established reporting limits.

analyte for which there is presumptive

Q - Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% Drift or minimum RRF).

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Table 9
Summary of Results for Whole Water Samples at MH108

Sample ID Event Collection Date	Method	Criteria	Criteria Type	MH108 Event 6 2/11/2010	MH108 Event 7 3/29/2010	MH108 Event 8 4/27/2010	MH108 Event 9 5/20/2010	MH108 Event 10 6/2/2010	MH108 Base Flow 1 2/23/2010	MH108 Base Flow 2 6/29/2010
Total Stormwater Flow (L)[1]				498,700	2,541,000	1,168,000	756,700	955,000	585,700	890,600
Metals - Total (ug/L)										
Arsenic	EPA200.8	36	MWC	1.6	1.6	0.90	1.6	1.0	3.1	3.0
Cadmium	EPA200.8	9.3	MWC	**15.9**	0.60	0.30	0.50	0.20 U	**15**	0.20 U
Calcium	SW6010B			27800	6010	8850	9580	10400	42600	34400
Chromium	EPA200.8	57	FC	2.65	3.4	0.60	2.2	0.70	2.1	0.50 U
Copper	EPA200.8	3.1	MWC	**8.8**	**33**	**12**	**28**	**9.7**	2.6 J	3.9 U
Lead	EPA200.8	8.1	MWC	3.0	**14**	1.0	**10**	1.0	1.9 J	1.0
Magnesium	SW6010B			7200	1460	2030	2500	2760	10900	10400
Mercury	SW7470A	0.012	FC	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nickel	EPA200.8	8.2	MWC	2.1 J	5.1	1.2	2.8	1.6	2.2 J	1.4
Selenium	EPA200.8	5.0	FC1	**5.1 J**	0.50 U	0.50 U	0.50 U	0.50 U	4.8 J	0.60
Silver	EPA200.8	1.9	MWA	0.040 U	0.20 U	0.20 U	0.20 U	0.20 U	0.040 J	0.20 U
Zinc	EPA200.8	81	MWC	63.8	**114**	73	**103**	63	13 J	16
Metals - Dissolved (ug/L)										
Arsenic	EPA200.8	36	MWC	0.95 U	0.40	0.50	0.60	0.40	0.95 U	0.90
Cadmium	EPA200.8	9.3	MWC	0.20 U	0.20 U	0.20	0.20 U	0.20 U	0.20 U	0.20 U
Calcium	SW6010B			NA	NA	NA	NA	NA	NA	NA
Chromium	EPA200.8	57	FC	1.1	0.50 U	0.50 U	0.50 U	0.50 U	1.1	0.50 U
Copper	EPA200.8	3.1	MWC	**9.4**	**3.7**	**7.7**	**11**	**7.5**	**8.9 J**	1.3
Lead	EPA200.8	8.1	MWC	0.20 U	1.0 U	1.0 U	1.0 U	1.0 U	0.20 J	1.0 U
Magnesium	SW6010B			NA	NA	NA	NA	NA	NA	NA
Mercury	SW7470A	0.012	FC	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Nickel	EPA200.8	8.2	MWC	1.7	0.80	1.1	1.3	1.1	2.0 J	1.1
Selenium	EPA200.8	5.0	FC1	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 J	0.60
Silver	EPA200.8	1.9	MWA	0.040 U	0.20 U	0.20 U	0.20 U	0.20 U	0.040 J	0.20 U
Zinc	EPA200.8	81	MWC	34	52	59	59	44	19	4.0 U
PCBs (ug/L)										
Aroclor 1221	SW8082			0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Aroclor 1232	SW8082			0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Aroclor 1242	SW8082			0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.14	0.15
Aroclor 1016	SW8082			0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Aroclor 1248	SW8082			0.075	0.10 U	0.038 U	0.10 U	0.050 U	0.010 U	0.010 U
Aroclor 1254	SW8082			0.070	0.096	0.027	0.093	0.046	0.080	0.12
Aroclor 1260	SW8082			0.010 U	0.023	0.010 U	0.015	0.010 U	0.010 U	0.012 U
Aroclor 1262	SW8082			NA	NA	NA	NA	NA	NA	NA
Aroclor 1268	SW8082			NA	NA	NA	NA	NA	NA	NA
Total PCBs	SW8082	0.014	FC	**0.15**	**0.12**	**0.027**	**0.11**	**0.046**	**0.22**	**0.27**
PAHs (ug/L)										
Naphthalene	SW8270DSIM			0.27	0.024	0.014	0.029	0.012	0.024	0.027
Acenaphthylene	SW8270DSIM			0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Acenaphthene	SW8270DSIM	990	HHO	0.013	0.010 U	0.010 U	0.010 U	0.010 U	0.011	0.018
Fluorene	SW8270DSIM	5300	HHO	0.016	0.016	0.010 U	0.012	0.010 U	0.010 U	0.010 U
Phenanthrene	SW8270DSIM			0.034	0.26	0.064	0.19	0.022	0.010 U	0.019
Anthracene	SW8270DSIM	40000	HHO	0.010 U	0.022	0.010 U	0.013	0.010 U	0.010 U	0.010 U
1-Methylnaphthalene	SW8270DSIM			0.28	0.013	0.010 U	0.012	0.010 U	0.010 U	0.010 U
2-Methylnaphthalene	SW8270DSIM			0.37	0.016	0.010 Q	0.017	0.010 U	0.010 U	0.010 U
Fluoranthene	SW8270DSIM	140	HHO	0.044	0.56	0.12	0.44	0.074	0.010 U	0.030
Pyrene	SW8270DSIM	4000	HHO	0.026	0.40	0.053	0.25	0.037	0.010 U	0.029
Benzo(a)anthracene	SW8270DSIM	0.018	HHO	0.010 U	**0.15**	0.010 U	**0.069**	0.010 U	0.010 U	0.010 U
Chrysene	SW8270DSIM	0.018	HHO	0.017	**0.25 Q**	**0.026**	**0.25**	**0.028**	0.010 U	0.012
Benzo(b)fluoranthene	SW8270DSIM	0.018	HHO	0.010 U	**0.22 J**	0.010 U	**0.16 J**	0.015 J	0.010 U	1.0 U
Benzo(k)fluoranthene	SW8270DSIM	0.018	HHO	0.010 U	**0.22 J**	0.010 U	**0.16 J**	0.015 J	0.010 U	1.0 U
Total benzofluoranthenes	SW8270DSIM			0.010 U	0.44	0.010 U	0.32	0.030	0.010 U	1.0 U
Benzo(a)pyrene	SW8270DSIM	0.018	HHO	0.010 U	**0.20**	0.010 U	**0.13**	0.013 J	0.010 U	0.010 U
Indeno(1,2,3-cd)pyrene	SW8270DSIM	0.018	HHO	0.010 U	**0.16**	0.010 U	**0.10**	0.011	0.010 U	0.010 U
Dibenz(a,h)anthracene	SW8270DSIM	0.018	HHO	0.010 U	**0.062**	0.010 U	**0.035**	0.010 U	0.010 U	0.010 U
Benzo(g,h,i)perylene	SW8270DSIM			0.010 U	0.20	0.010 U	0.14	0.014	0.010 U	0.010 U
Total LPAH[2]	SW8270DSIM			0.33	0.32	0.078	0.24	0.034	0.035	0.064
Total HPAH[3]	SW8270DSIM			0.087	2.4	0.20	1.7	0.21	0.010 U	0.071
Chlorinated Hydrocarbons (ug/L)										
1,3-Dichlorobenzene	SW8260C	960	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,4-Dichlorobenzene	SW8260C	190	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichlorobenzene	SW8260C	1300	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,4-Trichlorobenzene	SW8260C	70	HHO	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Hexachlorobenzene	SW8270D	0.0003	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Phthalates (ug/L)										
Dimethylphthalate	SW8270D	1E+06	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diethylphthalate	SW8270D	44000	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Di-n-Butylphthalate	SW8270D	4500	HHO	1.0 U	1.0 U	1.3	1.0 U	1.0 U	1.0 U	1.0 U
Di-n-Octyl phthalate	SW8270D			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Butylbenzylphthalate	SW8270D	1900	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
bis(2-Ethylhexyl)phthalate	SW8270D	2.2	HHO	2.1 U	4.4 U	1.0 U	1.0 U	1.1 U	1.0 U	1.0 U

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Phenols (ug/L)										
Phenol	SW8270D	860000	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Methylphenol	SW8270D			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methylphenol	SW8270D			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2,4-Dimethylphenol	SW8270D	850	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Pentachlorophenol	SW8270D	7.9	MWC	5.0 U	5.0 U	5.0 J	5.0 U	5.0 U	5.0 J	5.0 U
Miscellaneous Extractables (ug/L)										
Benzyl Alcohol	SW8270D			5.0 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzoic Acid	SW8270D			10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	SW8270DSIM			0.017	0.016	0.010 U	0.011	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	SW8260C	18	HHO	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
N-Nitrosodiphenylamine	SW8270D	6.0	HHO	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U
Volatile Organics (ug/L)										
Trichloroethene	SW8260C	30	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,1,2-Tetrachloroethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2,2-Tetrachloroethane	SW8260C	4.0	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Ethylbenzene	SW8260C	2100	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
m, p-Xylene	SW8260C			0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
o-Xylene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Miscellaneous 8260 VOCs (ug/L)										
Acrolein	SW8260C	3.0	FWC	5.0 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl Iodide	SW8260C			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Acrylonitrile	SW8260C	0.25	HHO	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Dibromomethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dibromo-3-chloropropane	SW8260C			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,3-Trichloropropane	SW8260C			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
trans-1,4-Dichloro-2-butene	SW8260C			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,4-Trimethylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Ethylene Dibromide	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Bromochloromethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2,2-Dichloropropane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,3-Dichloropropane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Isopropylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
n-Propylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Bromobenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Chlorotoluene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
4-Chlorotoluene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
tert-Butylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
sec-Butylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
4-Isopropyltoluene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
n-Butylbenzene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,3-Trichlorobenzene	SW8260C			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Chloromethane	SW8260C			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromomethane	SW8260C			0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U
Vinyl Chloride	SW8260C	2.4	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Methylene Chloride	SW8260C	590	HHO	1.2	0.50 U	1.5	1.1	3.1	1.2	2.3
Acetone	SW8260C			5.4	5.0 U	9.0	8.1	5.0 U	5.0 U	9.9
Carbon Disulfide	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethene	SW8260C	7100	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-1,2-Dichloroethene	SW8260C	10000	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,2-Dichloroethene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chloroform	SW8260C	470	HHO	0.30	0.20 U	0.20 U	0.20 U	0.20 U	0.40	0.70
1,2-Dichloroethane	SW8260C	37	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Butanone	SW8260C			38	35	12	9.0	20	19	17
2-Butanone (grab)	SW8260C			NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	SW8260C	16	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Carbon Tetrachloride	SW8260C	1.6	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Vinyl Acetate	SW8260C			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	SW8260C	17	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	SW8260C	15	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,3-Dichloropropene	SW8260C	21	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Dibromochloromethane	SW8260C	13	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloroethane	SW8260C	16	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Benzene	SW8260C	51	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-1,3-Dichloropropene	SW8260C	21	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Chloroethylvinylether	SW8260C			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	SW8260C	140	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
4-Methyl-2-Pentanone (MIBK)	SW8260C			5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	SW8260C			5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

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Tetrachloroethene	SW8260C	3.3	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Toluene	SW8260C	15000	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Chlorobenzene	SW8260C	1600	HHO	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Styrene	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Trichlorofluoromethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,2-Trichloro-1,2,2-trifluoroethane	SW8260C			0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
Conventionals										
pH (SU)	PH			7.2	6.75	6.74	6.93	7.33	7.15	7.39
Alkalinity (mg/L)	SM2320			86	22.5	32.9	38.7	46.3	133	140
Alkalinity as Carbonate (mg/L)	SM2320			1 U	1 U	1 U	1 U	1 U	1 U	1 U
Alkalinity as Bicarbonate (mg/L)	SM2320			86	22.5	32.9	38.7	46.3	133	140
Alkalinity as Hydroxide (mg/L)	SM2320			1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hardness as CaCO3 - Dissolved (mg/l)	SW6010B			NA	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 - Total (mg/l)	SW6010B			88	21	30	34	37	130	130
TSS (mg/L)	EPA160.2			16.8 J	75.9 J	5.6	47.6	8.1	7.6	35
Chloride (mg/L)	EPA300.0			4.1	1.3	1.9	2.5	1.7	6.5	5.2
Nitrate (mg/L)	EPA300.0			0.7	0.2	0.4	0.3	0.4	1.1	1.2
Sulfate (mg/L)	EPA300.0			14.2	2.9	5	4.9	5	24.9	16
DOC (mg/L)	EPA415.1			3.78	1.97	3.07	5.4	3.18	3.74	4.48
TOC (mg/L)	EPA415.1			4.7	3.35	3.6	6.72	3.74	4.34	7.64
Total Hardness (mg equivalent CaCO3				99	NA	NA	NA	NA	151	NA

MRLs reported for all undetected results

Gray highlighting indicates exceedance of the listed WQC

Green highlighting indicates chemical not detected at a reporting limit that exceeds the water quality criteria

NA - Not available

1. Total stormwater volume calculated from regression for Events 6 and 10

2. Total LPAH were calculated as the sum of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene

3. Total HPAH were calculated as the sum of benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, total benzofluoranthenes, chrysene, benzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene

(a) Limit is based on total recoverable fraction of the metal

(b) Chlorinated hydrocarbons analyzed by 8270D

FC - Freshwater Chronic Critera

FA - Freshwater Acute Criteria

MWC - Marine Chronic Criteria

MWA - Marine Acute Criteria

HHO - Human Health Criteria, organisms only; based on dissolved contaminant conc'ns

B - Analyte detedted in an associated method blank.

D - The spiked compund not detected due to sample extract dilution.

J - Estimated concentration when the value is less than established reporting limits.

presence of an analyte for which there

Q - Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% Drift or minimum RRF).

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Table 10
Summary of Grain Size Fractionation Results for Filtered Suspended Solids at the Lift Station Vault

Sample ID	LS431V-Comp-1-S				LS431V-Comp-3-S				LS431V-Comp-4-S			
Location ID	LS431 Vault				LS431 Vault				LS431 Vault			
Composite Date	4/6/2010				5/27/2010				5/27/2010			
Size Fraction	<63 µm	63-250 µm	250-500 µm	>500 µm	<63 µm	63-250 µm	250-500 µm	>500 µm	<63 µm	63-250 µm	250-500 µm	>500 µm
Conventionals												
TOC (%)	8.01	6.02	2.20	3.46	10.2	3.33	1.02	2.36	7.85	0.629	1.01	0.020 U
PCBs (mg/kg DW)												
Aroclor 1221	0.065 U	0.064 U	0.064 U	0.064 U	0.044 U	0.032 U	0.032 U	0.048 U	0.055 U	0.031 U	0.032 U	0.032 U
Aroclor 1232	0.065 U	0.064 U	0.064 U	0.064 U	0.044 U	0.032 U	0.032 U	0.048 U	0.055 U	0.031 U	0.032 U	0.032 U
Aroclor 1242	0.065 U	0.064 U	0.064 U	0.064 U	0.044 U	0.032 U	0.032 U	0.048 U	0.055 U	0.031 U	0.032 U	0.032 U
Aroclor 1016	0.065 U	0.064 U	0.064 U	0.064 U	0.044 U	0.032 U	0.032 U	0.048 U	0.055 U	0.031 U	0.032 U	0.032 U
Aroclor 1248	0.33 U	0.16 U	0.097 U	0.16 U	0.33 U	0.16 U	0.063 U	0.19 U	0.41 U	0.16 U	0.064 U	0.32 U
Aroclor 1254	1.1	0.52	0.24	0.61	0.60	0.30	0.15	0.71	0.98	0.39	0.17	1.1
Aroclor 1260	0.26	0.14	0.070	0.16	0.18	0.10	0.061	0.21	0.30	0.14	0.071	0.26
Total PCBs	1.4	0.66	0.31	0.77	0.78	0.4	0.21	0.92	1.3	0.53	0.24	1.4
Metals - Total (mg/kg)												
Arsenic	70 U	8.0 U	6.0 U	7.0 U	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	11	2.4	4.8	5.9	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	99	23	17	29	NA	NA	NA	NA	NA	NA	NA	NA
Copper	213	41	20	50	NA	NA	NA	NA	NA	NA	NA	NA
Lead	340	54	28	105	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.30	0.070	0.050	0.12	NA	NA	NA	NA	NA	NA	NA	NA
Silver	4.0 U	0.50 U	0.40 U	0.40 U	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	1120	209	157	262	NA	NA	NA	NA	NA	NA	NA	NA
LPAH (mg/kg DW)												
Naphthalene	NA	NA	NA	NA	0.041	0.012	0.0066	0.023 J	0.048	0.0096	0.0072	1.4 J
Acenaphthylene	NA	NA	NA	NA	0.032 U	0.0054	0.0047 U	0.020 J	0.014	0.0050	0.0067	0.16 J
Acenaphthene	NA	NA	NA	NA	0.032 U	0.016	0.0062	0.026 J	0.027	0.011	0.028	1.9 J
Fluorene	NA	NA	NA	NA	0.032 U	0.018	0.0071	0.040 J	0.037	0.014	0.028	2.8 J
Phenanthrene	NA	NA	NA	NA	0.66	0.26	0.068	0.27 J	0.90	0.21	0.29 J	24
Anthracene	NA	NA	NA	NA	0.060	0.031	0.017	0.084 J	0.064	0.025	0.060	3.9 J
Total LPAH[1]	NA	NA	NA	NA	0.76	0.34	0.10	0.46	1.1	0.27	0.42	34

Table 10
Summary of Grain Size Fractionation Results for Filtered Suspended Solids at the Lift Station Vault

Sample ID	LS431V-Comp-1-S				LS431V-Comp-3-S				LS431V-Comp-4-S			
Location ID	LS431 Vault				LS431 Vault				LS431 Vault			
Composite Date	4/6/2010				5/27/2010				5/27/2010			
Size Fraction	<63 µm	63-250 µm	250-500 µm	>500 µm	<63 µm	63-250 µm	250-500 µm	>500 µm	<63 µm	63-250 µm	250-500 µm	>500 µm
HPAH (mg/kg DW)												
Fluoranthene	NA	NA	NA	NA	2.0	0.80	0.21	1.2 J	3.0	0.60	0.54 J	31
Pyrene	NA	NA	NA	NA	1.4	0.59	0.18	1.1 J	1.8	0.44	0.38 J	24
Benzo(a)anthracene	NA	NA	NA	NA	0.42	0.23	0.089	0.59 J	0.43	0.18	0.19 J	11
Chrysene	NA	NA	NA	NA	1.8	0.55	0.14	0.81 J	2.4	0.40	0.25 J	12
Benzo(b)fluoranthene	NA	NA	NA	NA	1.0 J	0.30 J	0.098 J	0.68 J	1.0 J	0.27 J	0.16 J	8.1 J
Benzo(k)fluoranthene	NA	NA	NA	NA	1.0 J	0.30 J	0.098 J	0.68 J	1.0 J	0.27 J	0.16 J	8.1 J
Total benzofluoranthenes	NA	NA	NA	NA	2.0	0.60	0.20	1.4	2.0	0.54	0.32	16
Benzo(a)pyrene	NA	NA	NA	NA	0.79 J	0.31 J	0.10	0.91 J	0.86 J	0.28	0.20 J	11
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	0.81 J	0.25 J	0.084	0.61 J	0.66 J	0.22	0.14	7.1
Dibenz(a,h)anthracene	NA	NA	NA	NA	0.27 J	0.096 J	0.040	0.26 J	0.20 J	0.087	0.062	3.2 J
Benzo(g,h,i)perylene	NA	NA	NA	NA	1.1 J	0.34 J	0.097	0.73 J	0.82 J	0.26	0.16	8.1
Total HPAH[2]	NA	NA	NA	NA	11	3.8	1.1	7.6	12	3.0	2.2	124
Other PAH (mg/kg DW)												
1-Methylnaphthalene	NA	NA	NA	NA	0.032 U	0.0064	0.0047 U	0.014 U	0.012	0.0046 U	0.0086	0.56 J
2-Methylnaphthalene	NA	NA	NA	NA	0.032 U	0.0099	0.0047 U	0.027 J	0.021	0.0055	0.0067	0.54 J
Dibenzofuran	NA	NA	NA	NA	0.035	0.013	0.0047 U	0.020 J	0.048	0.0087	0.012	1.6 J

MRLs reported for all undetected results

1. Total LPAH were calculated as the sum of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene

2. Total HPAH were calculated as the sum of benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, total benzofluoranthenes, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene

B - Analyte detected in an associated method blank.

D - The spiked compund not detected due to sample extract dilution.

J - Estimated concentration when the value is less than established reporting limits.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".

Q - Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% Drift or minimum RRF).

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Table 11
Summary of Results for Parking Lot Surface Solids Samples

Location ID Collection Date	Method	SQS/LAET	CSL/2LAET	D283A 7/13/2010	D434AN 7/13/2010	D434AS 7/13/2010	D435BN 7/13/2010	D435BS 7/13/2010	D436A 7/13/2010
Total Solids (% ww)	EPA160.3			99.3	99.8	99.6	99.3	99.2	99.6
Total Organic Carbon (% D	PLUMB81			12.8	6.83	11	9.23	8.29	9.17
Grain Size (%)									
Gravel	PSEP-PS			4.1	12.2	11.9	6.9	2.8	16.6
Very Coarse Sand	PSEP-PS			8.4	20.1	17.8	11	7.6	13.5
Coarse Sand	PSEP-PS			17.7	28.3	23.4	24.2	15.8	17.6
Medium Sand	PSEP-PS			29	19.7	22.9	28.7	27.8	23
Fine Sand	PSEP-PS			19.1	8	11.6	13.5	18.5	14.6
Very Fine Sand	PSEP-PS			10	4.1	5	5.5	10.2	7
Coarse Silt	PSEP-PS			4.9	3.7	3.3	4.5	5.1	4.6
Medium Silt	PSEP-PS			4.2	2.8	2.6	3.5	7.8	2.2
Fine Silt	PSEP-PS			1.5	0.8	0.9	1.3	2.6	0.7
Very Fine Silt	PSEP-PS			0.6	0.3	0.4	0.5	0.9	0.3
Clay	PSEP-PS			0.5	0.2	0.3	0.5	0.8	0.2
Percent Fines (<0.06mm)	PSEP-PS			11.7	7.8	7.5	10.3	17.2	7.9
Metals - Total (mg/kg)									
Arsenic	SW6010B	57	93	18	9.0	20	20	30	40
Cadmium	SW6010B	5.1	6.7	2.4	1.2	1.5	3.0	3.4	3.2
Chromium	SW6010B	260	270	128	62.8	69.5	120	105	137
Copper	SW6010B	390	390	110	62	104	146	128	97.3
Lead	SW6010B	450	530	427	75	126	252	292	387
Mercury	SW7471A	0.41	0.59	0.12	0.030	0.050	0.080	0.080	0.050
Silver	SW6010B	6.1	6.1	0.30 U	0.30 U	0.30 U	0.70 U	0.70 U	0.70 U
Zinc	SW6010B	410	960	**585**	**466**	**684**	**756**	**724**	**652**
PCBs (mg/kg DW)									
Aroclor 1221	SW8082			0.025 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor 1232	SW8082			0.025 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor 1242	SW8082			0.025 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor 1016	SW8082			0.025 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
Aroclor 1248	SW8082			0.074 U	0.026	0.053	0.048	0.043	0.048 U
Aroclor 1254	SW8082			0.16	0.042	0.065	0.076	0.07	0.089
Aroclor 1260	SW8082			0.18	0.048	0.087	0.19	0.14	0.11
Total PCBs	SW8082	0.13	1.0	**0.34**	0.12	**0.21**	**0.31**	**0.25**	**0.20**
PAHs (mg/kg)									
Naphthalene	M	2.1	2.4	0.05 U	0.046 U	0.045 U	0.046 U	0.023 U	0.046 U
Acenaphthylene	M	1.3	1.3	0.05 U	0.046 U	0.045 U	0.046 U	0.023 U	0.046 U
Acenaphthene	M	0.50	0.73	0.05 U	0.046 U	0.045 U	0.046 U	0.023 U	0.046 U
Fluorene	M	0.54	1.0	0.05 U	0.046 U	0.045 U	0.046 U	0.023 U	0.046 U
Phenanthrene	M	1.5	5.4	0.72	0.22	0.28	0.22	0.12	0.37
Anthracene	M	0.96	4.4	0.05	0.046 U	0.045 U	0.046 U	0.023 U	0.046 U
1-Methylnaphthalene	M			0.05 U	0.046 U	0.045 U	0.046 U	0.023 U	0.046 U
2-Methylnaphthalene	M	0.67	1.4	0.05 U	0.046 U	0.045 U	0.046 U	0.023 U	0.046 U
Fluoranthene	M	1.7	2.5	1.5	0.44	0.62	0.45	0.23	0.75

Table 11
Summary of Results for Parking Lot Surface Solids Samples

Location ID Collection Date	Method	SQS/LAET	CSL/2LAET	D283A 7/13/2010	D434AN 7/13/2010	D434AS 7/13/2010	D435BN 7/13/2010	D435BS 7/13/2010	D436A 7/13/2010
Pyrene	M	2.6	3.3	1.4	0.37	0.56	0.39	0.20	0.64
Benzo(a)anthracene	M	1.3	1.6	0.42	0.11	0.15	0.12	0.064	0.17
Chrysene	M	1.4	2.8	0.68	0.21	0.28	0.24	0.12	0.34
Total Benzofluoranthenes	M	3.2	3.6	1.3	0.34	0.53	0.40	0.21	0.61
Benzo(a)pyrene	M	1.6	3.0	0.54	0.13	0.21	0.16	0.087	0.24
Indeno(1,2,3-cd)pyrene	M	0.60	0.69	0.22	0.050	0.086	0.082	0.048	0.086
Dibenz(a,h)anthracene	M	0.23	0.54	0.055	0.046 U	0.045 U	0.046 U	0.023 U	0.046 U
Benzo(g,h,i)perylene	M	0.67	0.72	0.22	0.068	0.11	0.12	0.064	0.10
Total LPAH[1]	M	5.2	13	0.77	0.22	0.28	0.22	0.12	0.37
Total HPAH[2]	M	12	17	6.3	1.7	2.5	2.0	1.0	2.9
Dibenzofuran	M	0.54	0.7	0.050 U	0.046 U	0.045 U	0.046 U	0.023 U	0.046 U

MRLs reported for all undetected results

Gray highlighting indicates exceedance of the SQS/LAET

Red highlighting indicates exceedance of the CSL/2LAET

NA - Not available

1. Total LPAH were calculated as the sum of acenaphthene, acenaphthylene, anthracene, fluorene, naphthalene, and phenanthrene

2. Total HPAH were calculated as the sum of benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, total benzofluoranthenes, chrysene, benzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene

B - Analyte detedted in an associated method blank.

D - The spiked compund not detected due to sample extract dilution.

J - Estimated concentration when the value is less than established reporting limits.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".

Q - Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% Drif or minimum RRF).

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

SQS/LAET - Sediment Quality Standards/Lowest Apparent Effects Threshold

CSL/2LAET - Cleanup Screening Level/Second Lowest Apparent Effects Threshold

Appendix A

Totalizer Logs

Totalizer and Filter Bag Log:

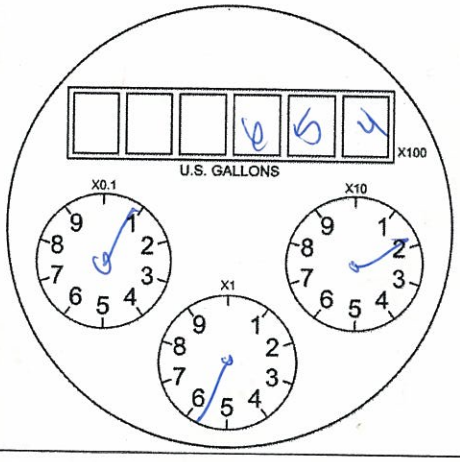
SAIC
From Science to Solutions

Sample Location: CSB1 Start Date: 2/10/10

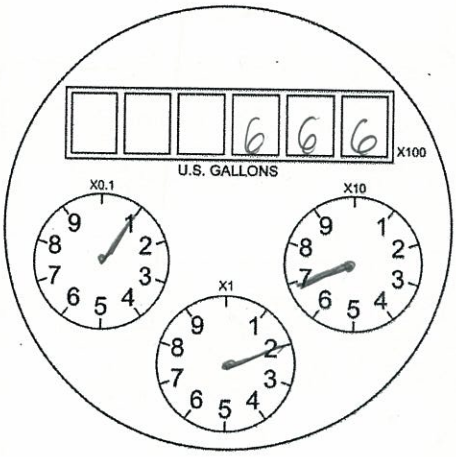
Filter A

Filter Number: #14 65.32g

Start Time: 12:05



End Time: 14:15

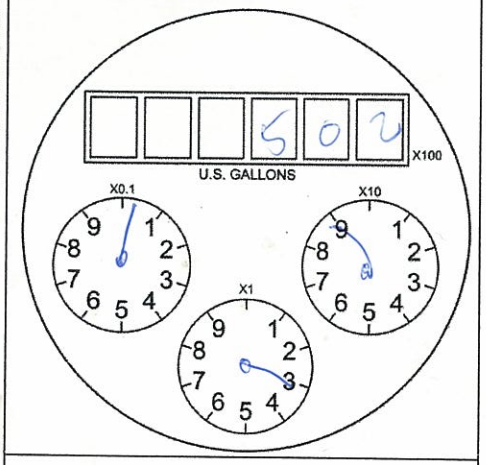


Sample ID:

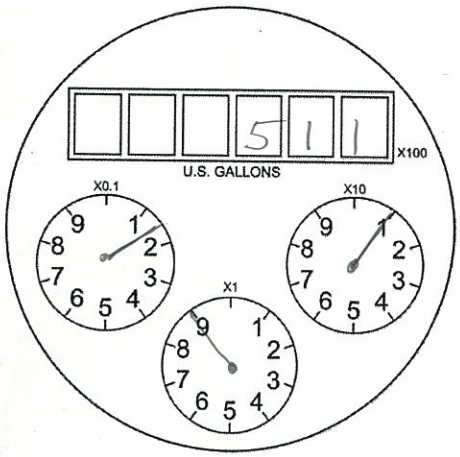
Filter B

Filter Number: #10 61.89g

Start Time: 12:05



End Time: 14:15 2/11/10



Sample ID:

Notes:

Totalizer and Filter Bag Log:

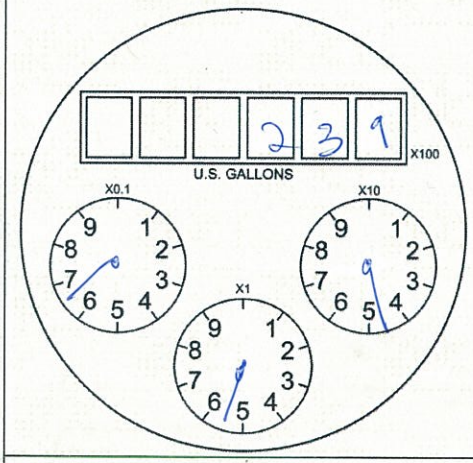
SAIC
From Science to Solutions

Sample Location: MH108 Start Date: 2/10/10

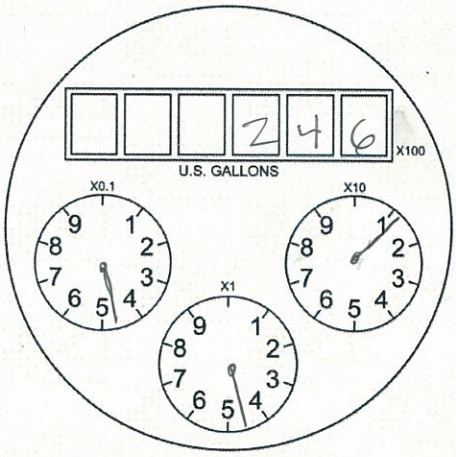
Filter A

Filter Number: #9 5626

Start Time: 12:40



End Time: 13:30

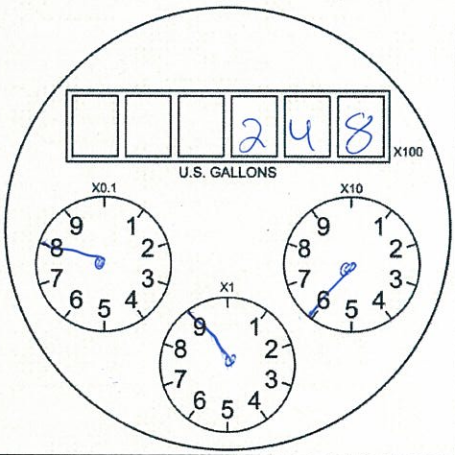


Sample ID:

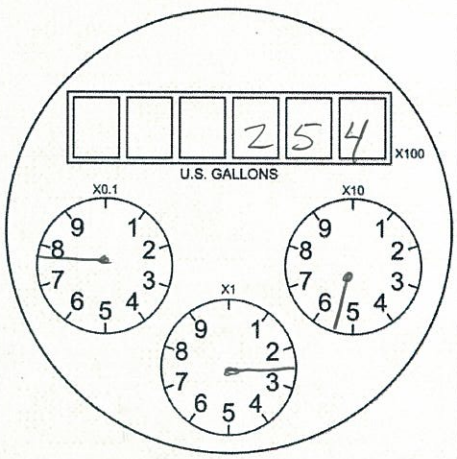
Filter B

Filter Number: #7 6360

Start Time: 12:40



End Time: 13:30 2/11/10



Sample ID:

Notes:

Totalizer and Filter Bag Log:

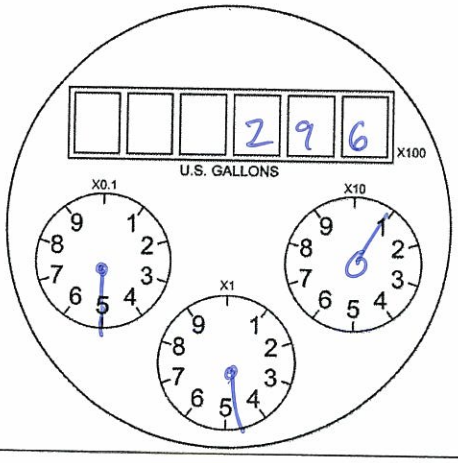
SAIC
From Science to Solutions

Sample Location: MH108 Start Date: 2/19/10

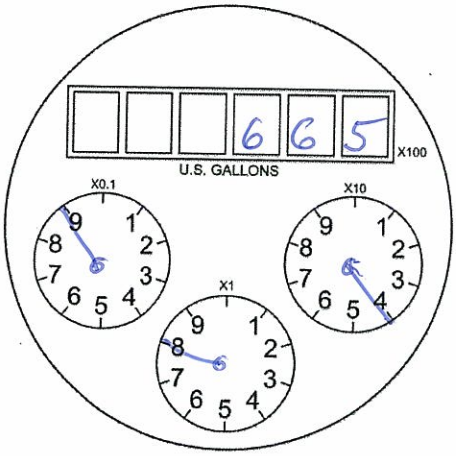
Filter A

Filter Number: #2 61.02g

Start Time: 11 : 47



End Time: 13 : 15

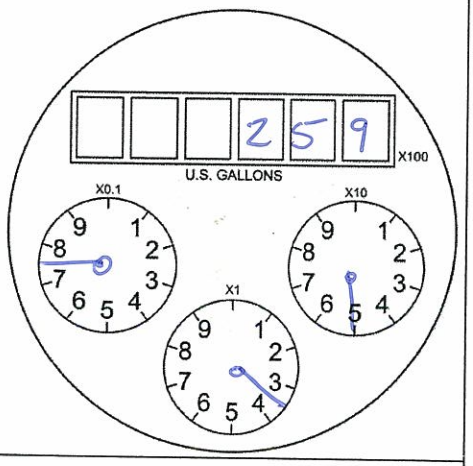


Sample ID: NBF-MH108A022310 5

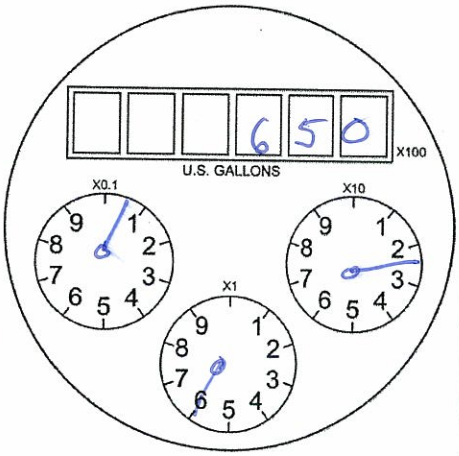
Filter B

Filter Number: #10 57.91g

Start Time: 11 : 47



End Time: 13 : 15 2/23/10



Sample ID: NBF-MH108B-022310-5

Notes:

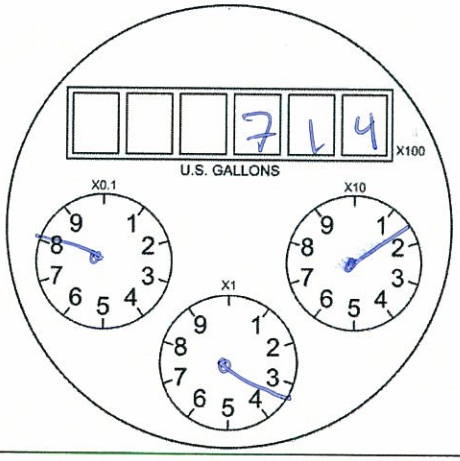
Totalizer and Filter Bag Log:

Sample Location: USGS1 Start Date: 2/19/10

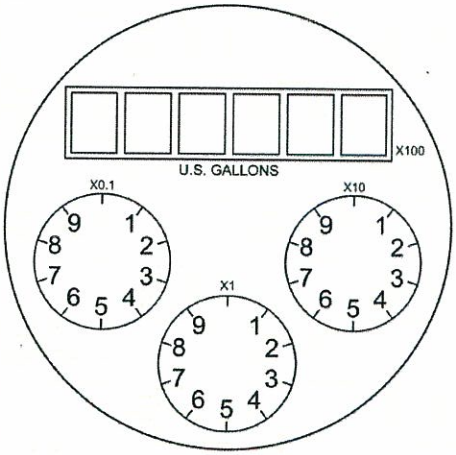
Filter A

Filter Number: ~~#5 56.47~~ #4 56.18

Start Time: 10 : 45



End Time: 13 : 15

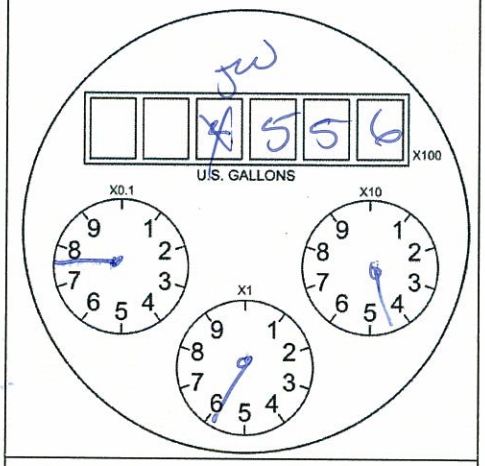


Sample ID:

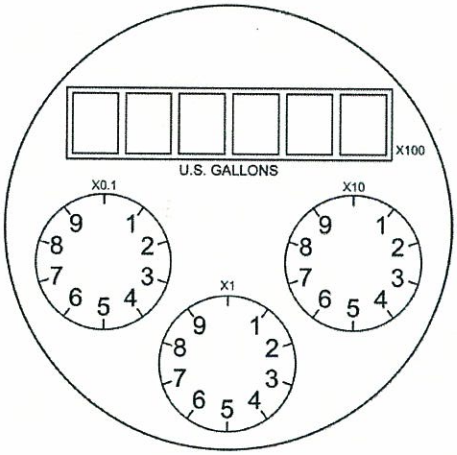
Filter B

Filter Number: ~~#6 56.47~~

Start Time: 10 : 45



End Time: 13 : 15



Sample ID:

Notes:

No Filtered Solids Collected

Float Switch not plugged in

Totalizer and Filter Bag Log:

BASELINE SAMPLE

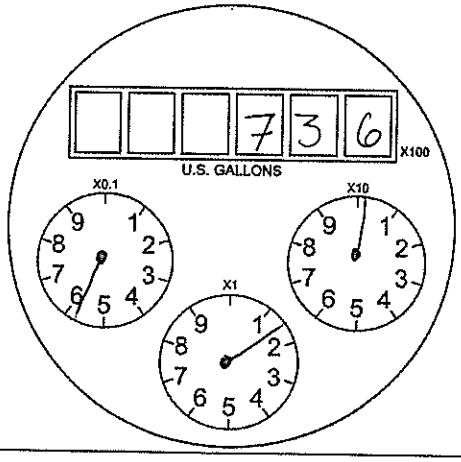
SAIC From Science to Solutions

Sample Location: LS431 OUTFLOW Start Date: 3/17/10

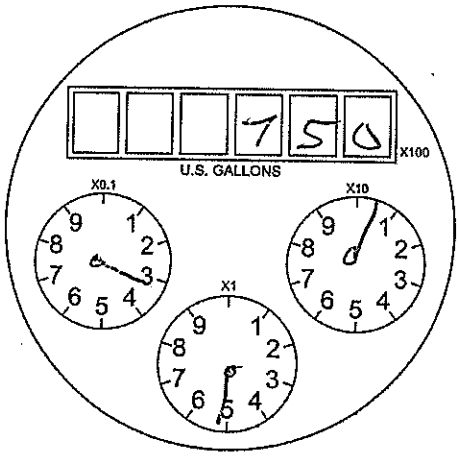
Filter A

Filter Number: #8 63.30

Start Time: 15:33



End Time: 19:21

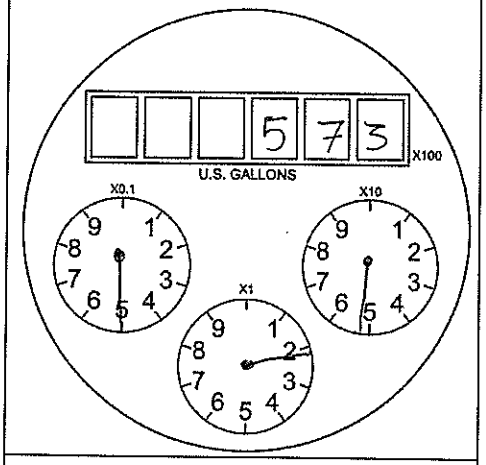


Sample ID: NBF-LS431A-032010-S

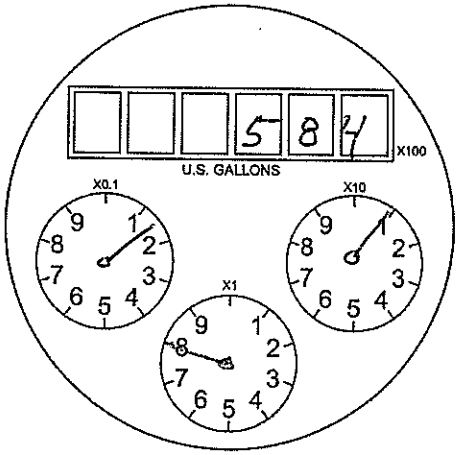
Filter B

Filter Number: #54 61.67

Start Time: 15:33



End Time: 19:21 3/20/10



Sample ID: NBF-LS431B-032010-S

Notes:

Totalizer and Filter Bag Log:

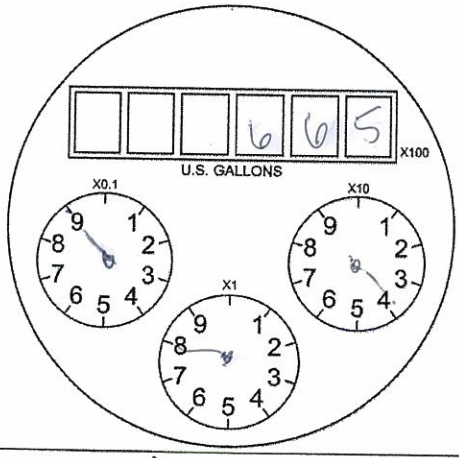
SAIC
From Science to Solutions

Sample Location: MH 108 Start Date: 3/28/10

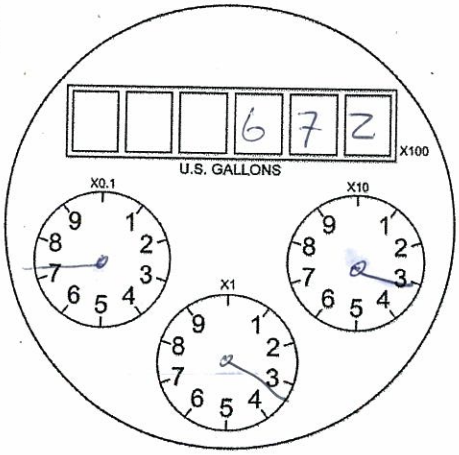
Filter A

Filter Number: #41 60.29g ~~#49 58.44g~~

Start Time: 16 : 15



End Time: 16 : 30

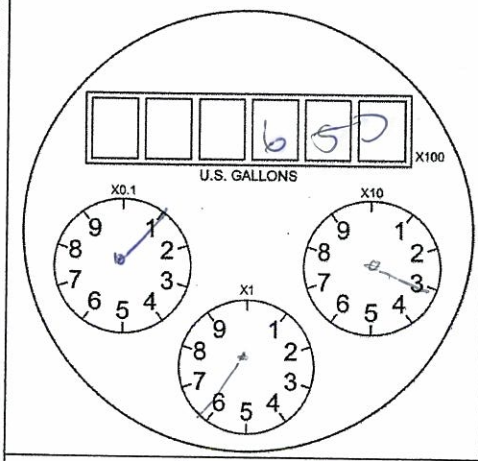


Sample ID: MH108A-032910-S

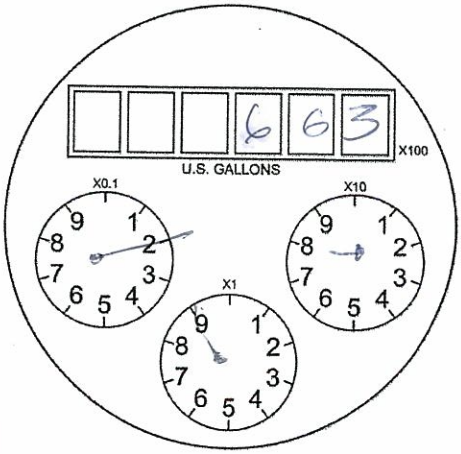
Filter B

Filter Number: #49 58.44g ~~#41 60.29g~~

Start Time: 16 : 15



End Time: 16 : 30 3/29/10



Sample ID: MH108B-032910-S

Notes:

Totalizer and Filter Bag Log:

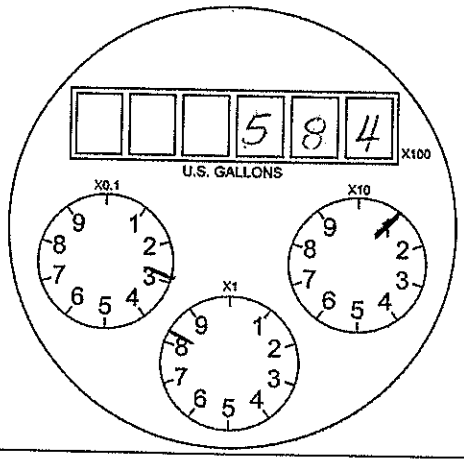
SAIC
From Science to Solutions

Sample Location: LS431 Start Date: 3/28/10

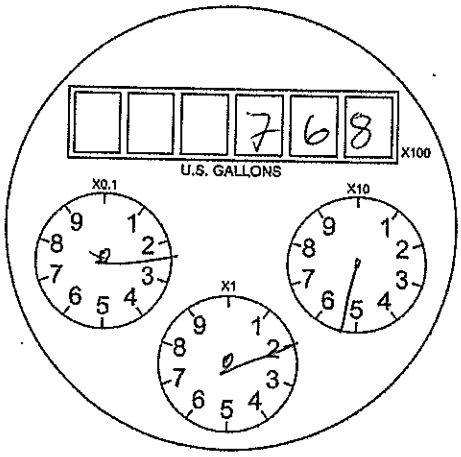
Filter A

Filter Number: #51 59.43g

Start Time: 16:35



End Time: 15:15

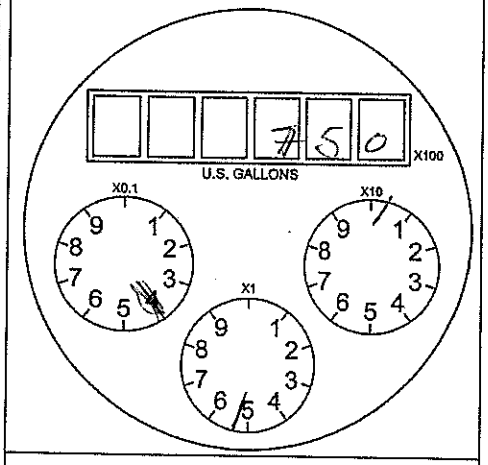


Sample ID: LS431A-032910-S

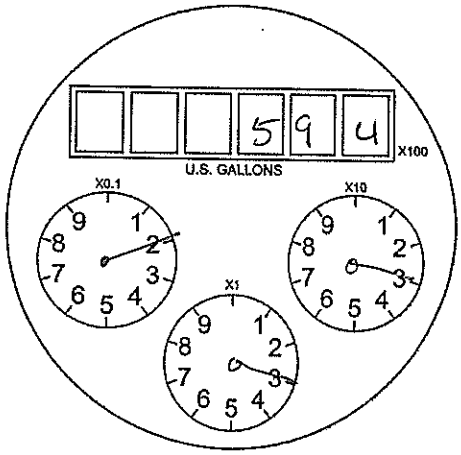
Filter B

Filter Number: #44 60.36g

Start Time: 16:35



End Time: 15:15 3/29/10



Sample ID: LS431B-032910-S

Notes:

Totalizer and Filter Bag Log:

SAIC® From Science to Solutions

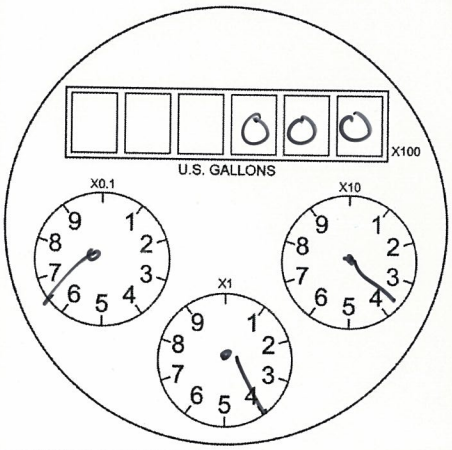
Sample Location: MH226 Installed 4/25 Start Date: 4/26/10

Filter A

Filter Number: 40

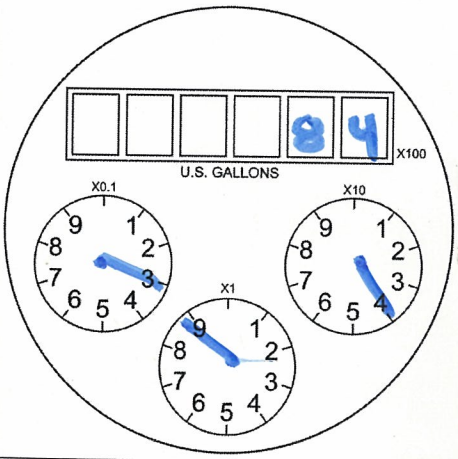
Filter Weight: 58.91 g

Start Time: 17 : 45



End Time: 12 : 50

End Date: 4/27/10



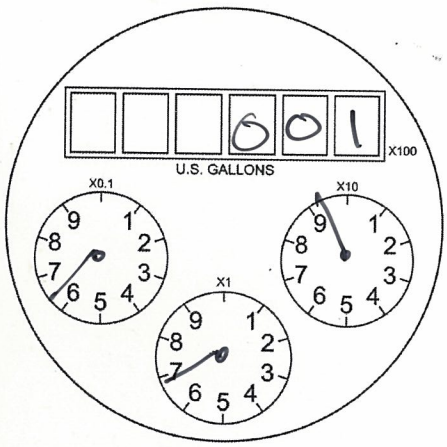
Sample ID: NBF-MH226A-042710-S

Filter B

Filter Number: 34

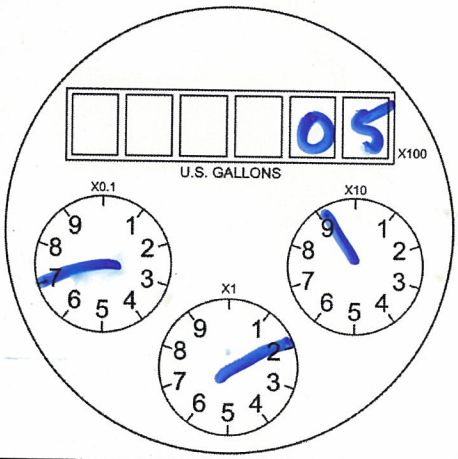
Filter Weight: 65.82 g

Start Time: 17 : 45



End Time: 12 : 50

End Date: 4/27/10



Sample ID: NBF-MH226B-042710-S

Notes:

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

Installed 4/25

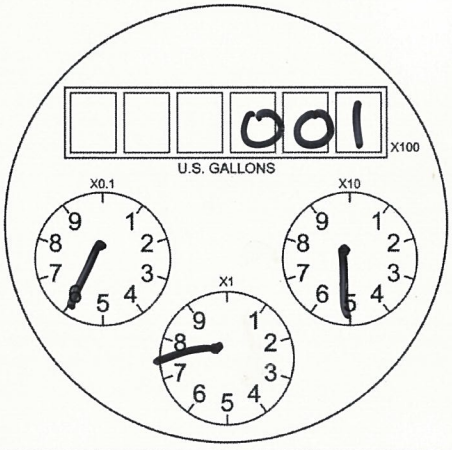
Sample Location: MH356 Start Date: 4/26/10

Filter A

Filter Number: 36

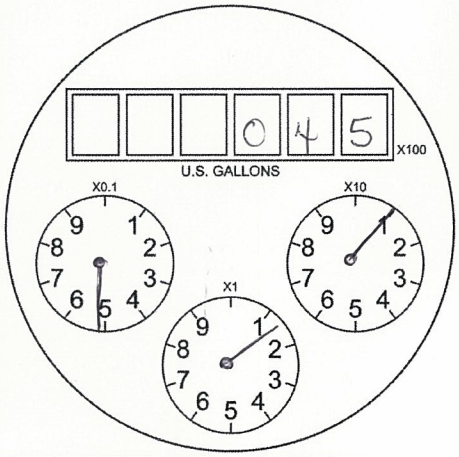
Filter Weight: 59.87g

Start Time: 15:50



End Time: 10:15

End Date: 4/27/10



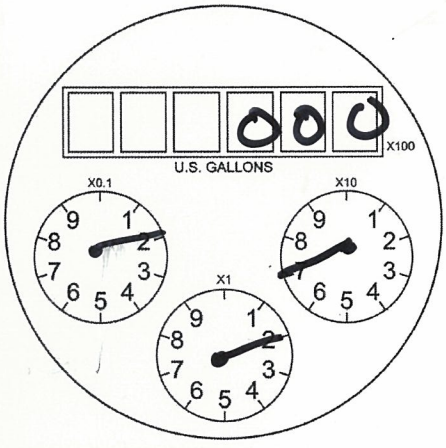
Sample ID: NBF-MH356A-042710-S

Filter B

Filter Number: 28

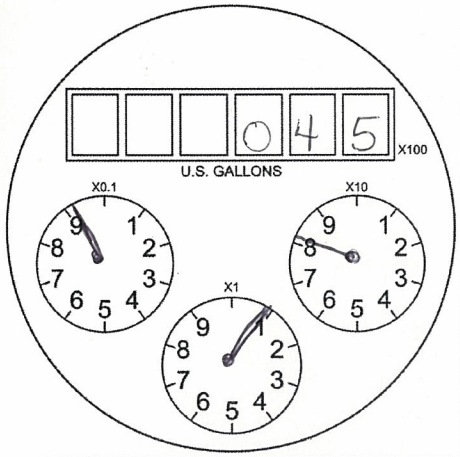
Filter Weight: 57.64g

Start Time: 15:50



End Time: 10:15

End Date: 4/27/10



Sample ID: NBF-MH356B-042710-S

Notes:

Totalizer and Filter Bag Log:

SAIC® From Science to Solutions

Installed 4/25/10

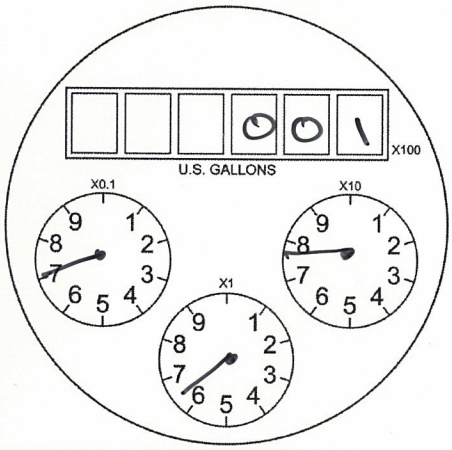
Sample Location: MH434 Start Date: 4/26/10

Filter A

Filter Number: #18

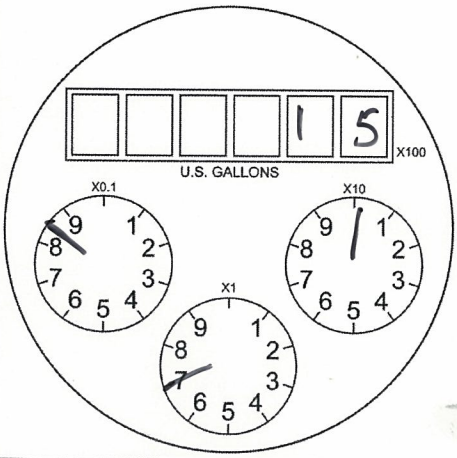
Filter Weight: 58.29 g

Start Time: 15 : 50



End Time: 11 : 30

End Date: 4/27/10



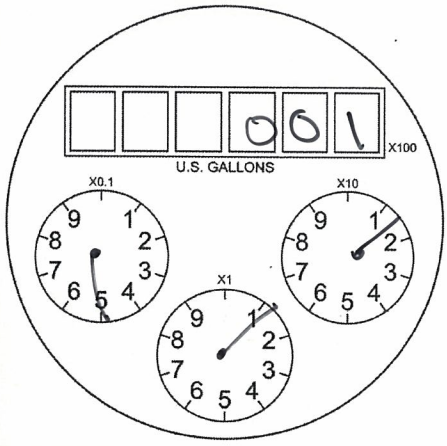
Sample ID: MH434A-042710-S

Filter B

Filter Number: 20

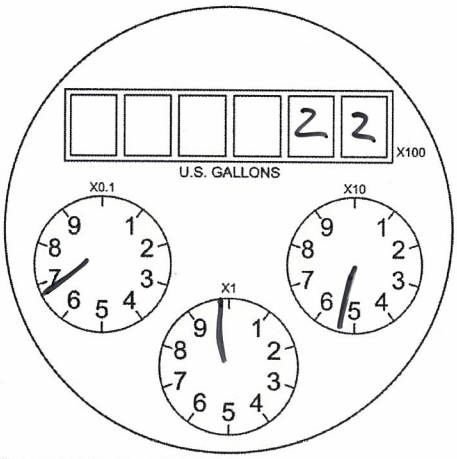
Filter Weight: 65.27

Start Time: 15 : 50



End Time: 11 : 30

End Date: 4/27/10



Sample ID: MH434B-042710-S

Notes:

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

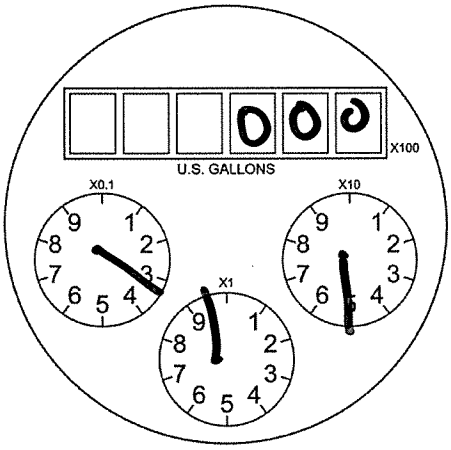
Sample Location: MH178 Installed 4/25 Start Date: 4/26/10

Filter A

Filter Number: 25

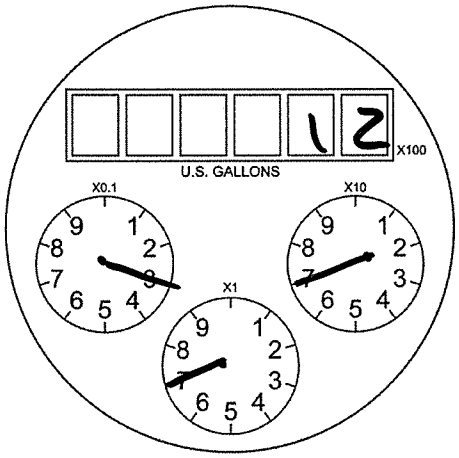
Filter Weight: 61.20g

Start Time: 15:50



End Time: 16:10

End Date: 4/27/10



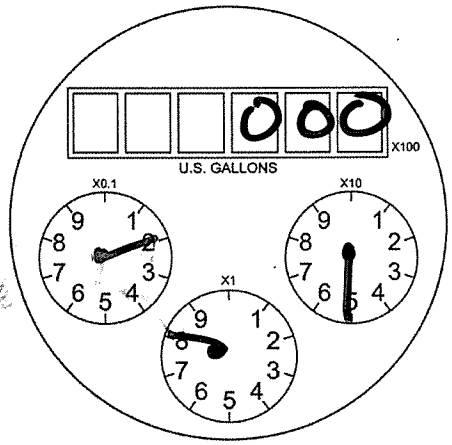
Sample ID:

Filter B

Filter Number: 21

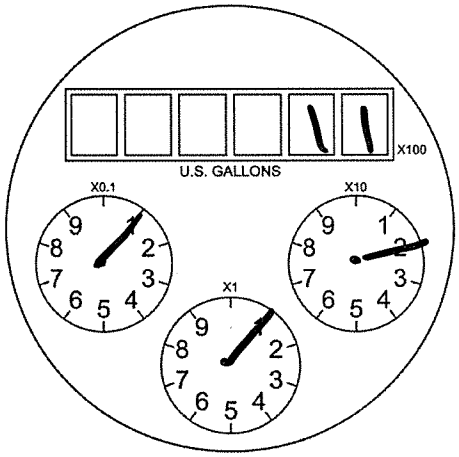
Filter Weight: 61.05g

Start Time: 15:50



End Time: 16:10

End Date: 4/27/10



Sample ID:

Notes: NBF-MH178A-042710-S NBF-MH178B-042710-S

Totalizer and Filter Bag Log:

SAIC® From Science to Solutions

Installed 4/25

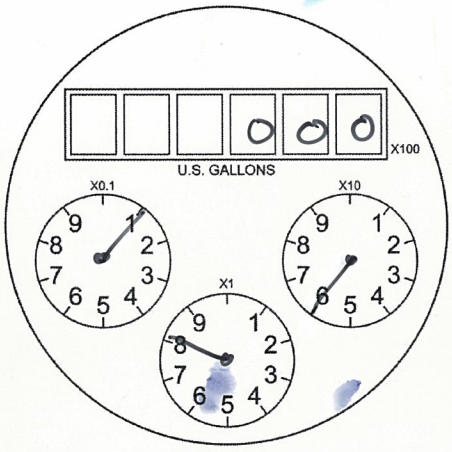
Sample Location: CB423 Start Date: 4/26/10

Filter A

Filter Number: 13

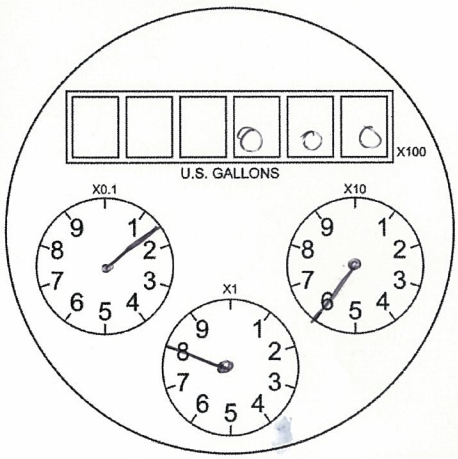
Filter Weight: 60.78 g

Start Time: 15:50



End Time: 11:50

End Date: 04/27/10



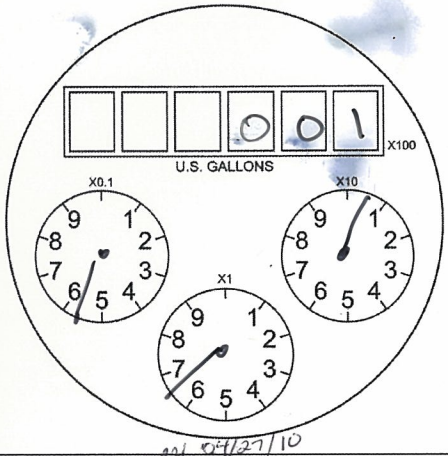
Sample ID: NBF-CB423A-042710S

Filter B

Filter Number: 46

Filter Weight: 63.40 g

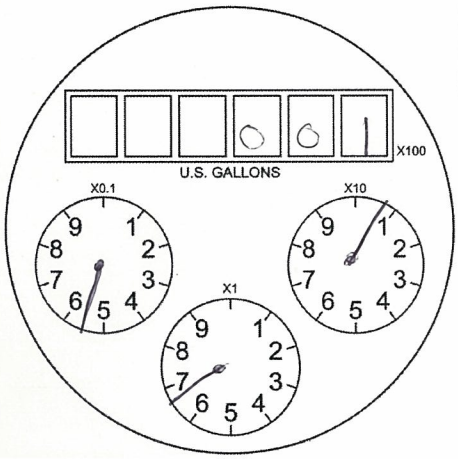
Start Time: 15:50



MBR 04/27/10

End Time: ~~11~~ 15:50

End Date: 04/27/10



Sample ID: NBF-CB423B-042710S

Notes: _____

Totalizer and Filter Bag Log:

SAIC® From Science to Solutions

Installed 4/25

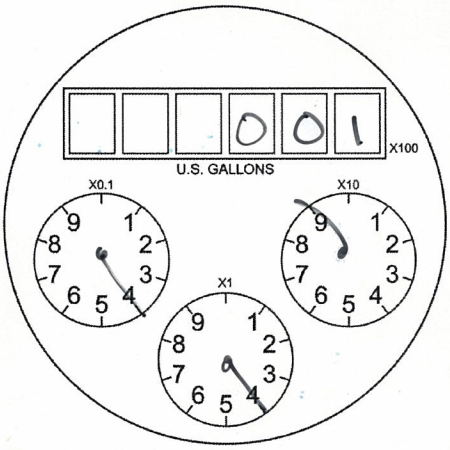
Sample Location: MH369 Start Date: 4/26/10

Filter A

Filter Number: 38

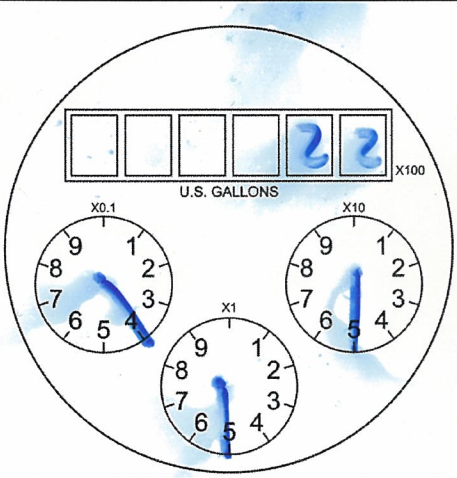
Filter Weight: 61.30 g

Start Time: 15 : 50



End Time: 12 : 40

End Date: 4/27/10



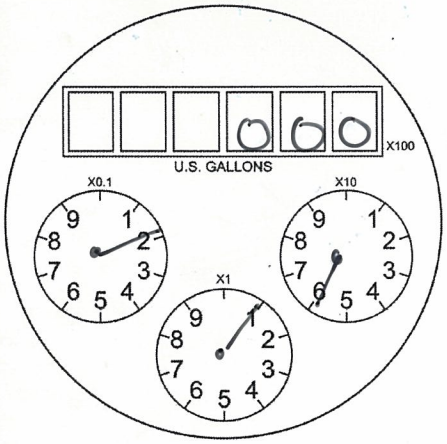
Sample ID: NBF-MH369A-042710-S

Filter B

Filter Number: 33

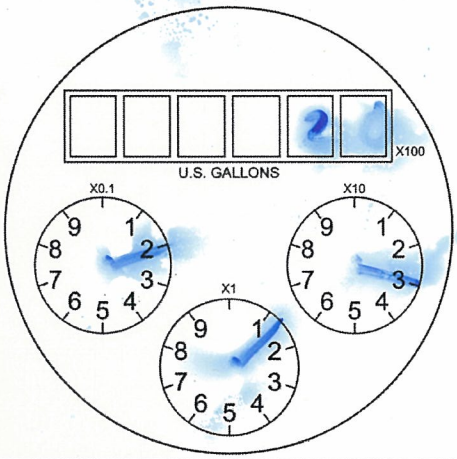
Filter Weight: 60.65g

Start Time: 15 : 50



End Time: 12 : 40

End Date: 4/27/10



Sample ID: NBF-MH369B-042710-S

Notes:

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

Installed 4/25

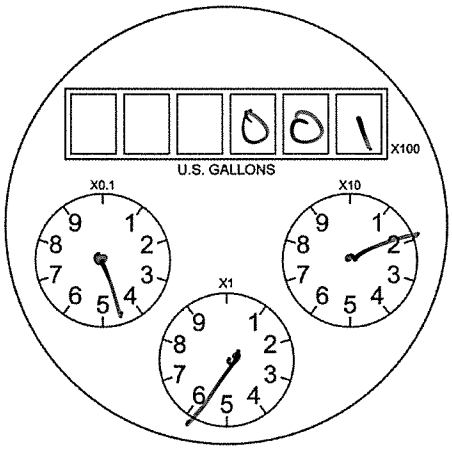
Sample Location: MH 108 Start Date: _____

Filter A

Filter Number: 24

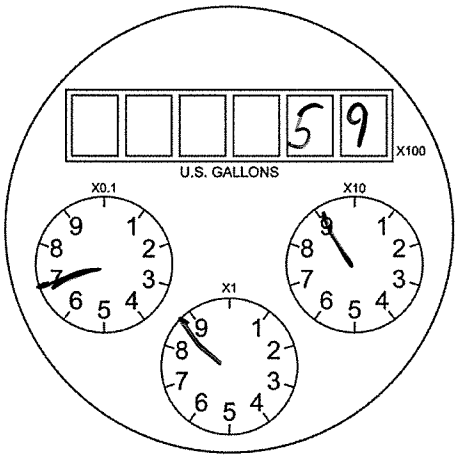
Filter Weight: 68.63g

Start Time: 17:00



End Time: 09:00

End Date: 4/27/10



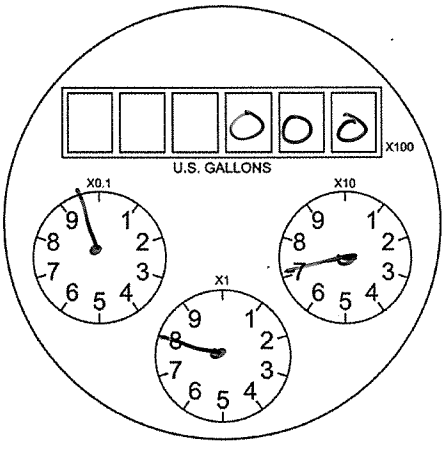
Sample ID: MH108A-042710-S

Filter B

Filter Number: 35

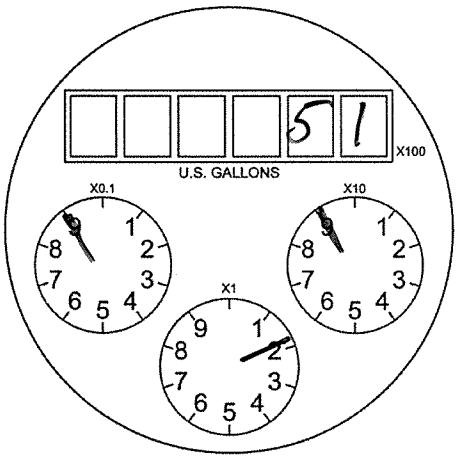
Filter Weight: 61.49g

Start Time: 17:00



End Time: 09:00

End Date: 4/27/10



Sample ID: MH16B-042710-S

Notes: _____

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

Installed 4/25/10

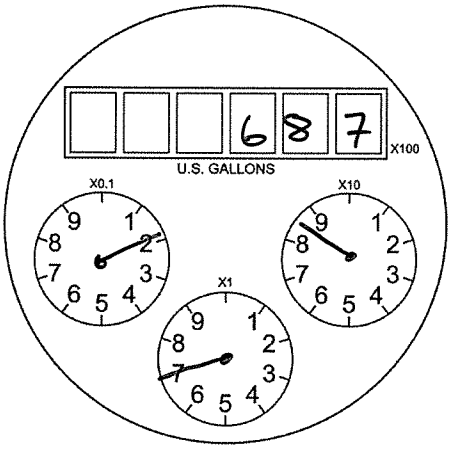
Sample Location: LS431 Start Date: 04/26/10

Filter A

Filter Number: 17

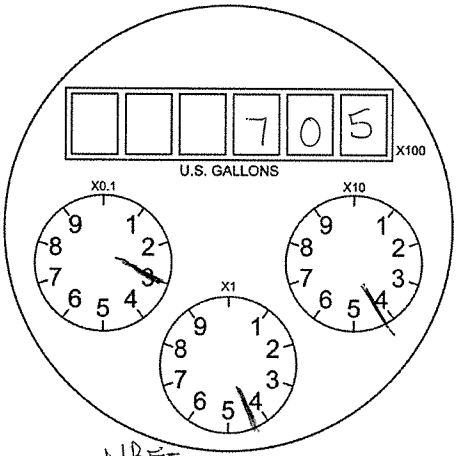
Filter Weight: 65.51 g

Start Time: 17 : 00



End Time: 10 : 16

End Date: 04/27/10



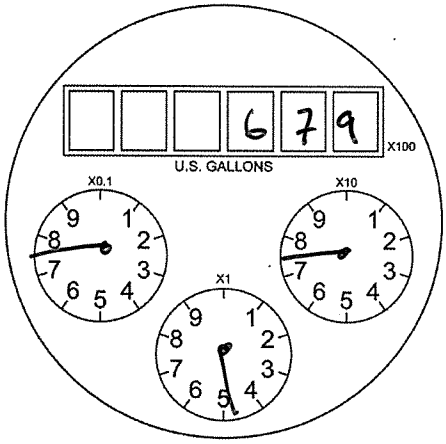
Sample ID: NBF LS431A-042710-S

Filter B

Filter Number: 15

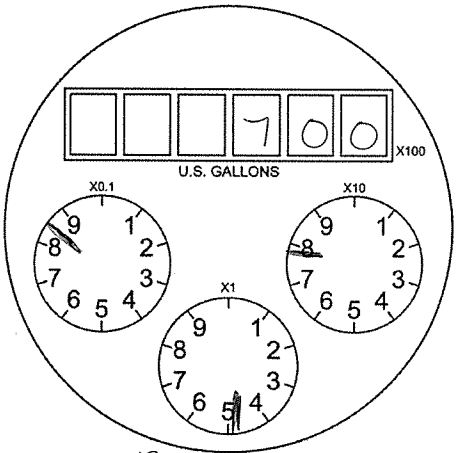
Filter Weight: 65.21 g

Start Time: 17 : 00



End Time: 10 : 16

End Date: 04/27/10



Sample ID: NBF LS431B-042710-S

Notes:

Totalizer and Filter Bag Log:

SAIC From Science to Solutions

Installed 4/25

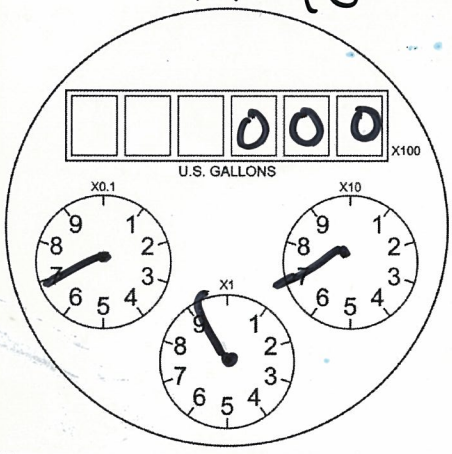
Sample Location: CB165 Start Date: 4/24

Filter A

Filter Number: 32

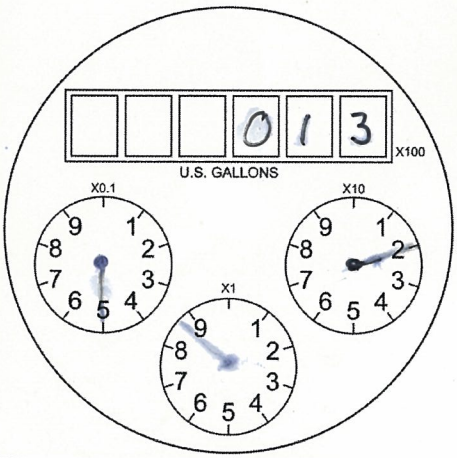
Filter Weight: 68.55 g

Start Time: 19 10



End Time: 16:05

End Date: 04/27/10



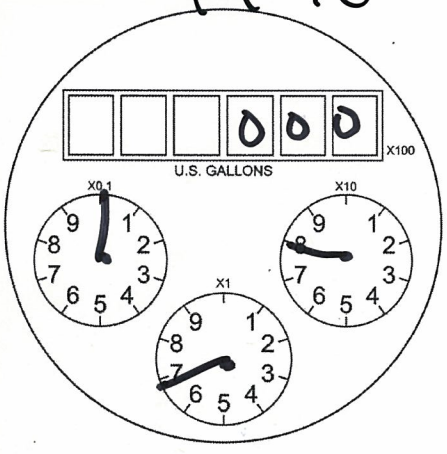
Sample ID: NBF-CB165A-042710-S

Filter B

Filter Number: 31

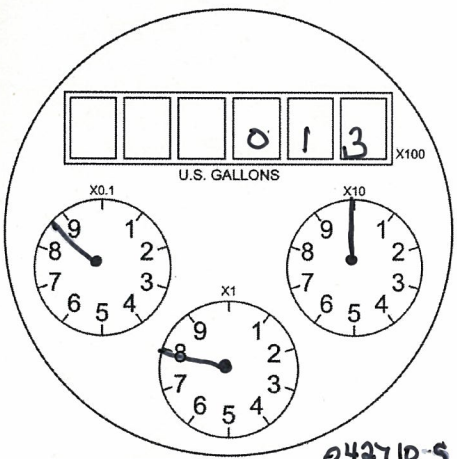
Filter Weight: 61.06 g

Start Time: 19 10



End Time: 16:05

End Date: 04/27/10



Sample ID: NBF-CB165B-042710-S

Notes: 4/27/10 1605

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

Installed 4/25

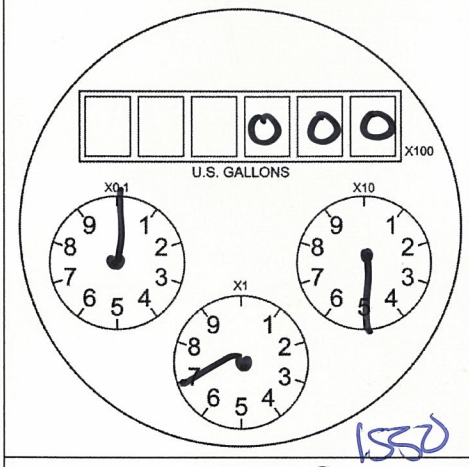
Sample Location: MH152 Start Date: 4/26/10

Filter A

Filter Number: 22

Filter Weight: 59.13g

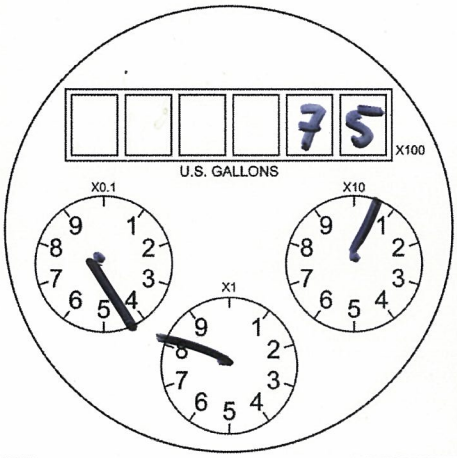
Start Time: 18 : 40



(550)

End Time: 15 : 55

End Date: 4/27/10



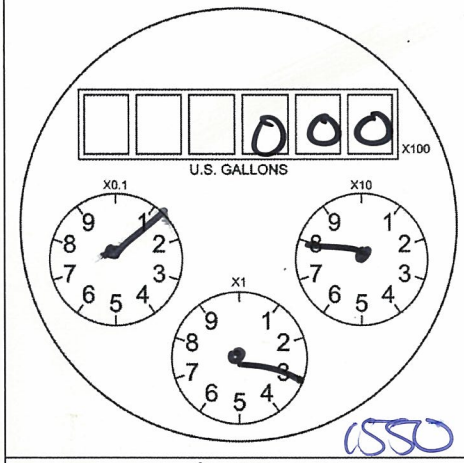
Sample ID:

Filter B

Filter Number: 39

Filter Weight: 60.44

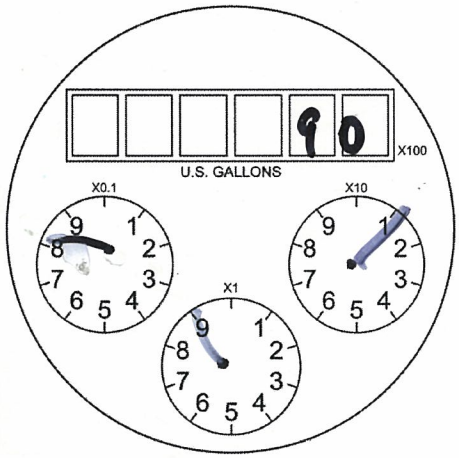
Start Time: 18 : 40



(550)

End Time: 15 : 55

End Date: 4/27/10



Sample ID:

Notes: NBF-MH152A-042710-S NBF-MH152B-042710-S

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

Installed 4/25

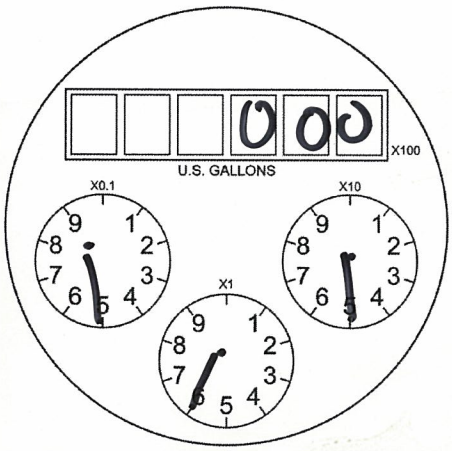
Sample Location: MH 173 Start Date: 4/26/10

Filter A

Filter Number: 29

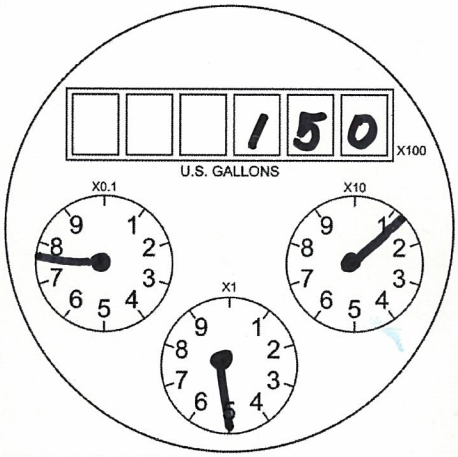
Filter Weight: 64.76g

Start Time: 15:50



End Time: 16:25

End Date: 04/27/10



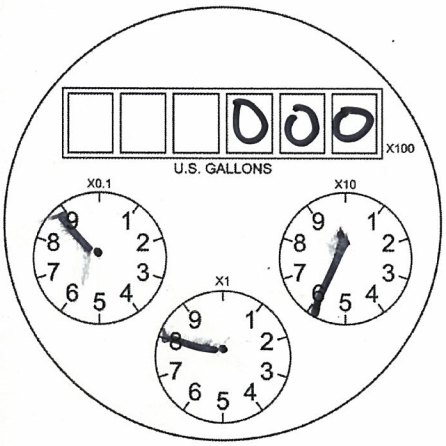
Sample ID:

Filter B

Filter Number: 30

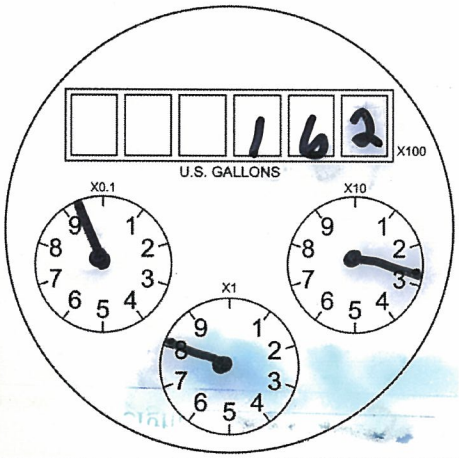
Filter Weight: 60.64g

Start Time: 15:50



End Time: 16:25

End Date: 04/27/10



Sample ID:

Notes:

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

Sample Location: ~~CB133~~ MH-133D

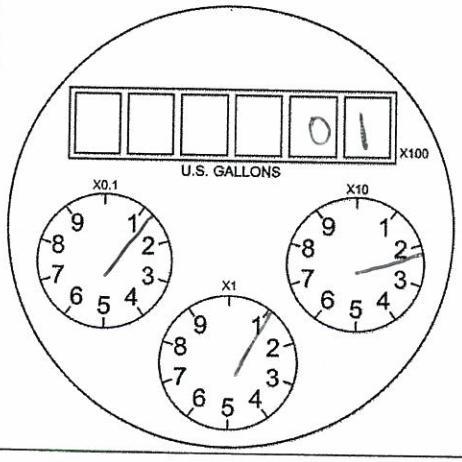
Installed 5/18/10

Start Date: 5/19/10

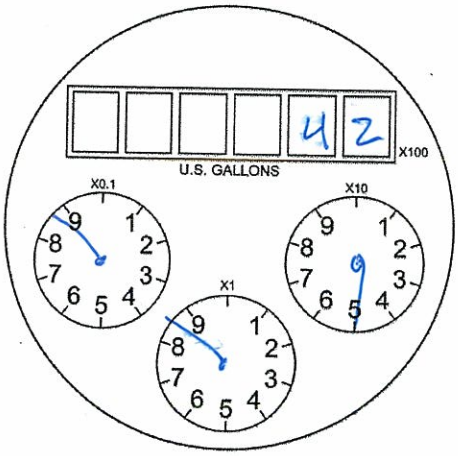
Filter A

Filter Number: #16 59.22

Start Time: 14:19



End Time: ___ ___ : ___ ___

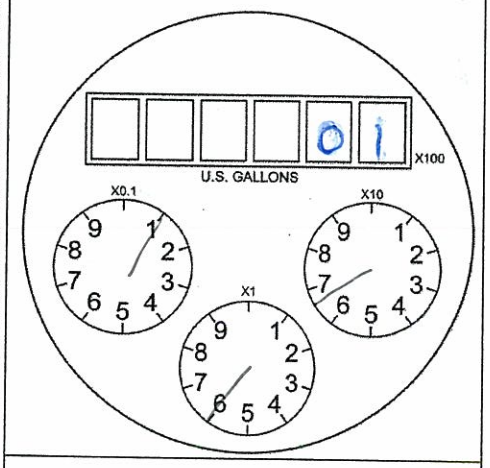


Sample ID: NBF-CB133A-052010-S

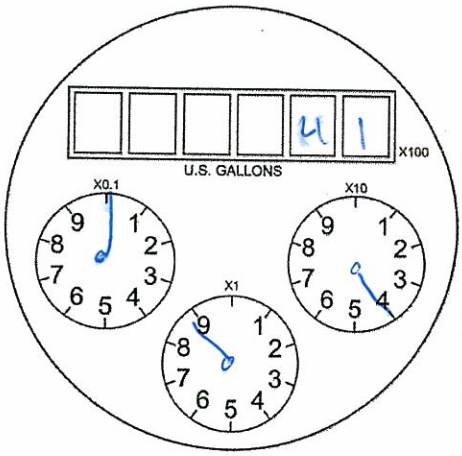
Filter B

Filter Number: #8 59.08

Start Time: 14:19



End Time: ___ ___ : ___ ___



Sample ID: NBF-CB133B-052010-S

Notes:

Totalizer and Filter Bag Log:

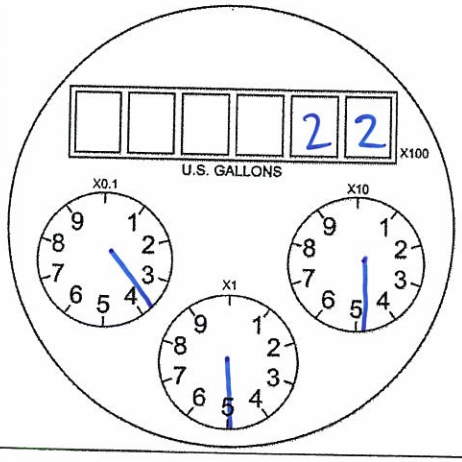
SAIC
From Science to Solutions

Sample Location: MH 369 Installed 5/18/10 Start Date: 5/19/10

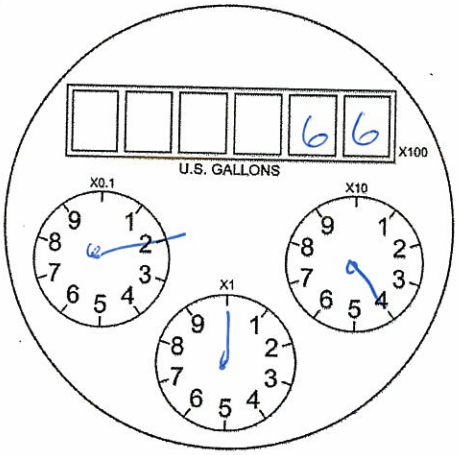
Filter A

Filter Number: #14 62.86

Start Time: 14:12



End Time: 07:50

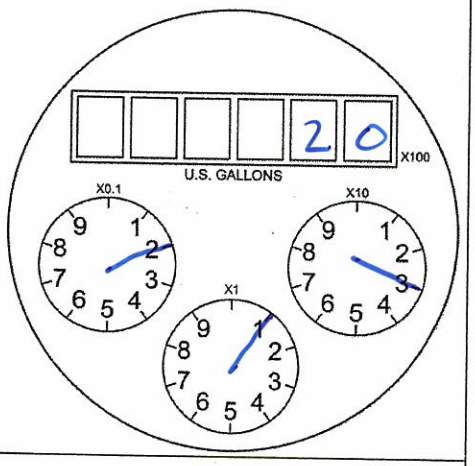


Sample ID: NBF-MH369A-052010-S

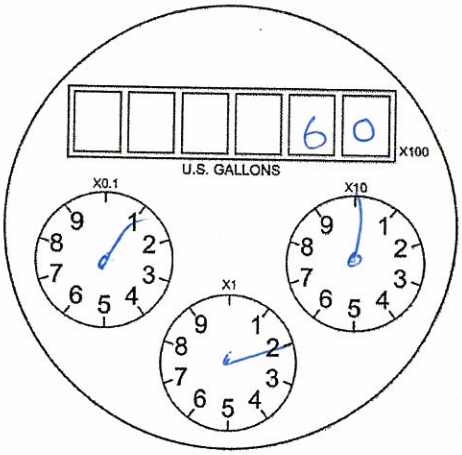
Filter B

Filter Number: #16 60.87

Start Time: 14:12



End Time: 07:50



Sample ID: NBF-MH369B-052010-S

Notes:

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

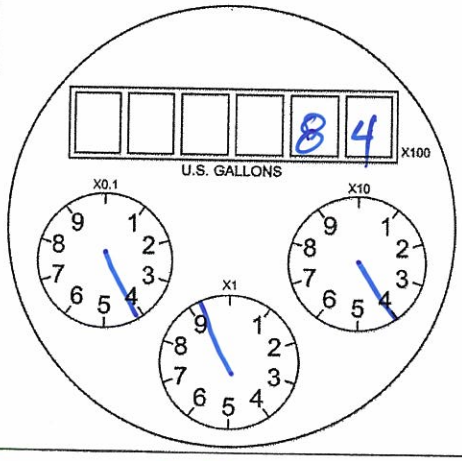
Installed 5/18/10

Sample Location: MH226 Start Date: 5/19/10

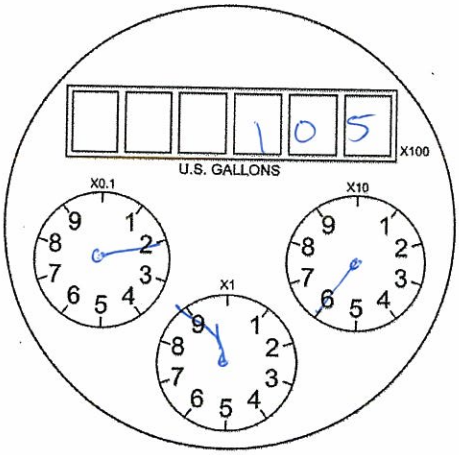
Filter A

Filter Number: #18 60.57

Start Time: 14:14



End Time: 07:45

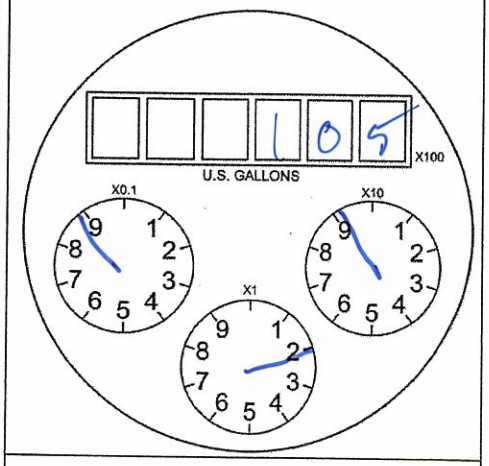


Sample ID:

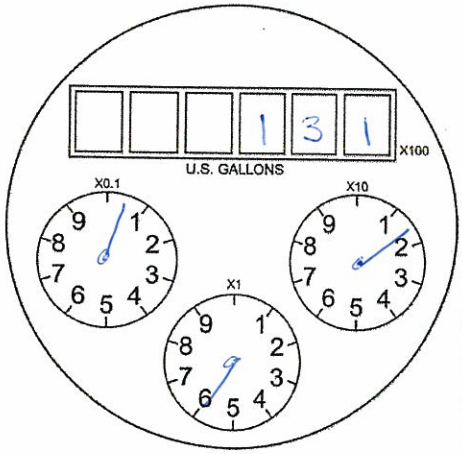
Filter B

Filter Number: #1 60.10

Start Time: 14:14



End Time: 07:45 5/20/10



Sample ID:

Notes: NBF - MH226A - 052010-S NBF - MH226B - 052010-S

Totalizer and Filter Bag Log:

SAIC From Science to Solutions

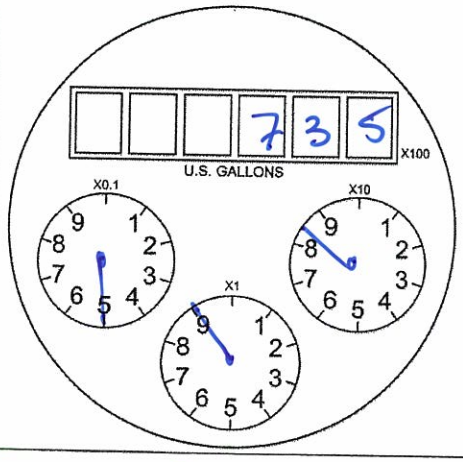
Installed 5/18/10 @ 1300

Sample Location: GS431 Start Date: 5/19/10

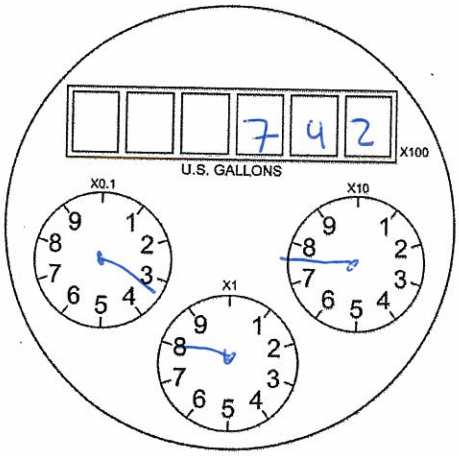
Filter A

Filter Number: #3 61.80g

Start Time: 14:02



End Time: 09:10

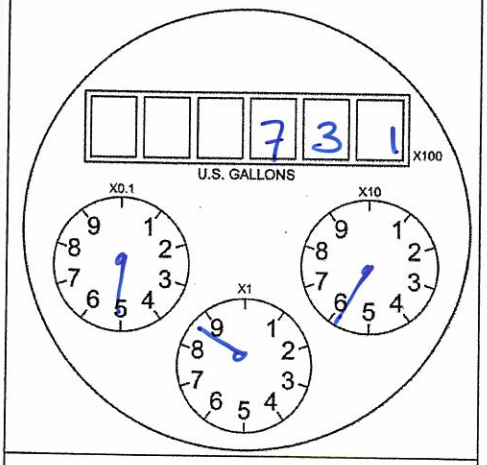


Sample ID:

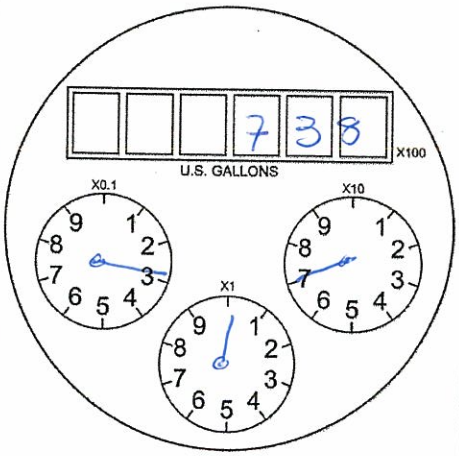
Filter B

Filter Number: #19 61.73g

Start Time: 14:02



End Time: 09:10 5/20/10



Sample ID:

Notes: NBF - GS431A - 052010A - S

NBF - GS431B - 052010B - S

B

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

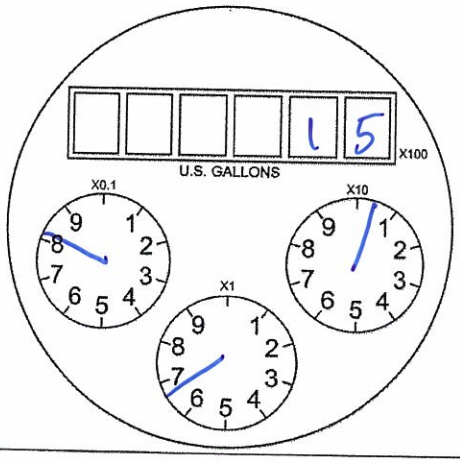
Installed 5/18/10

Sample Location: MH 434 Start Date: 5/19/10

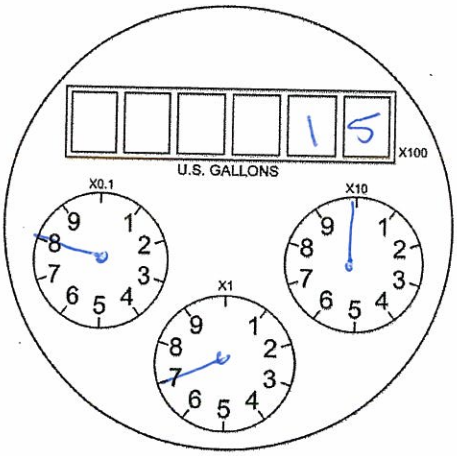
Filter A

Filter Number: 9 62.03

Start Time: 14:08



End Time: 07:30

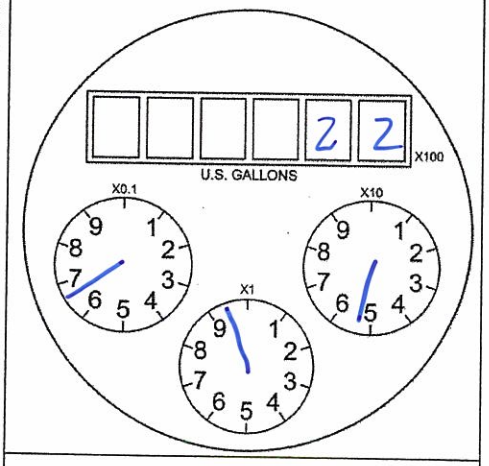


Sample ID:

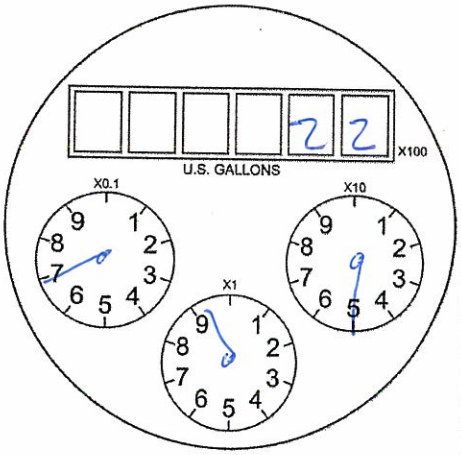
Filter B

Filter Number: ~~62~~ 2 59.63

Start Time: 14:08



End Time: 07:30 5/20/10



Sample ID:

Notes: NO Samples Collected

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

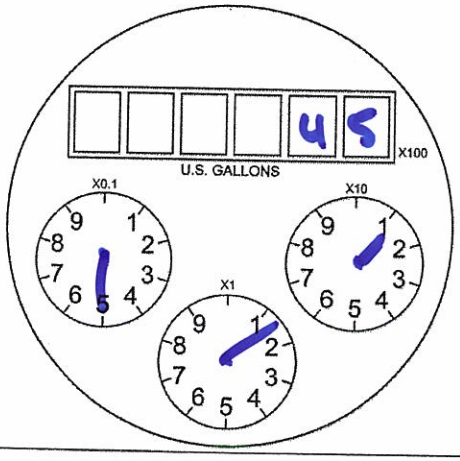
Instead 5/18

Sample Location: MH356 Start Date: 5/19/10

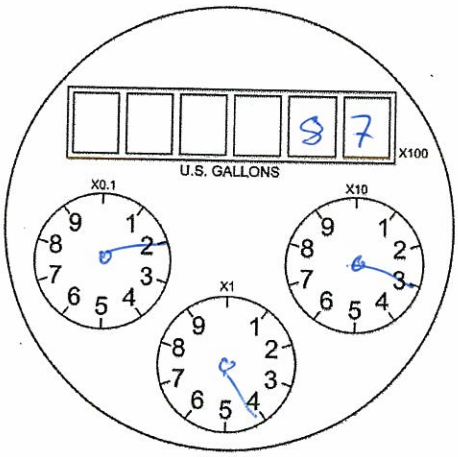
Filter A

Filter Number: #12 61.28g

Start Time: 14:05



End Time: 07:35

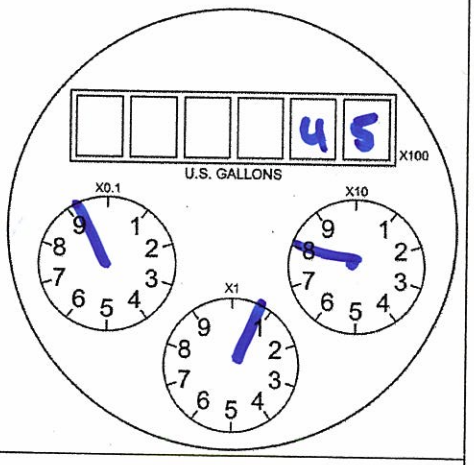


Sample ID: NBF-MH356A052010-S

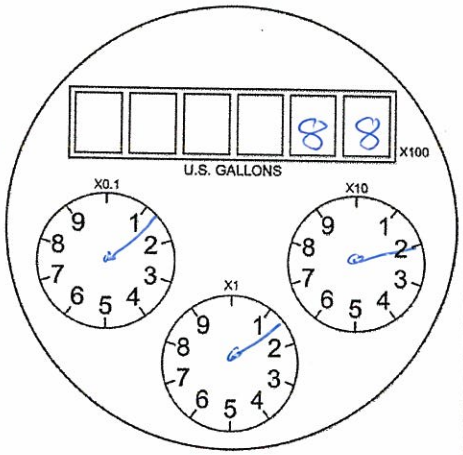
Filter B

Filter Number: #6 59.24

Start Time: 14:05



End Time: 07:35 5/20/10



Sample ID: NBF-MH356B-052010-S

Notes:

Totalizer and Filter Bag Log:

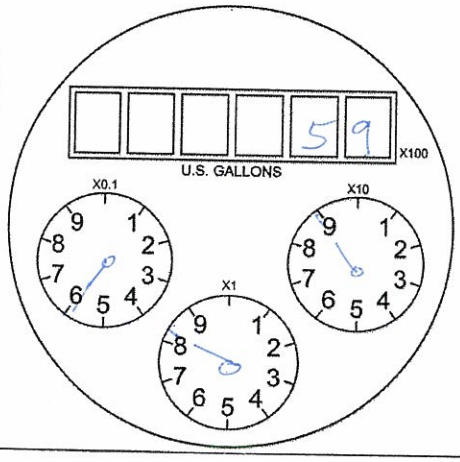
SAIC
From Science to Solutions

Sample Location: MH108 Start Date: 5/19/10

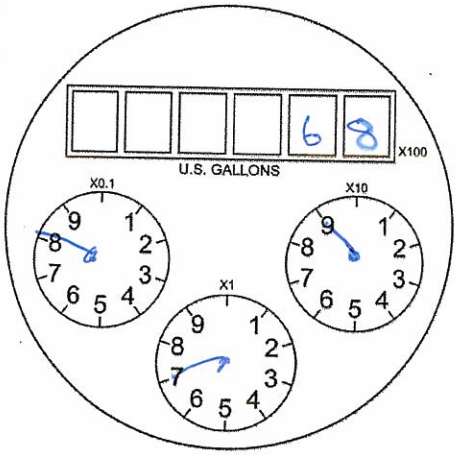
Filter A

Filter Number: #11 64.33g

Start Time: 13:53



End Time: 09:00

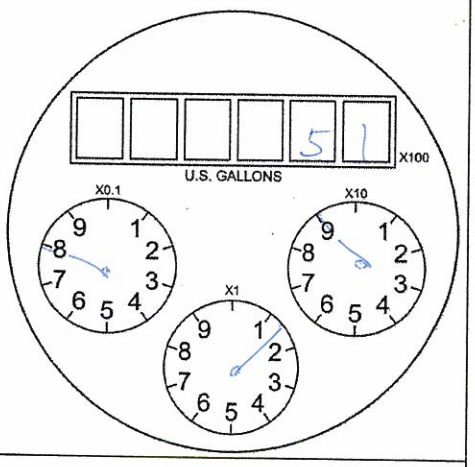


Sample ID: NBF-MH108A-052010-S

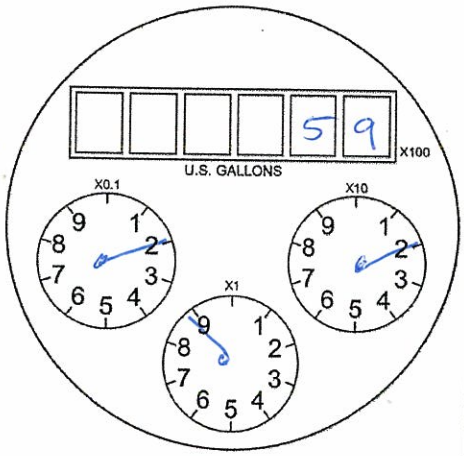
Filter B

Filter Number: #7 59.09g

Start Time: 13:53



End Time: 09:00 5/20/10



Sample ID: NBF-MH108B-052010-S

Notes:

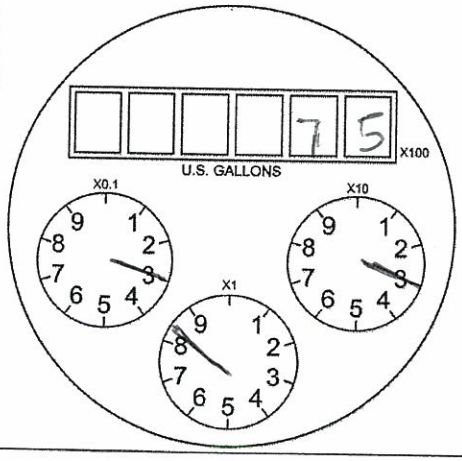
Totalizer and Filter Bag Log:

Sample Location: MH 152 Start Date: 5/19/10 Installed 5/18/10

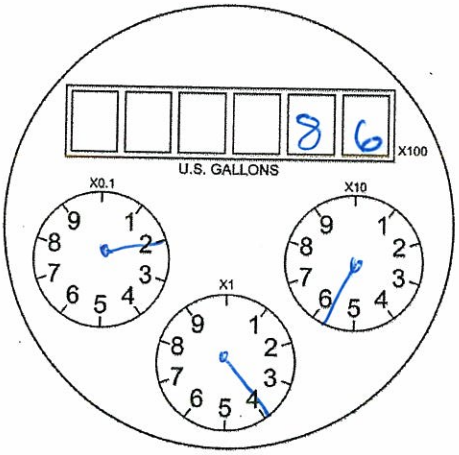
Filter A

Filter Number: #2 60.47

Start Time: 14 : 23



End Time: 08 : 25

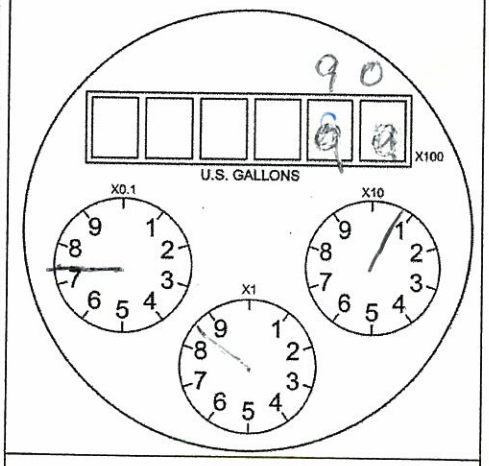


Sample ID: NBF-MH152A-052010-S

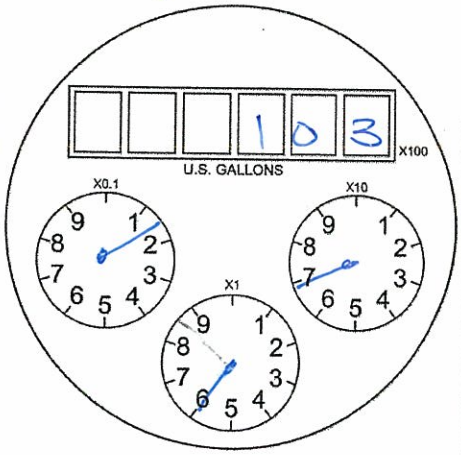
Filter B

Filter Number: #9 58.57

Start Time: 14 : 23



End Time: 08 : 25 5/20/10



Sample ID: NBF-MH152B-052010-S

Notes:

Totalizer and Filter Bag Log:

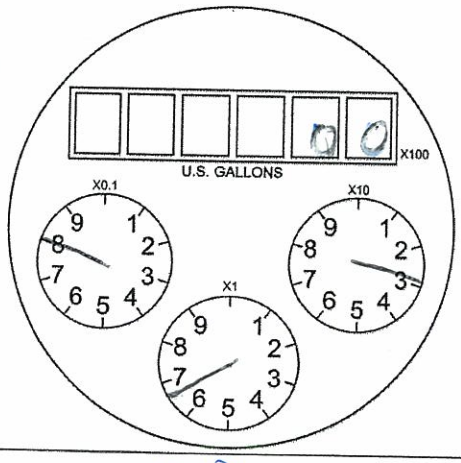
SAIC
From Science to Solutions

Sample Location: MH 138 (Installed 5/18/10) Start Date: 5/19/10

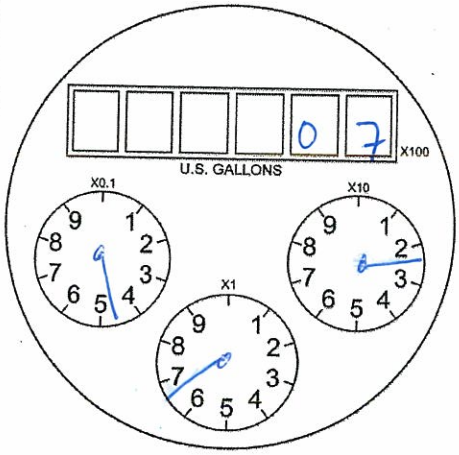
Filter A

Filter Number: #8 (63.71)

Start Time: 14:21



End Time: 08:20

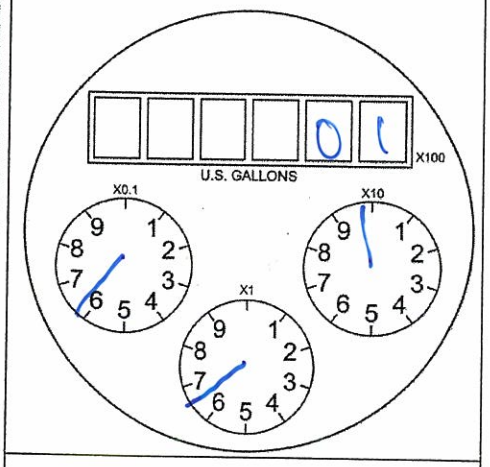


Sample ID: NBF-MH138A-052010-S

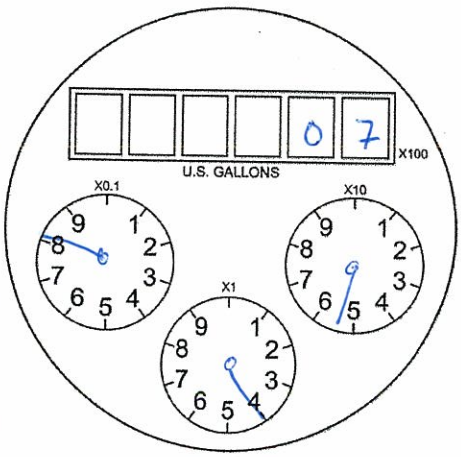
Filter B

Filter Number: #17 (64.04)

Start Time: 14:21



End Time: 08:20 5/20/10



Sample ID: NBF-MH138B-052010-S

Notes:

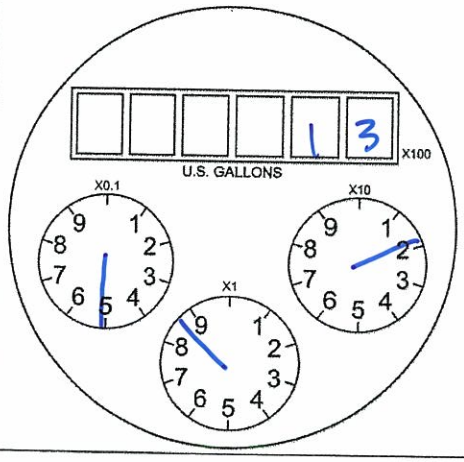
Totalizer and Filter Bag Log:

Sample Location: CB 165 Start Date: 5/19/10 (Installed 5/18/10)

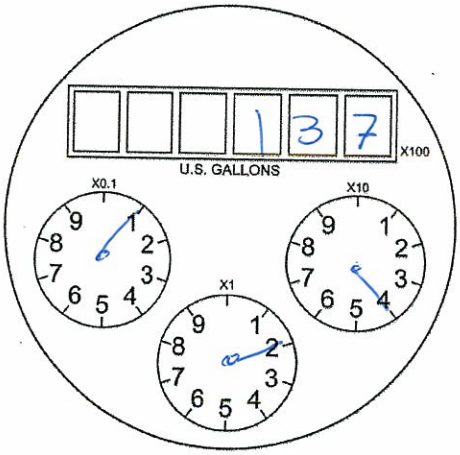
Filter A

Filter Number: #5 63.50

Start Time: 14:27



End Time: 08:30

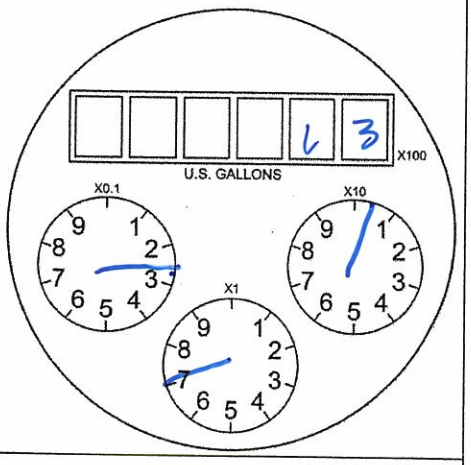


Sample ID:

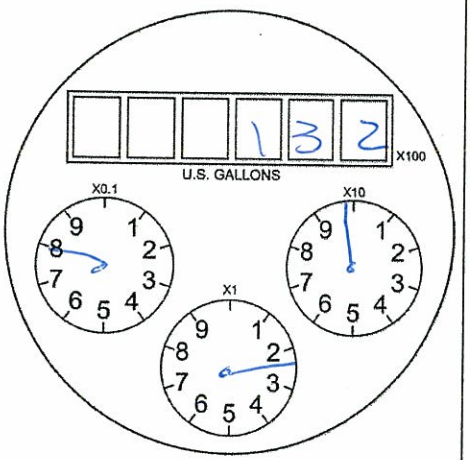
Filter B

Filter Number: #10 62.48

Start Time: 14:27



End Time: 08:30 5/20/10



Sample ID:

Notes: NBF - CB165A - 052010 - S NBF - CB165B - 052010 - S

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

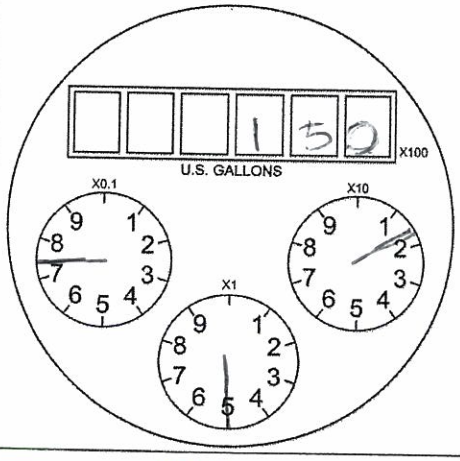
Installed 5/18/12

Sample Location: CB 173 Start Date: 5/19/10

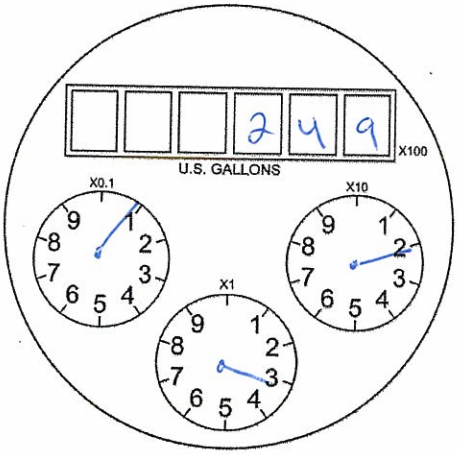
Filter A

Filter Number: #4 62.78

Start Time: 14:29



End Time: 08:35

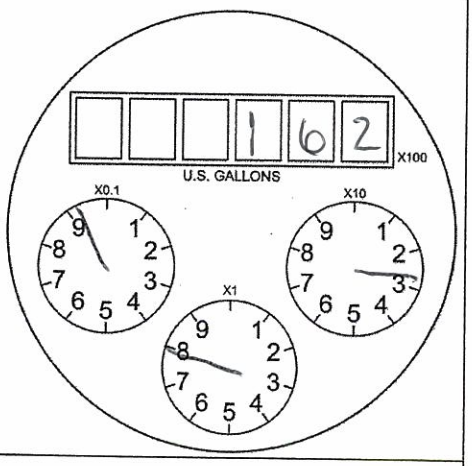


Sample ID:

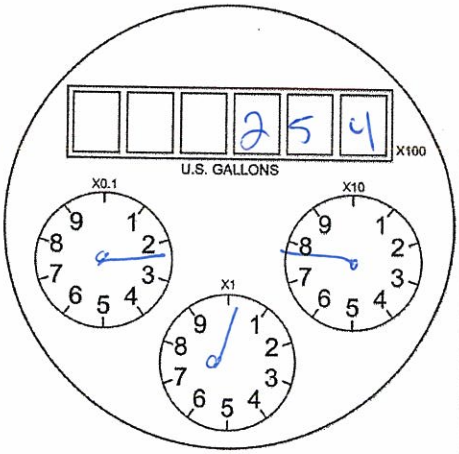
Filter B

Filter Number: #12 61.03

Start Time: 14:29



End Time: 08:35



Sample ID:

Notes: NBF-CB173A-052010-S NBF-CB173B-052010-S

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

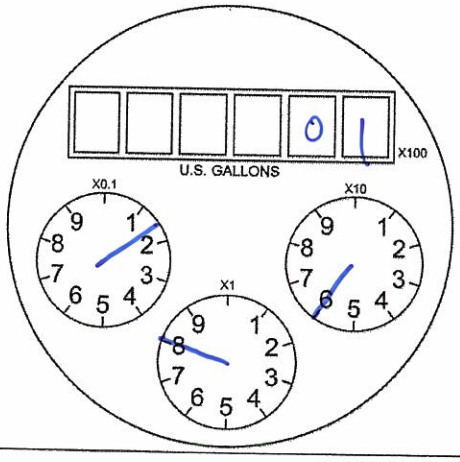
Installed 5/18/10

Sample Location: MH423 Start Date: 5/19/10

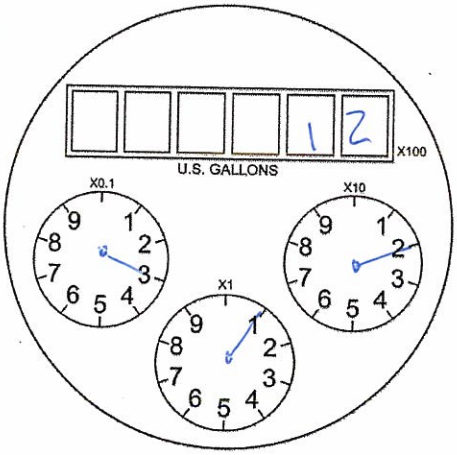
Filter A

Filter Number: 12 61.87

Start Time: 13:58



End Time: 07:40

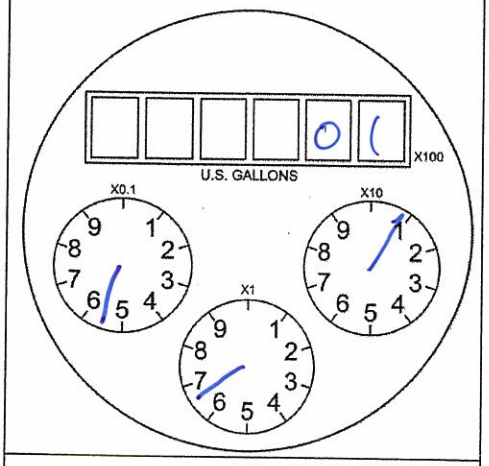


Sample ID: NBF-MH423A-052010-S

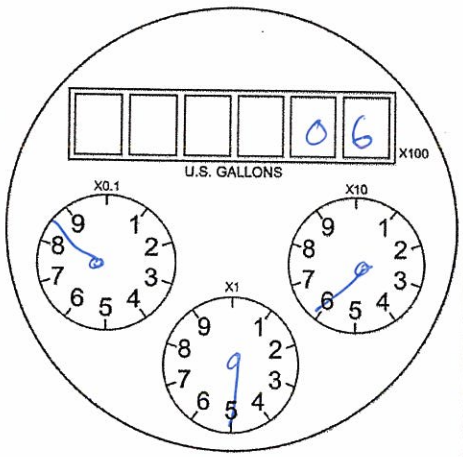
Filter B

Filter Number: 4 59.69

Start Time: 13:58



End Time: 07:40 5/20/10



Sample ID: NBF-MH423B-052010-S

Notes:

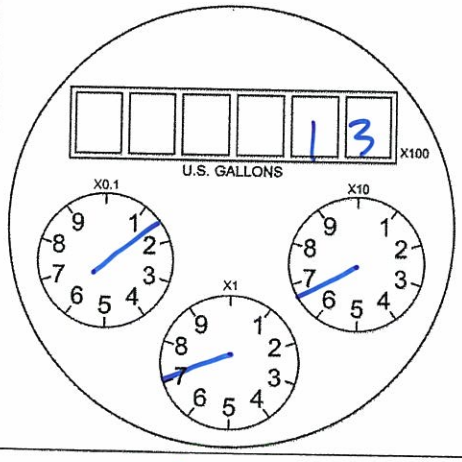
Totalizer and Filter Bag Log:

Sample Location: MH 178 Start Date: 5/19/10 Installed 5/18/10

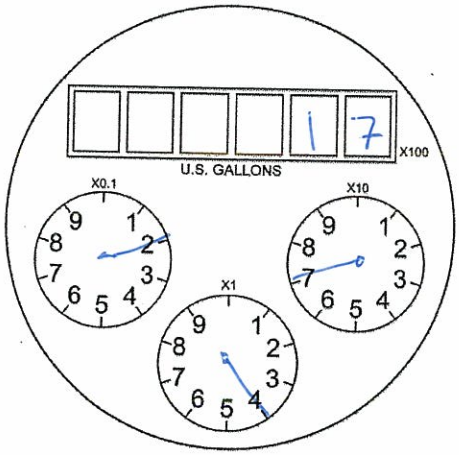
Filter A

Filter Number: #15 61.30

Start Time: 14:31



End Time: 08:40

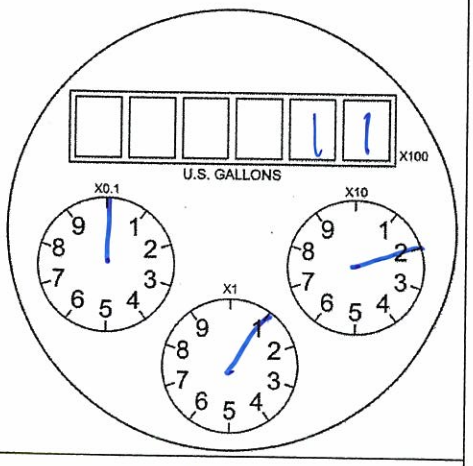


Sample ID:

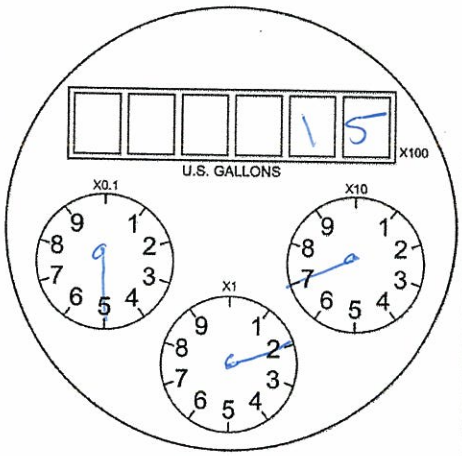
Filter B

Filter Number: #13 61.73

Start Time: 14:31



End Time: 08:40 5/20/10



Sample ID:

Notes:

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

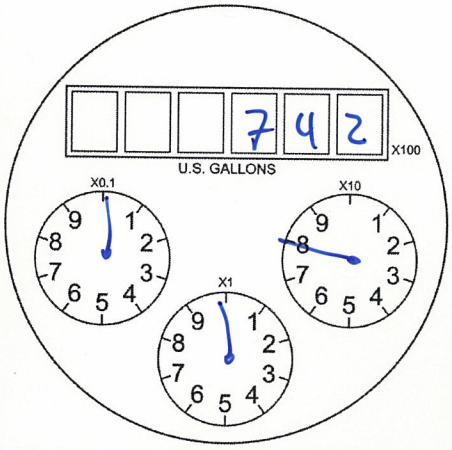
Sample Location: LS431 Start Date: 5/27/10

Filter A

Filter Number: 33

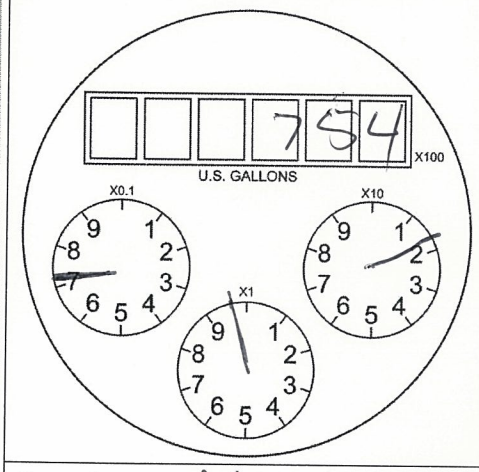
Filter Weight: 59.51

Start Time: 21:00



End Time: 20:13

End Date: 5/28/2010



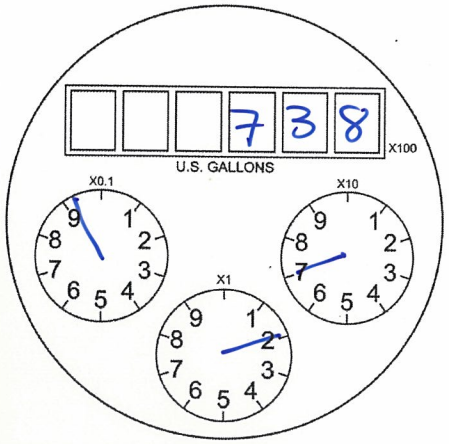
Sample ID: NBF-LS431A-052810-S

Filter B

Filter Number: 37

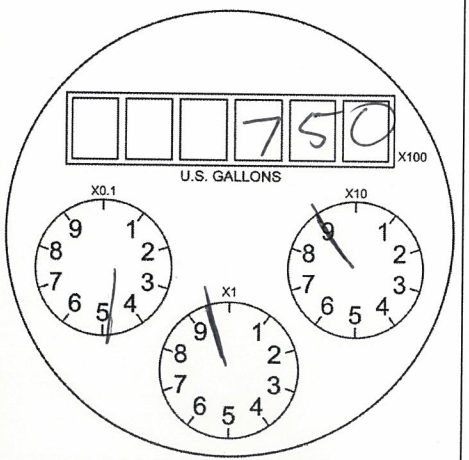
Filter Weight: 61.98

Start Time: 21:00



End Time: 20:13

End Date: 5/28/2010



Sample ID: NBF-LS431B-052810-S

Notes:

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

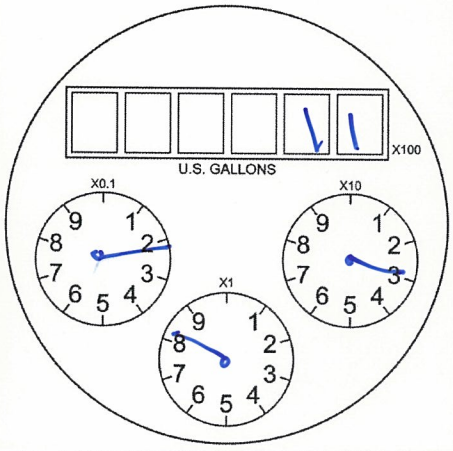
Sample Location: MH 6123 Start Date: 5/27/10

Filter A

Filter Number: 36

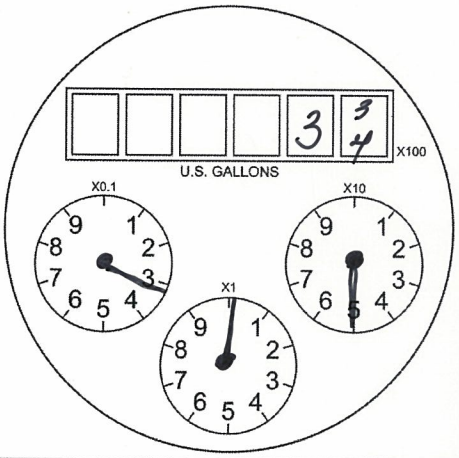
Filter Weight: 68.63

Start Time: 21 : 05



End Time: 20 : 11

End Date: 05/28/10



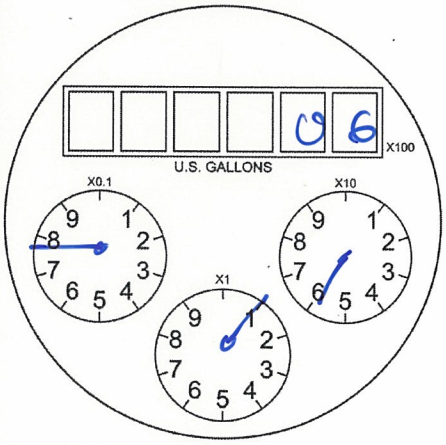
Sample ID: NBF-MH6123A-052810-S

Filter B

Filter Number: 23

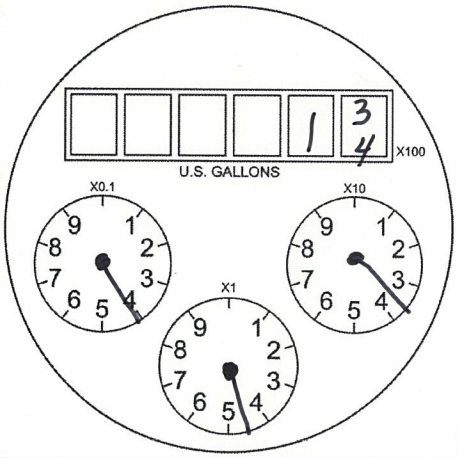
Filter Weight: 61.80

Start Time: 21 : 05



End Time: 20 : 11

End Date: 05/28/10



Sample ID: NBF-MH6123B-052810-S

Notes:

Totalizer and Filter Bag Log:

SAIC® From Science to Solutions

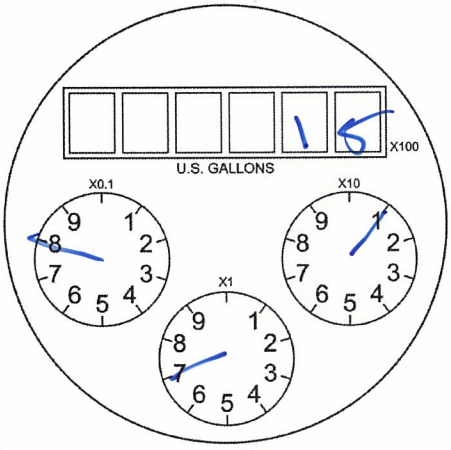
Sample Location: MH434 Start Date: 5/27/10

Filter A

Filter Number: 40

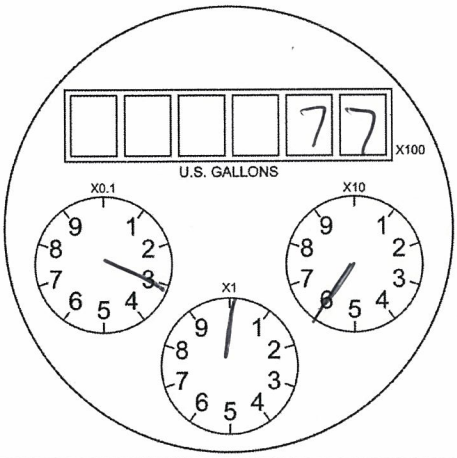
Filter Weight: 64.43

Start Time: 23 : 15



End Time: 20 : 09

End Date: 5/28/10



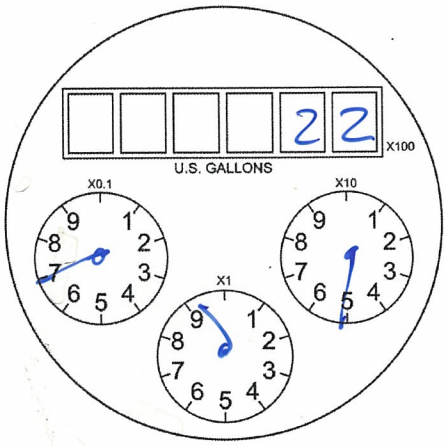
Sample ID: NBF-MH434A-052810-S

Filter B

Filter Number: 38

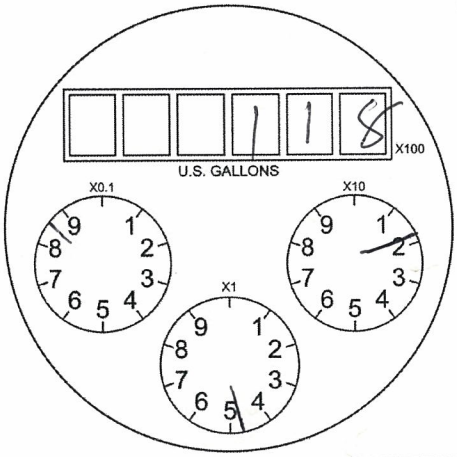
Filter Weight: 60.35

Start Time: 23 : 15



End Time: 20 : 09

End Date: 5/28/10



Sample ID: NBF-MH434B-052810-S

Notes:

Totalizer and Filter Bag Log:

SAIC® From Science to Solutions

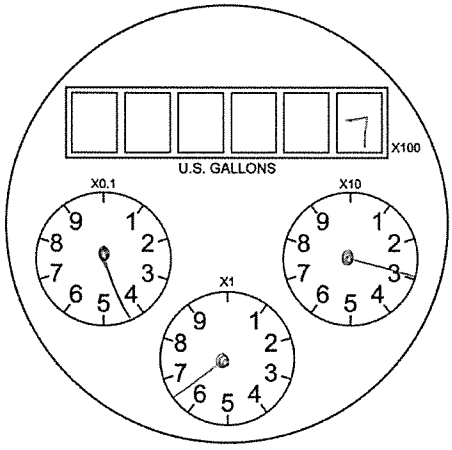
Sample Location: MH138 Start Date: 06/01/10

Filter A

Filter Number: 27

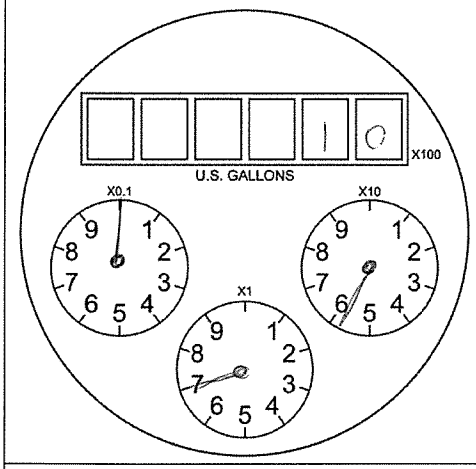
Filter Weight: 60.00 g

Start Time: 22 : 10



End Time: 20 : 45

End Date: 6/2/2010



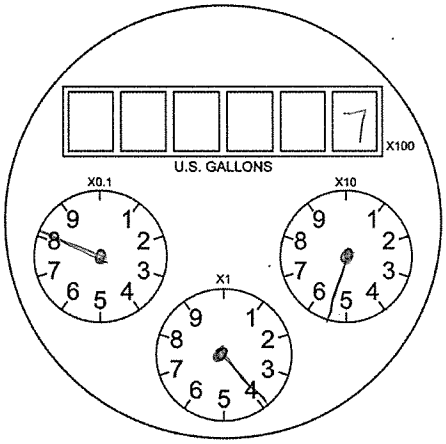
Sample ID:

Filter B

Filter Number: 34

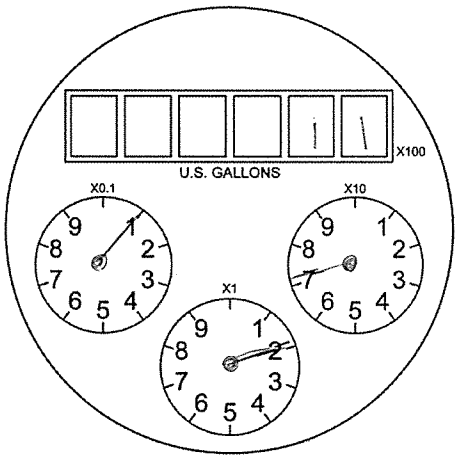
Filter Weight: 69.35 g

Start Time: 22 : 00



End Time: 20 : 45

End Date: 6/2/2010



Sample ID:

Notes: _____

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

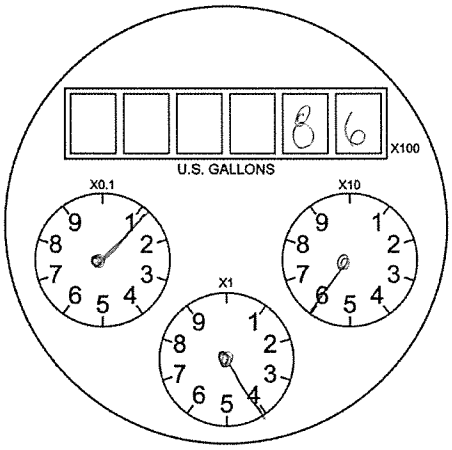
Sample Location: MH152 Start Date: 06/01/10

Filter A

Filter Number: 9

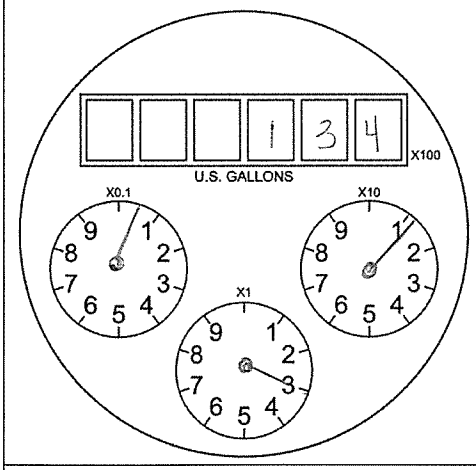
Filter Weight: 68.37g

Start Time: 21 : 10



End Time: 20 : 48

End Date: 6/2/2010



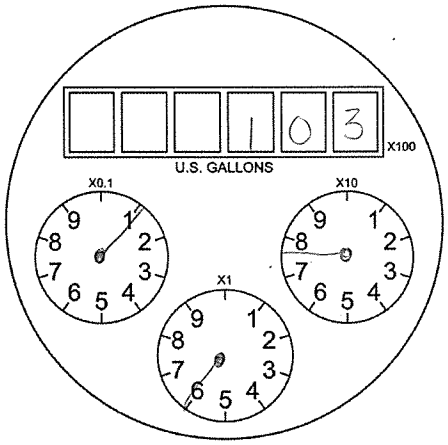
Sample ID: NBF-MH152A-060210-S

Filter B

Filter Number: 31

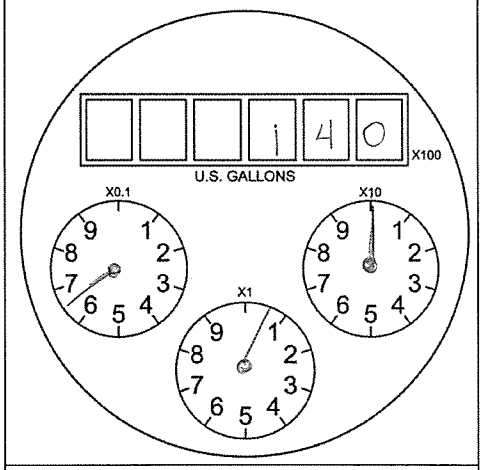
Filter Weight: 61.18g

Start Time: 21 : 10



End Time: 20 : 48

End Date: 6/2/2010



Sample ID: NBF-MH152B-060210-S

Notes: _____

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

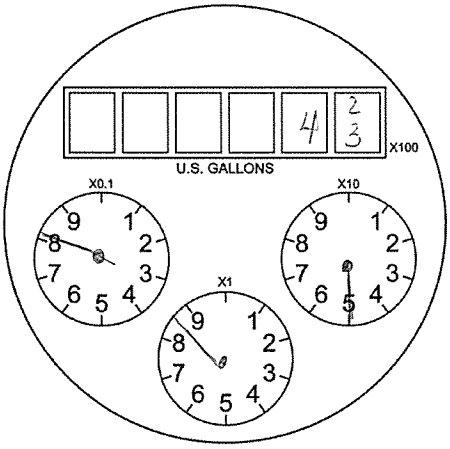
Sample Location: MH133 Start Date: 06/01/10

Filter A

Filter Number: #3

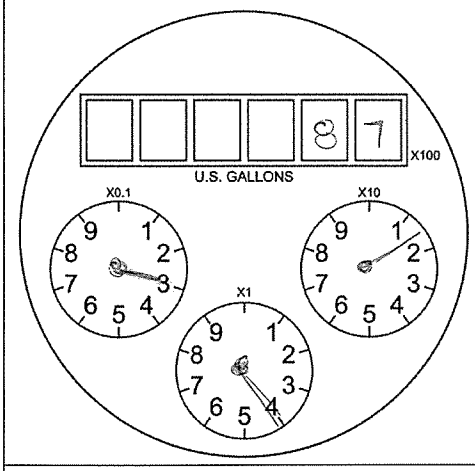
Filter Weight: 60.80

Start Time: 17 : 54 (21 : 52)



End Time: 20 : 42

End Date: 6/2/2010



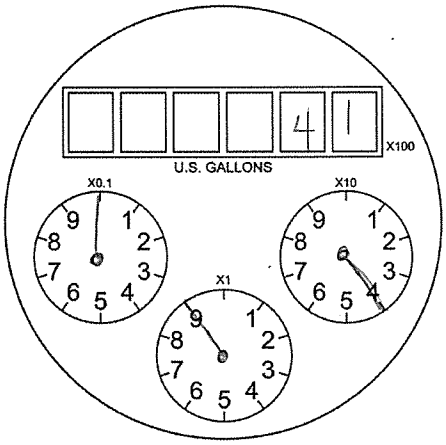
Sample ID: NBF-MH133A-060210-S

Filter B

Filter Number: #10

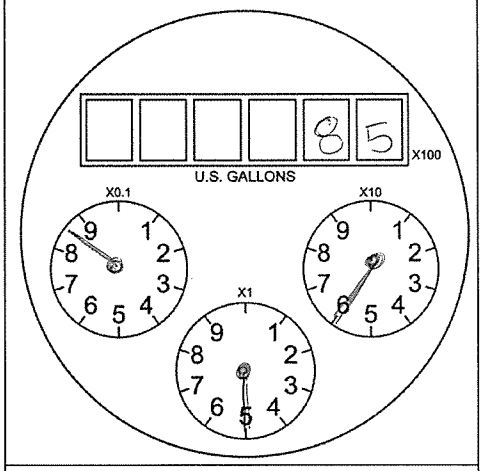
Filter Weight: 61.79

Start Time: 17 : 54 (21 : 52)



End Time: 20 : 42

End Date: 6/2/2010



Sample ID: NBF-MH133B-060210-S

Notes:

Totalizer and Filter Bag Log:

From Science to Solutions

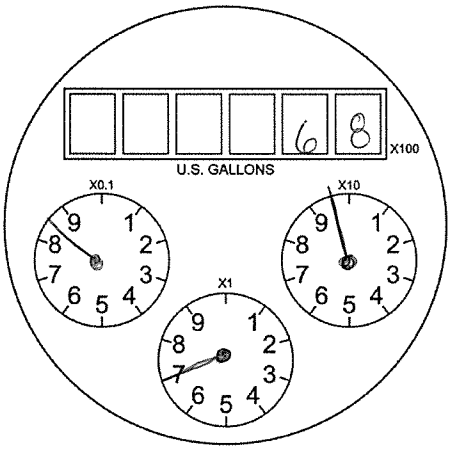
Sample Location: MH108 Start Date: 06/01/10

Filter A

Filter Number: #16

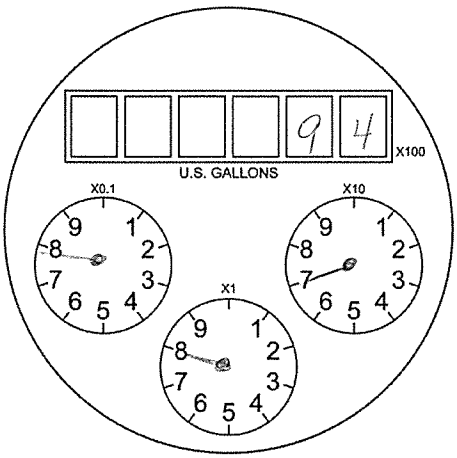
Filter Weight: 61.73

Start Time: 21 : 02



End Time: 20 : 38

End Date: 6/2/2010



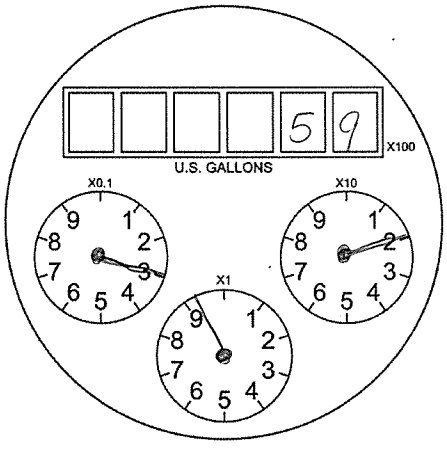
Sample ID: NBF-MH108A-060210-S

Filter B

Filter Number: #24

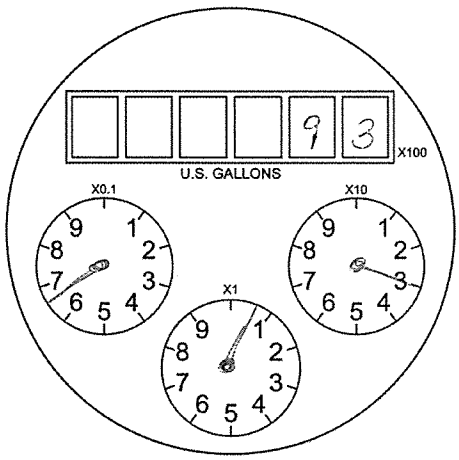
Filter Weight: 61.20

Start Time: 21 : 02



End Time: 20 : 38

End Date: 6/2/2010



Sample ID: NBF-MH108B-060210-S

Notes: _____

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

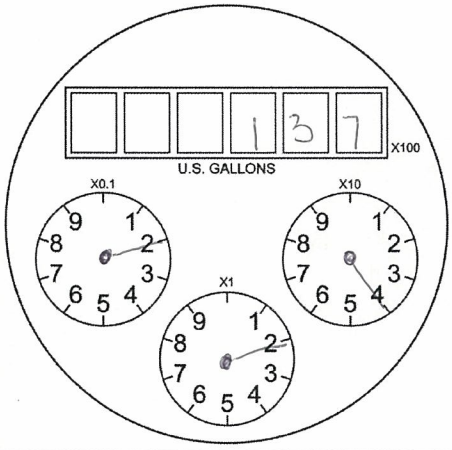
Sample Location: CB165 Start Date: 06/01/10

Filter A

Filter Number: 3

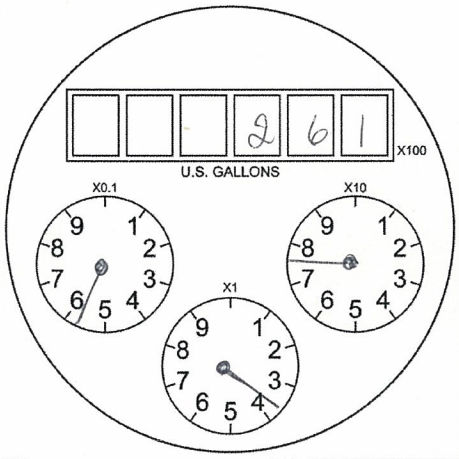
Filter Weight: 59.93g

Start Time: 22:25



End Time: 20:55

End Date: 6/2/2010



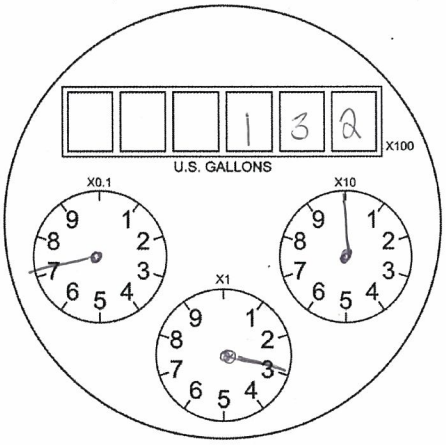
Sample ID: NBF-CB165A-060910-S

Filter B

Filter Number: 25

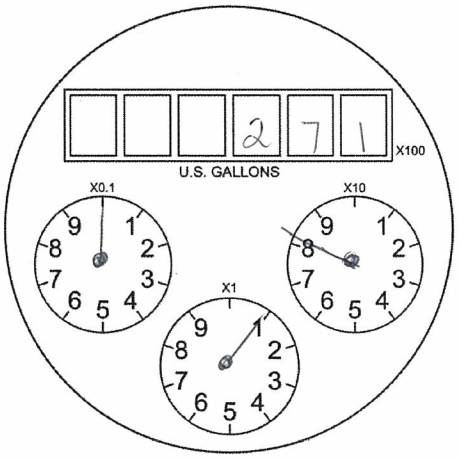
Filter Weight: 62.66g

Start Time: 22:25



End Time: 20:55

End Date: 6/2/2010



Sample ID: NBF-CB165B-060910-S

Notes: _____

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

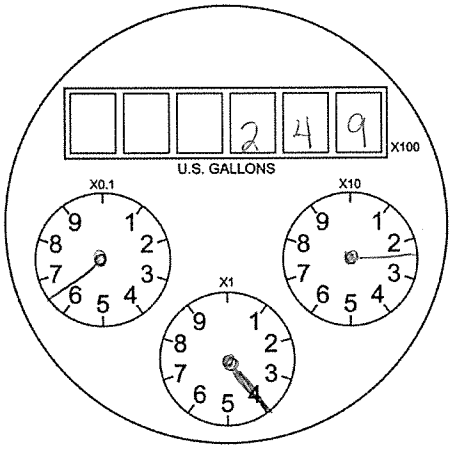
Sample Location: CB173 Start Date: 06/01/10

Filter A

Filter Number: 4

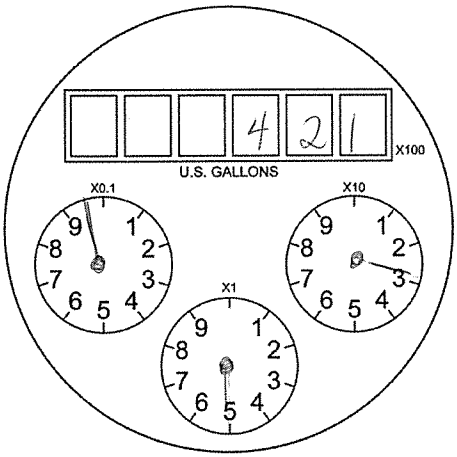
Filter Weight: 59.75g

Start Time: 22:30



End Time: 21:02

End Date: 6/2/2010



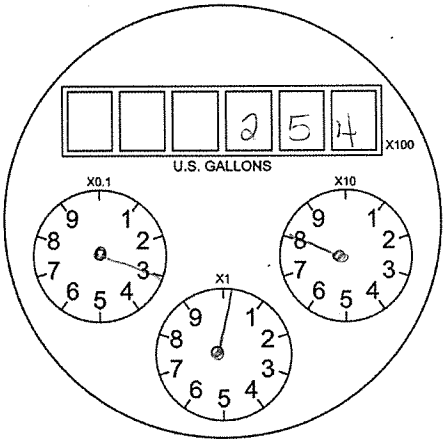
Sample ID: NBF-CB173A-060210-S

Filter B

Filter Number: 28

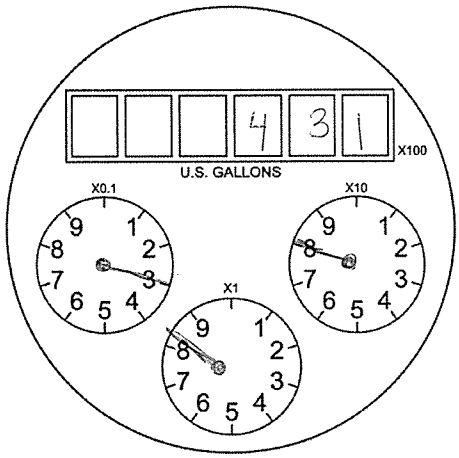
Filter Weight: 60.94g

Start Time: 22:30



End Time: 21:02

End Date: 6/2/2010



Sample ID: NBF-CB173B-060210-S

Notes: _____

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

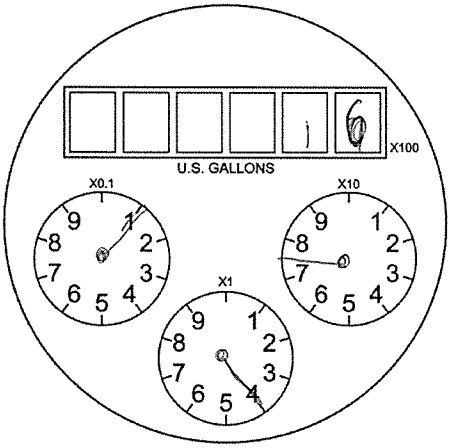
Sample Location: MH178 Start Date: 06/01/10

Filter A

Filter Number: 7

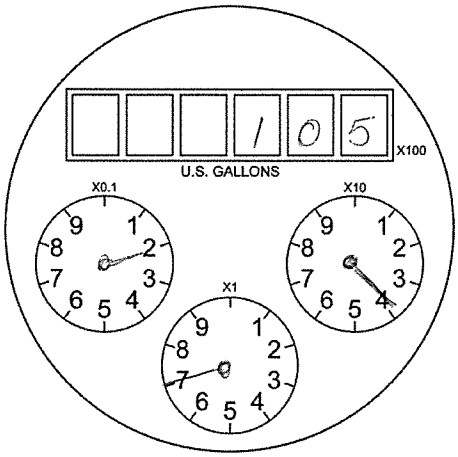
Filter Weight: 66.41 g

Start Time: 22:35



End Time: 20:58

End Date: 6/2/2010



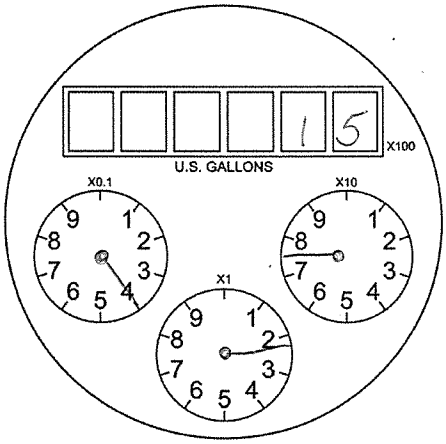
Sample ID: NBF-MH178A-060210-5

Filter B

Filter Number: 21

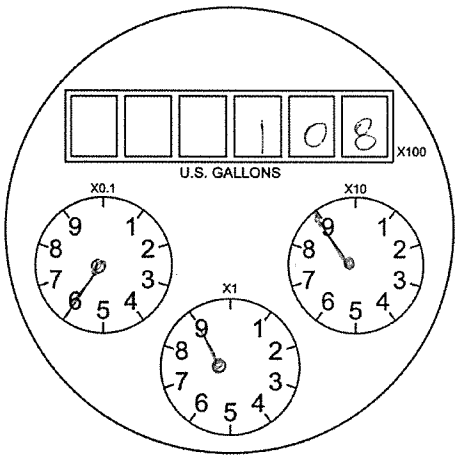
Filter Weight: 62.93 g

Start Time: 22:35



End Time: 20:58

End Date: 6/2/2010



Sample ID: NBF-MH178B-~~060210~~ 060310-5

Notes: MBF 6/2/10

Totalizer and Filter Bag Log:

SAIC® From Science to Solutions

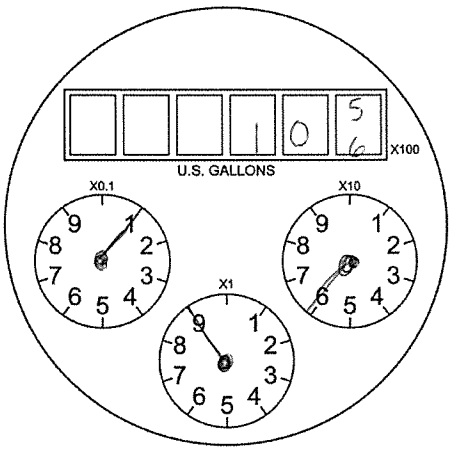
Sample Location: MH226 Start Date: 06/01/10

Filter A

Filter Number: #1

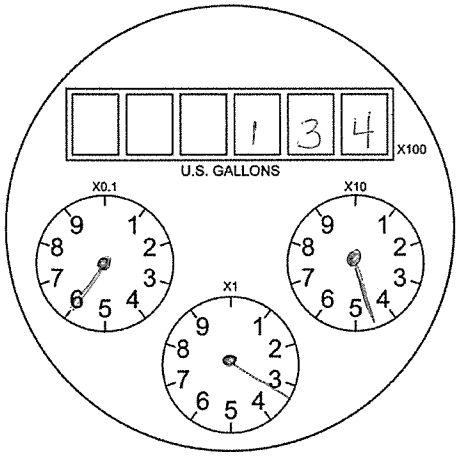
Filter Weight: 68.42 g

Start Time: 21:00



End Time: 20:32

End Date: 6/2/2010



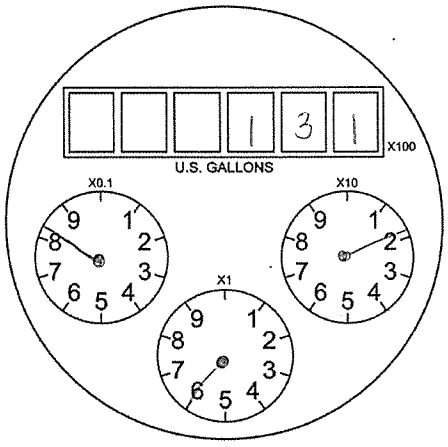
Sample ID: NBF-MH226A-060210-S

Filter B

Filter Number: #26

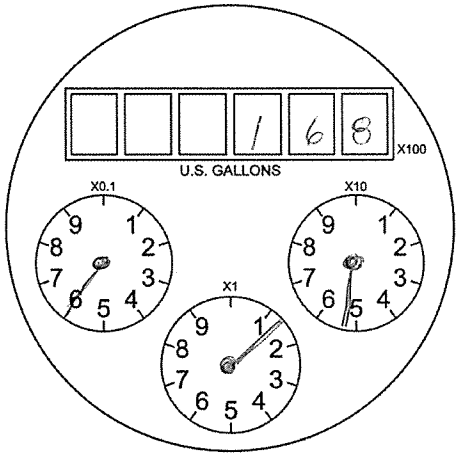
Filter Weight: 61.33g

Start Time: 21:00



End Time: 20:32

End Date: 6/2/2010



Sample ID: NBF-MH226B-060210-S

Notes: _____

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

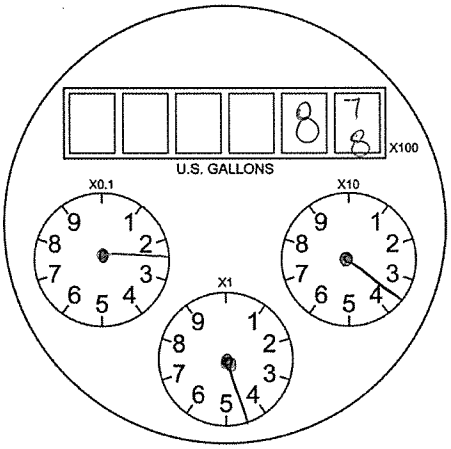
Sample Location: MH356 Start Date: 06/01/10

Filter A

Filter Number: #18

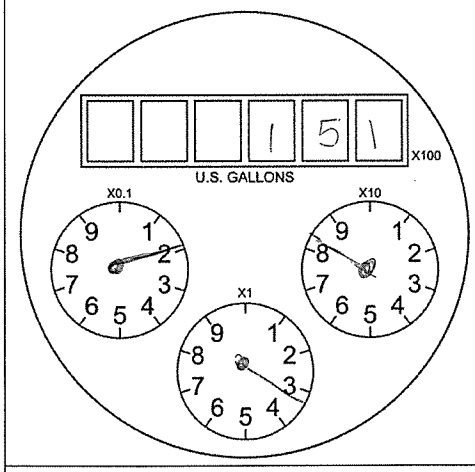
Filter Weight: 61.05g

Start Time: 21:26



End Time: 20:05

End Date: 6/2/2010



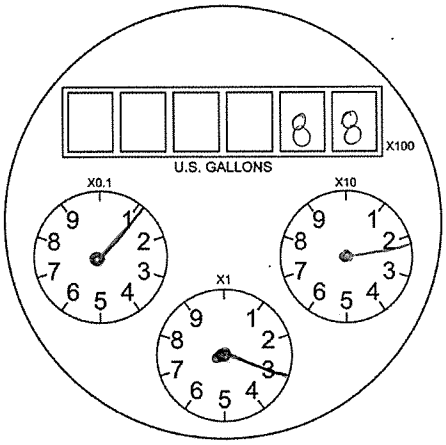
Sample ID: NBF-MH356A-060210-S

Filter B

Filter Number: #39

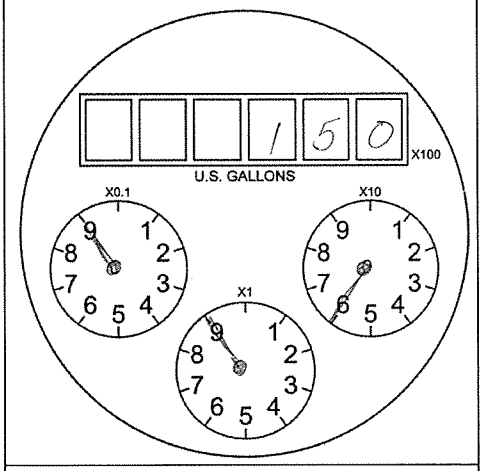
Filter Weight: 59.98g

Start Time: 21:26



End Time: 20:05

End Date: 6/2/2010



Sample ID: NBF-MH356-060210-S

Notes:

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

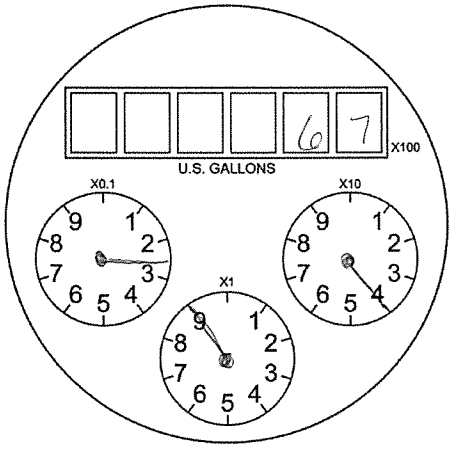
Sample Location: MH369 Start Date: 06/10 01/10 MBS

Filter A

Filter Number: #22

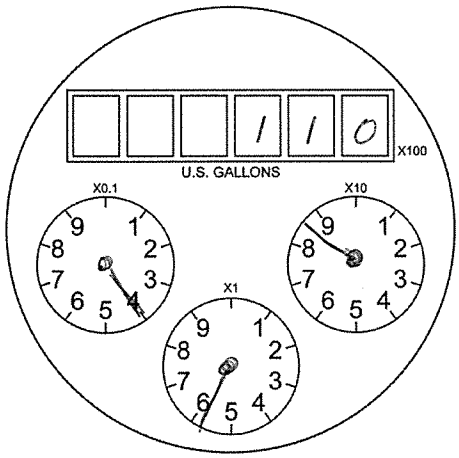
Filter Weight: 63.5g

Start Time: 21:44



End Time: 20:26

End Date: 6/2/2010



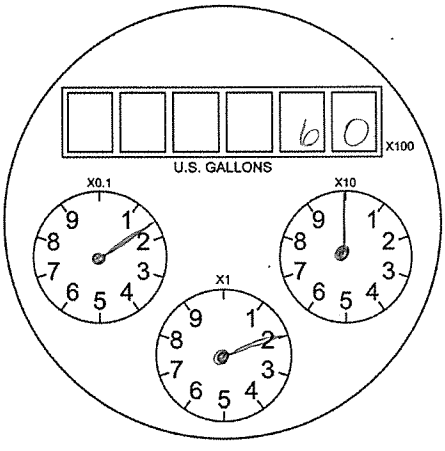
Sample ID: NBF-MH369A-060210-S

Filter B

Filter Number: #32

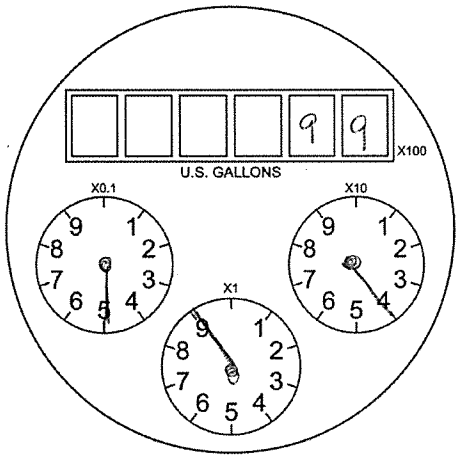
Filter Weight: 62.40g

Start Time: 21:44



End Time: 20:26

End Date: 6/2/2010



Sample ID: NBF-MH369B-060210-S

Notes: _____

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

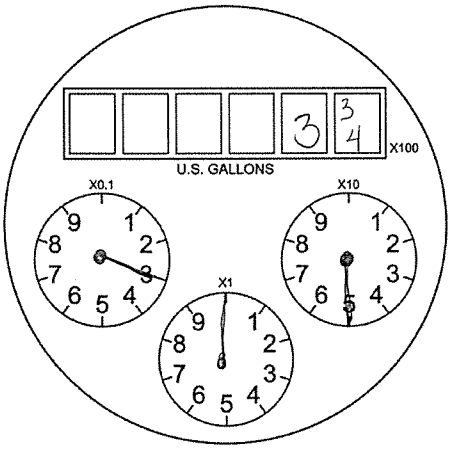
Sample Location: MH423 Start Date: 06/01/10

Filter A

Filter Number: #13

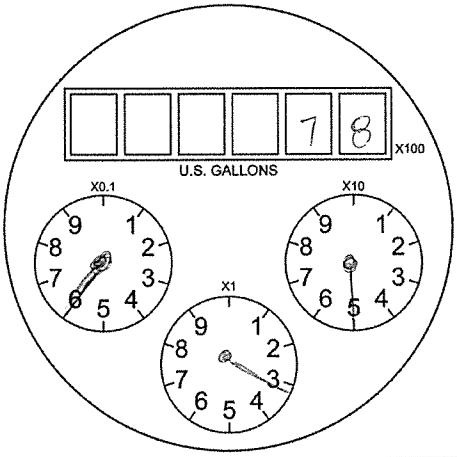
Filter Weight: 62.29

Start Time: 21 : 07



End Time: 20 : 15

End Date: 6/2/2010



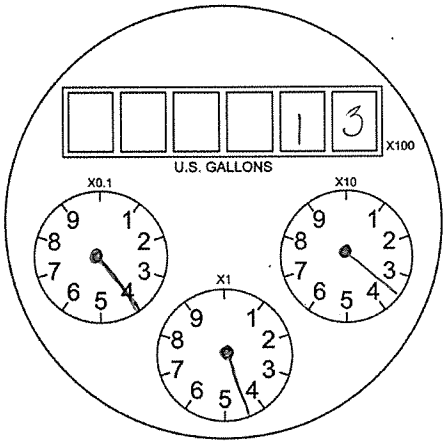
Sample ID: NBF-MH423A-060210-S

Filter B

Filter Number: #14

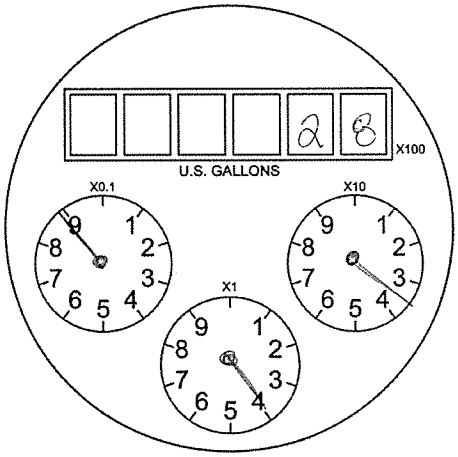
Filter Weight: 58.039

Start Time: 21 : 07



End Time: 20 : 15

End Date: 6/2/2010



Sample ID: NBF-MH423B-060210-S

Notes:

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

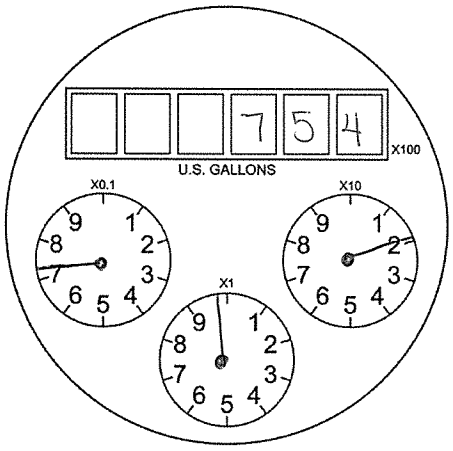
Sample Location: LS431 Start Date: 06/01/10

Filter A

Filter Number: 12

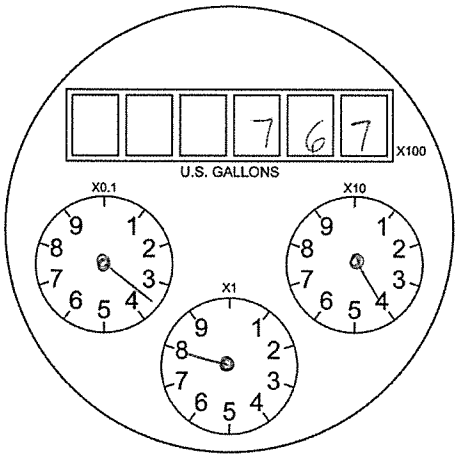
Filter Weight: 62.24g

Start Time: 21 : 17



End Time: 20 : 17

End Date: 6/2/2010



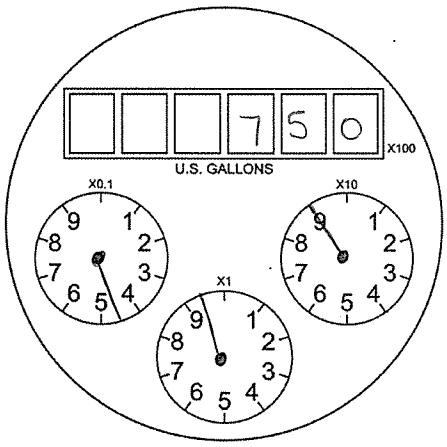
Sample ID: NBF-LS431A-060210-S

Filter B

Filter Number: 15

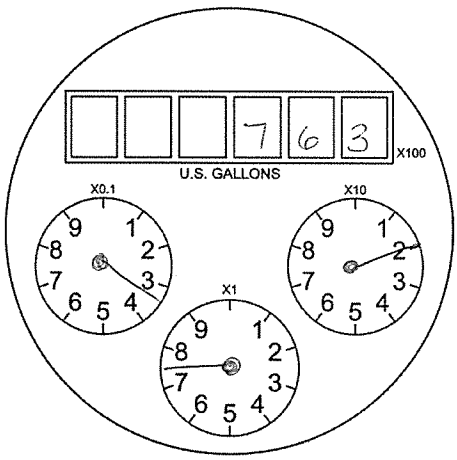
Filter Weight: 58.93g

Start Time: 21 : 17



End Time: 20 : 17

End Date: 6/2/2010



Sample ID: NBF-LS431B-060810-S

Notes: _____

Totalizer and Filter Bag Log:

SAIC
From Science to Solutions

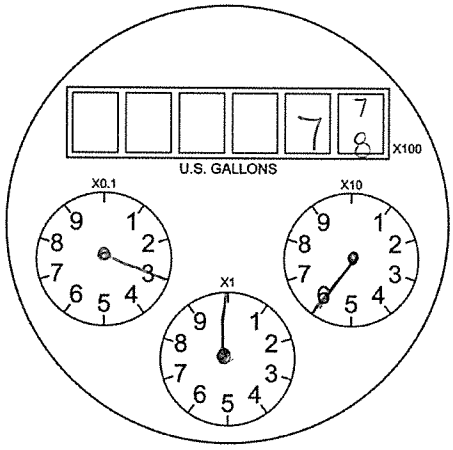
Sample Location: MH434 Start Date: 06/01/10

Filter A

Filter Number: 29

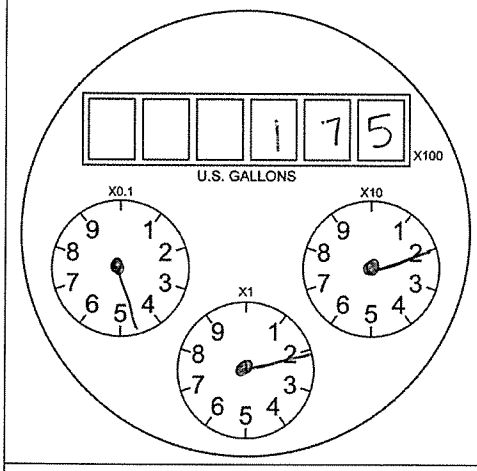
Filter Weight: 62.00g

Start Time: 21 : 31



End Time: 20 : 00

End Date: 6/2/2010



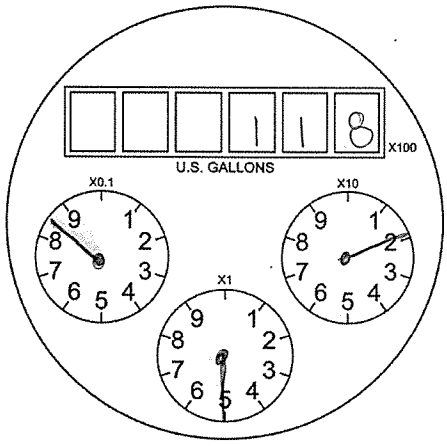
Sample ID: NBF-MH434A-060810-S

Filter B

Filter Number: 2

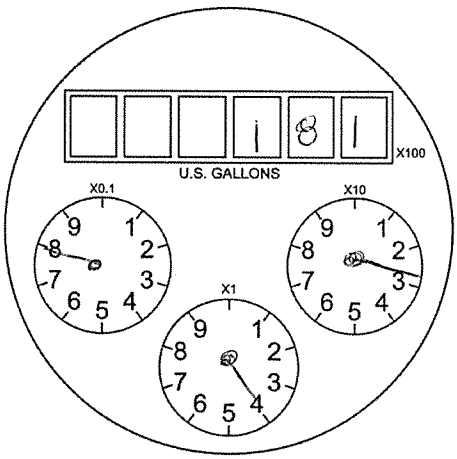
Filter Weight: 62.64g

Start Time: 21 : 31



End Time: 20 : 00

End Date: 6/2/2010



Sample ID: NBF-MH434B-060810-S

Notes:

Totalizer and Filter Bag Log:

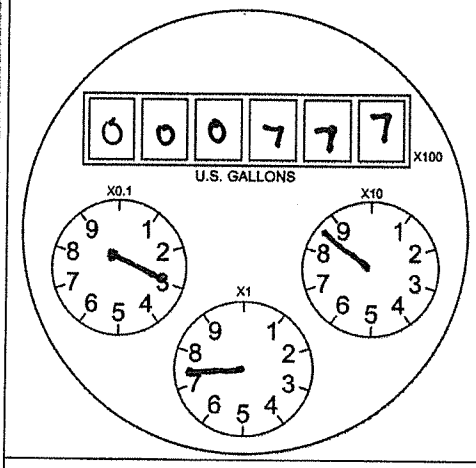
SAIC
From Science to Solutions

Sample Location: LS431 1600 Start Date: 6/29/10

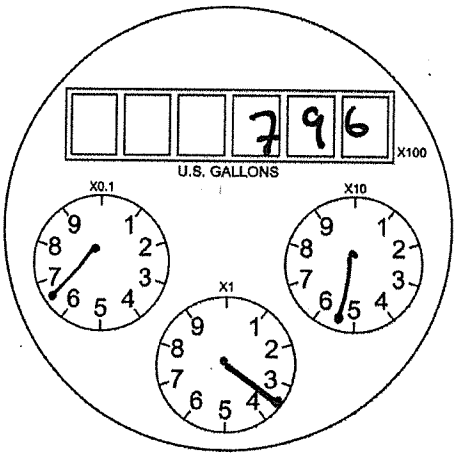
Filter A

Filter Number: #4 58.88

Start Time: 16 : 00



End Time: 11 : 20

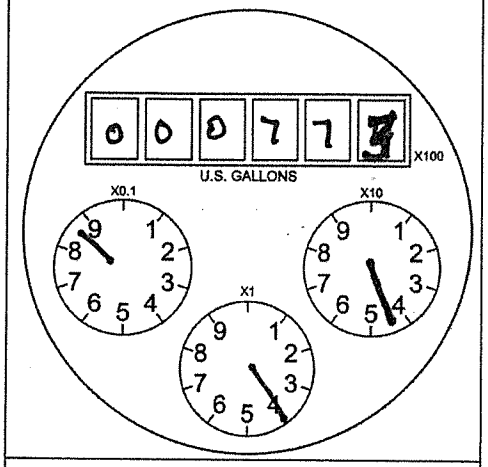


Sample ID:

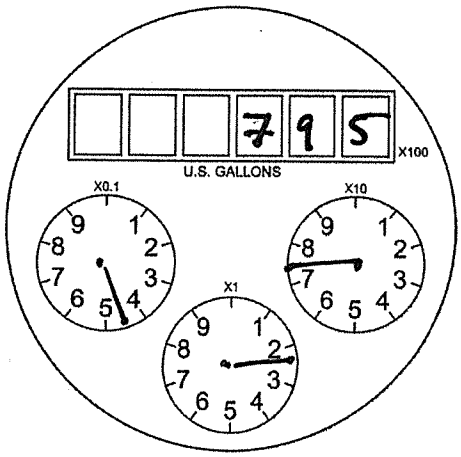
Filter B

Filter Number: #5 62.94

Start Time: 16 : 00



End Time: 11 : 20 6/30/10



Sample ID:

Notes: NBF-LS431A-063010-S

NBF-LS431B-063010-S

Totalizer and Filter Bag Log:

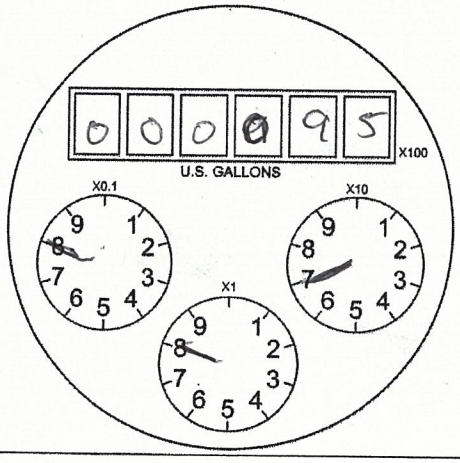
SAIC
From Science to Solutions

Sample Location: MH 108 Start Date: 6/24/10 1615

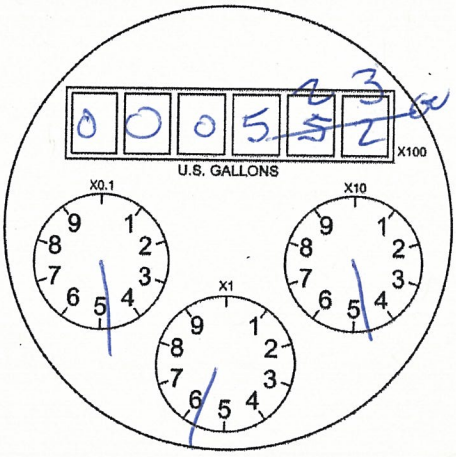
Filter A

Filter Number: ~~#1~~ 57.89 g

Start Time: 18:34



End Time: 11:20

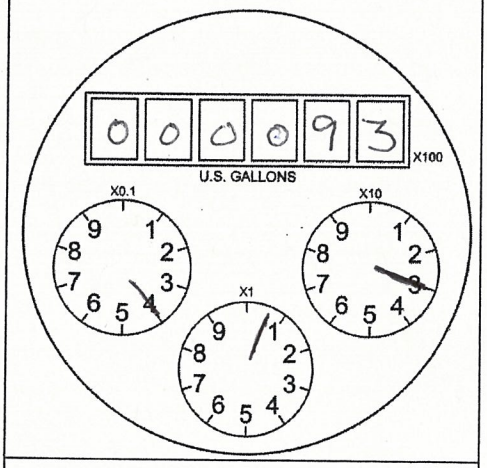


Sample ID:

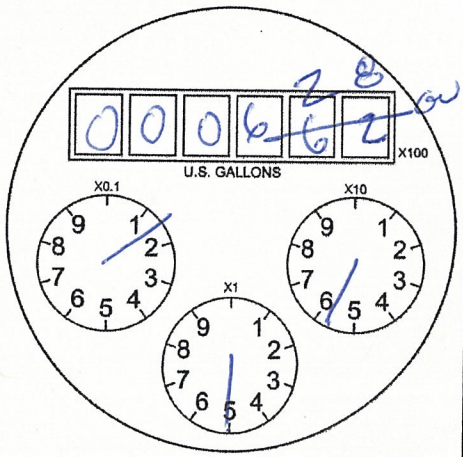
Filter B

Filter Number: ~~#19~~ 61.27 g

Start Time: 18:34



End Time: 11:20 6/~~25~~ 39/10



Sample ID:

Notes:

Totalizer and Filter Bag Log:

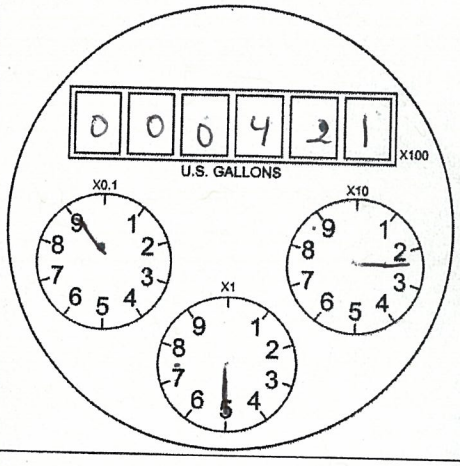
SAIC
From Science to Solutions

Sample Location: CB173 Start Date: 6/24/10 1715

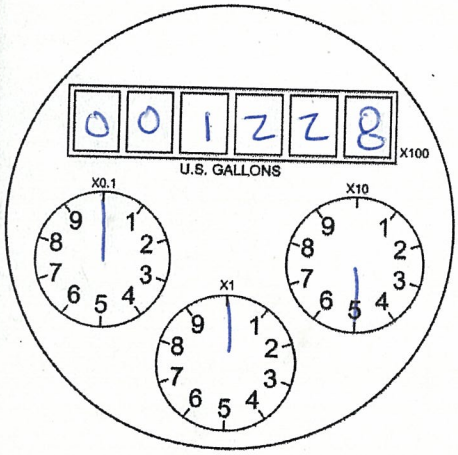
Filter A

Filter Number: 05.11

Start Time: 17 : 15



End Time: 11 : 30

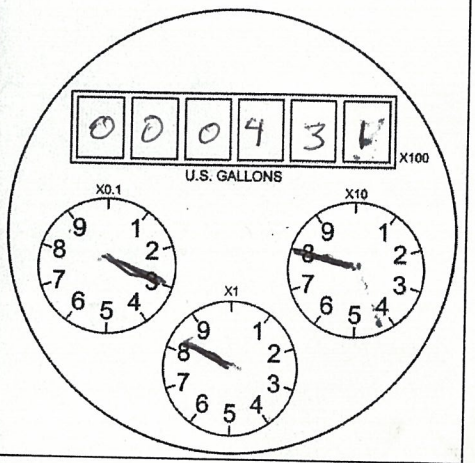


Sample ID:

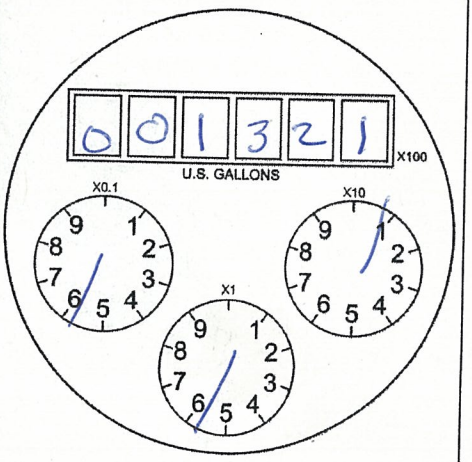
Filter B

Filter Number: 59.02

Start Time: 17 : 15



End Time: 11 : 30 6/30/10



Sample ID:

Notes:

Appendix B

Monthly Precipitation Summaries

Appendix B includes figures showing the storm hydrographs for Events 6 through 10 at locations with installed flow meters. The storm hydrographs for LS431 and MH108 include marks showing when the whole water sample aliquots were collected. Hydrographs showing the flow conditions during base flow sampling at MH108 and LS431 are also presented. Precipitation from the nearby KBFI (Figure 1) rain gauge is included on all figures.

Separate figures showing the storm hydrographs and measured tidal height are shown for each event at LS431 and MH434. These figures show the portion of each sampling event that was affected by tidal influx.

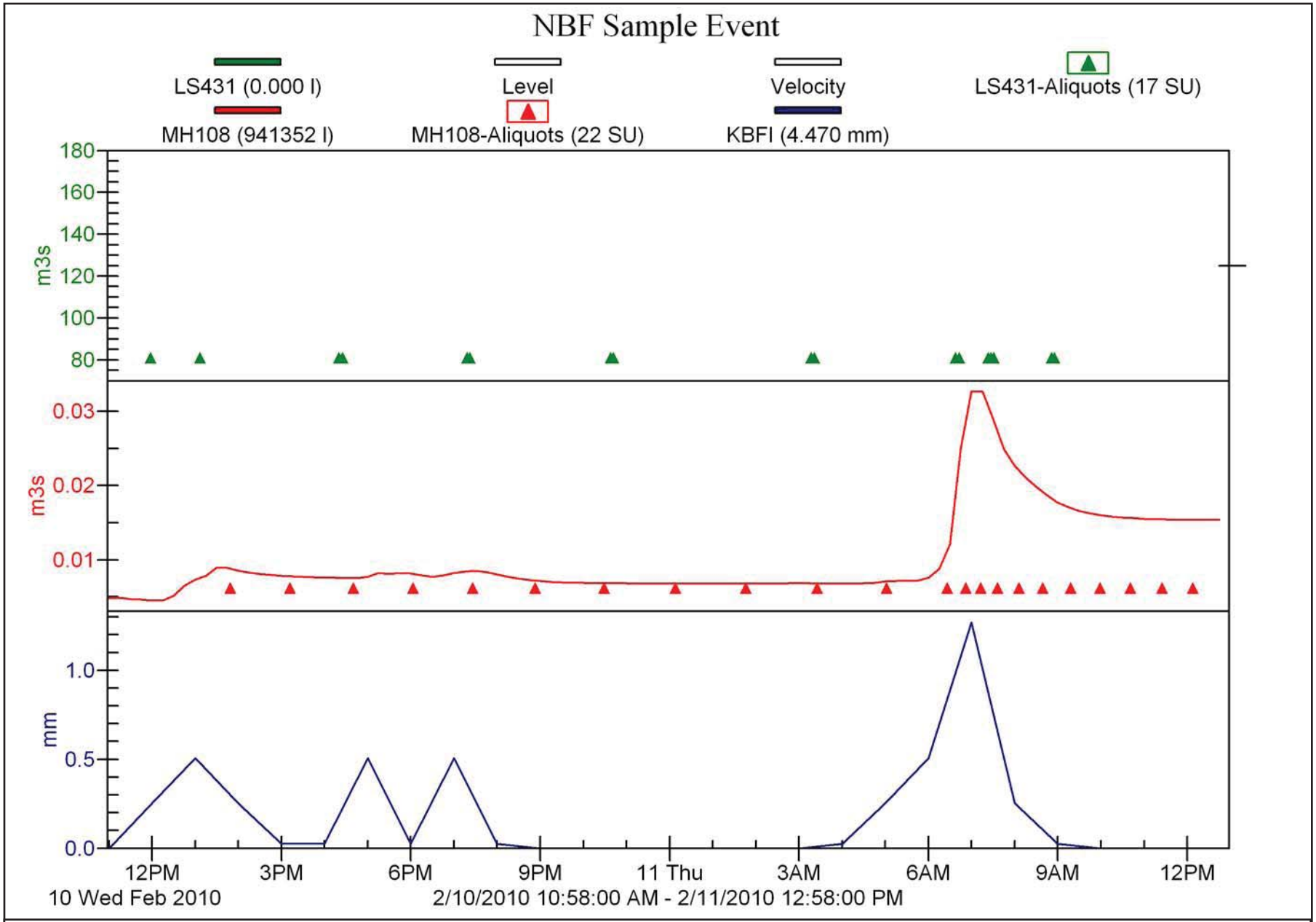


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Figure B–1. Storm Hydrographs and Precipitation for Event 6

DEPARTMENT OF ECOLOGY State of Washington

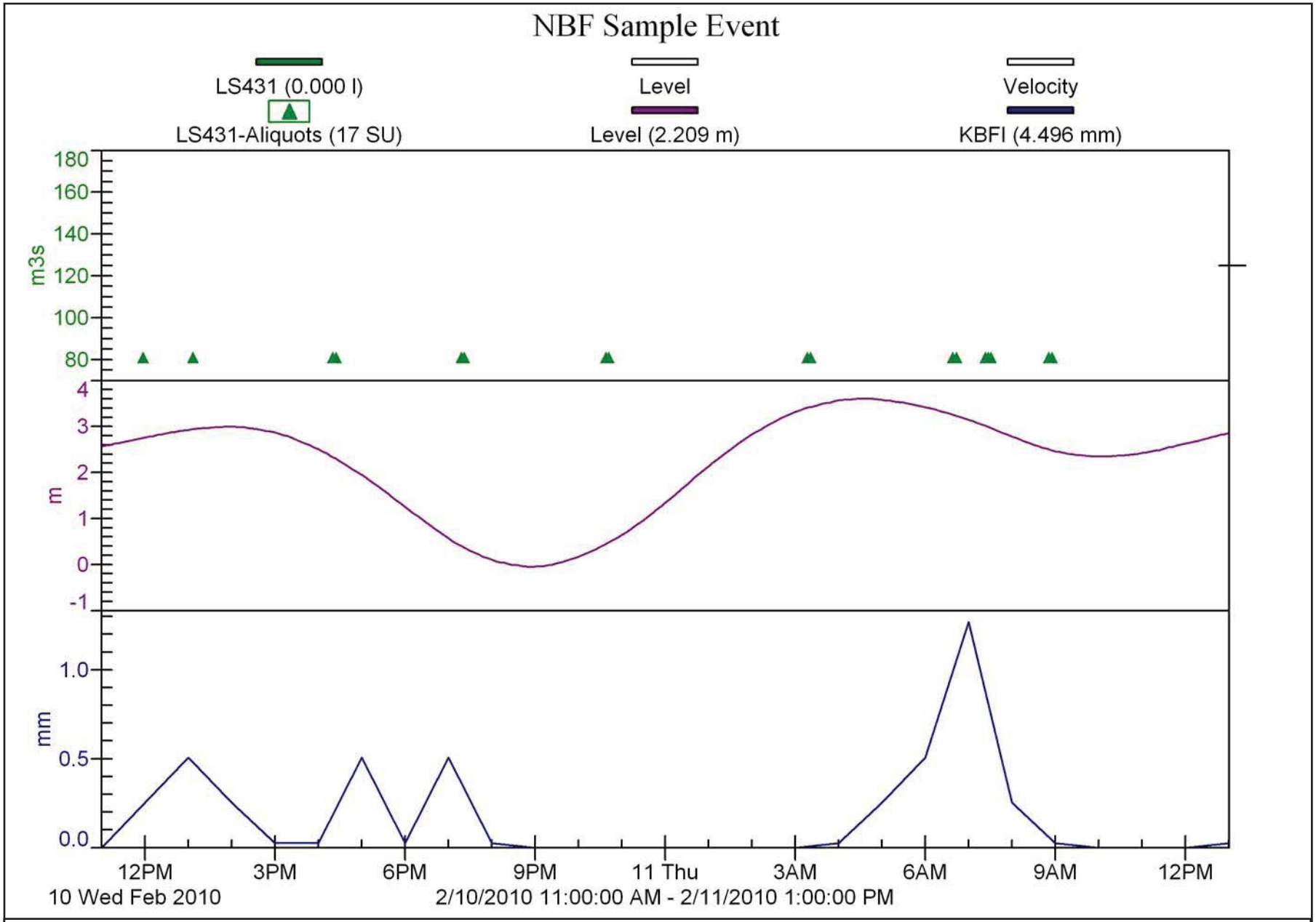

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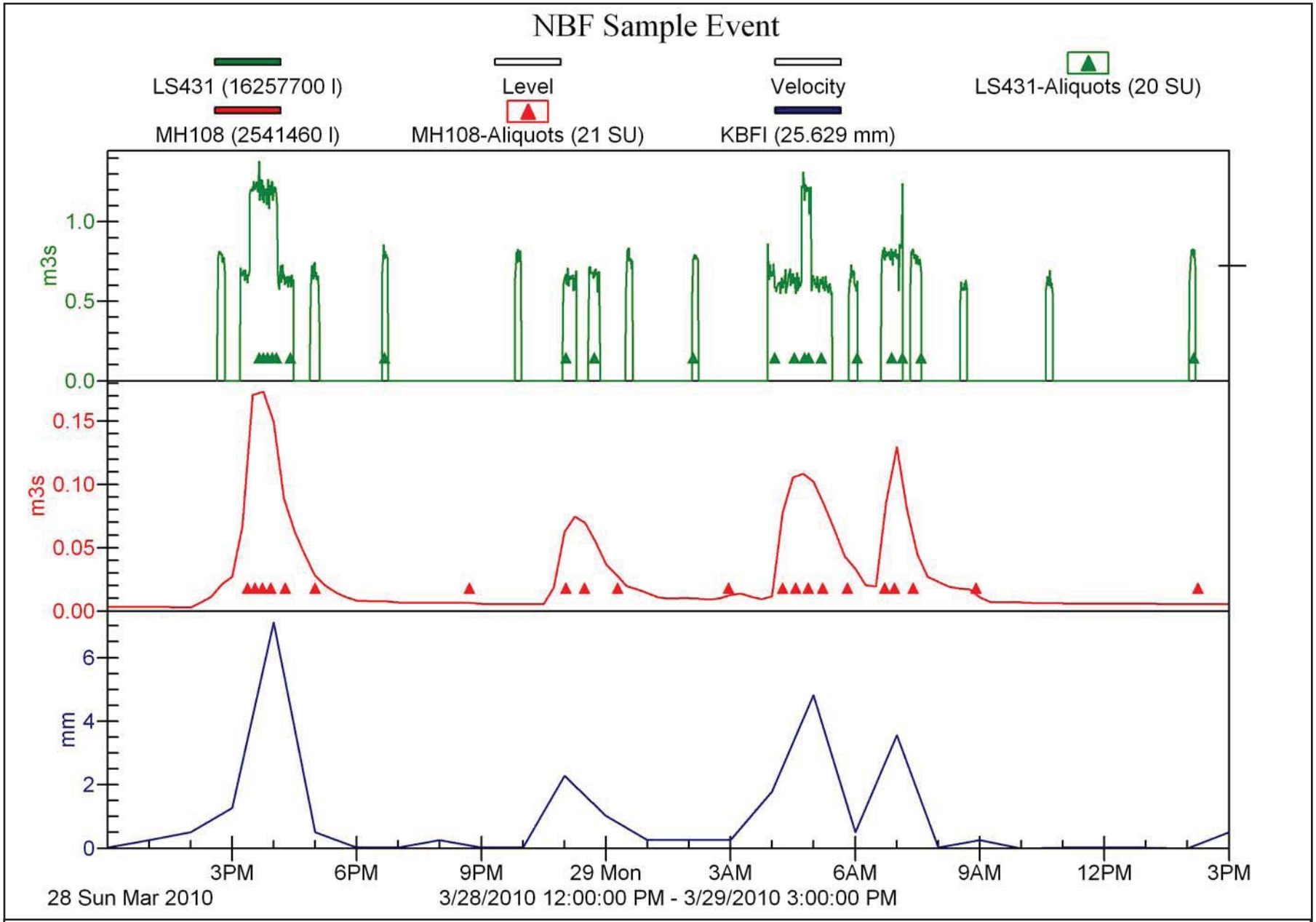
Figure B–2. Storm Hydrograph and Tidal Height for LS431 Event 6

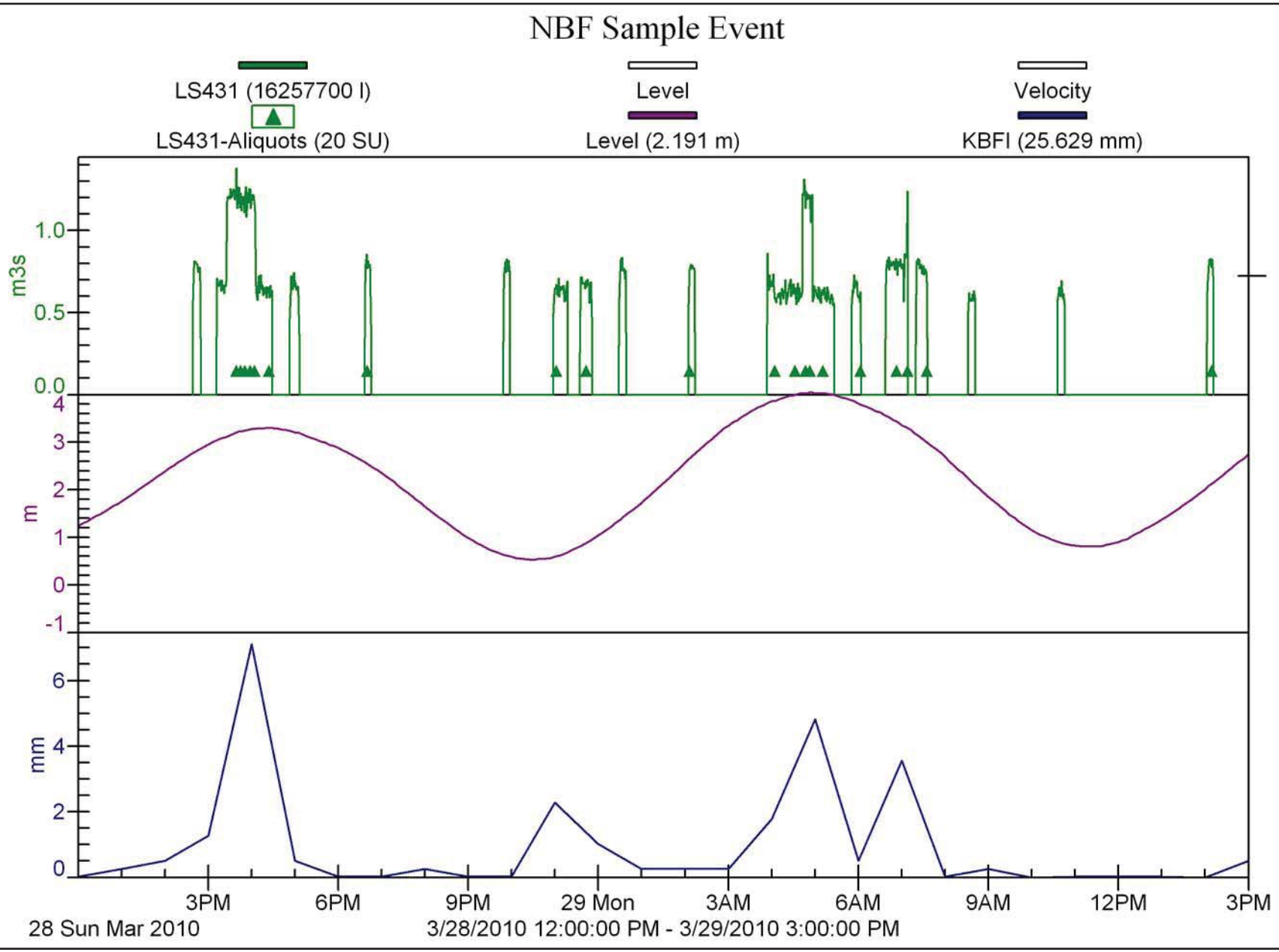
DEPARTMENT OF ECOLOGY State of Washington



SAIC From Science to Solutions

Figure B–3. Storm Hydrographs and Precipitation for Event 7

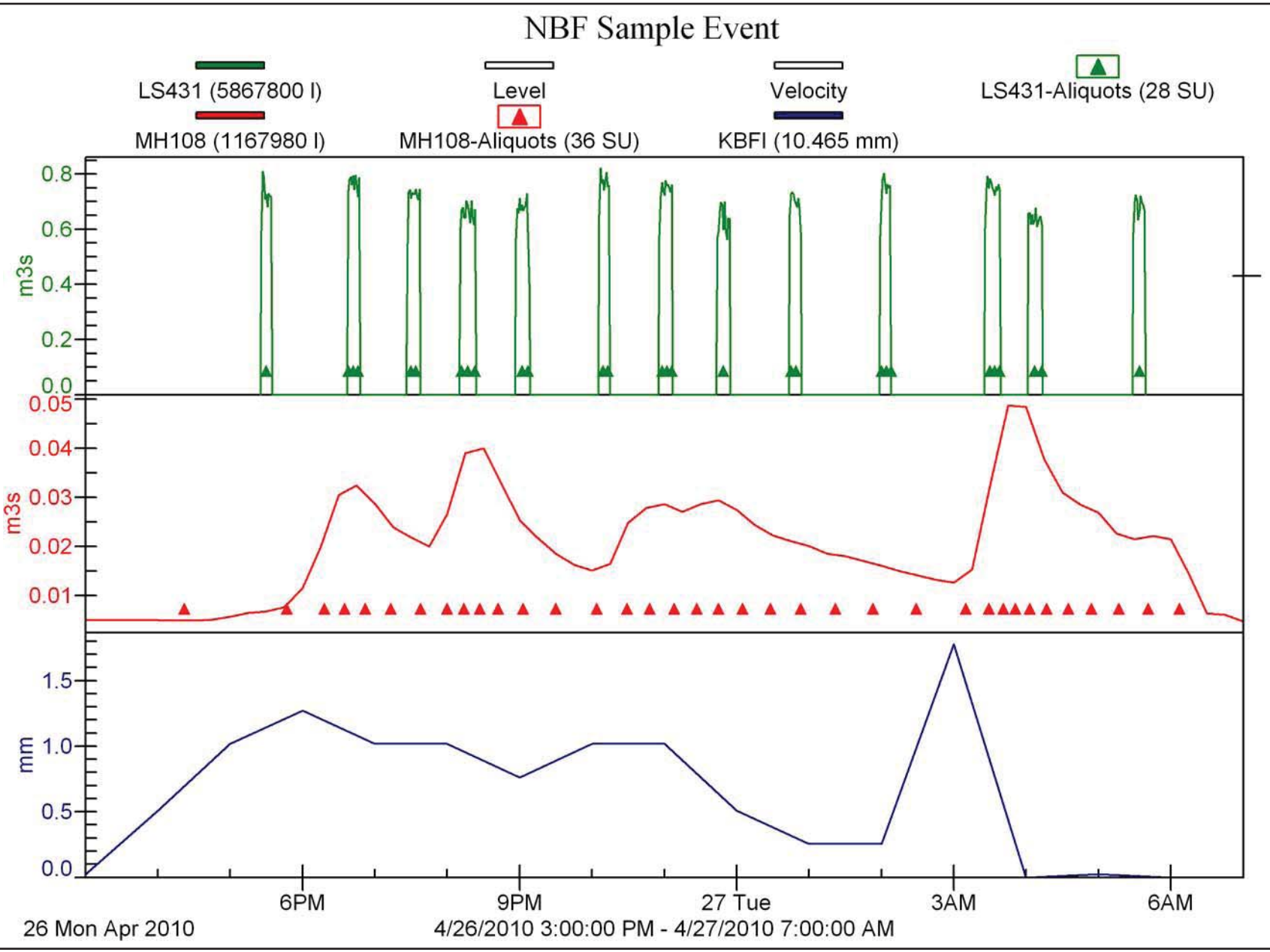
DEPARTMENT OF ECOLOGY State of Washington



SAIC From Science to Solutions

Figure B–4. Storm Hydrograph and Tidal Height for LS431 Event 7

DEPARTMENT OF ECOLOGY State of Washington



SAIC® From Science to Solutions

Figure B–5. Storm Hydrographs and Precipitation for Event 8

DEPARTMENT OF ECOLOGY State of Washington

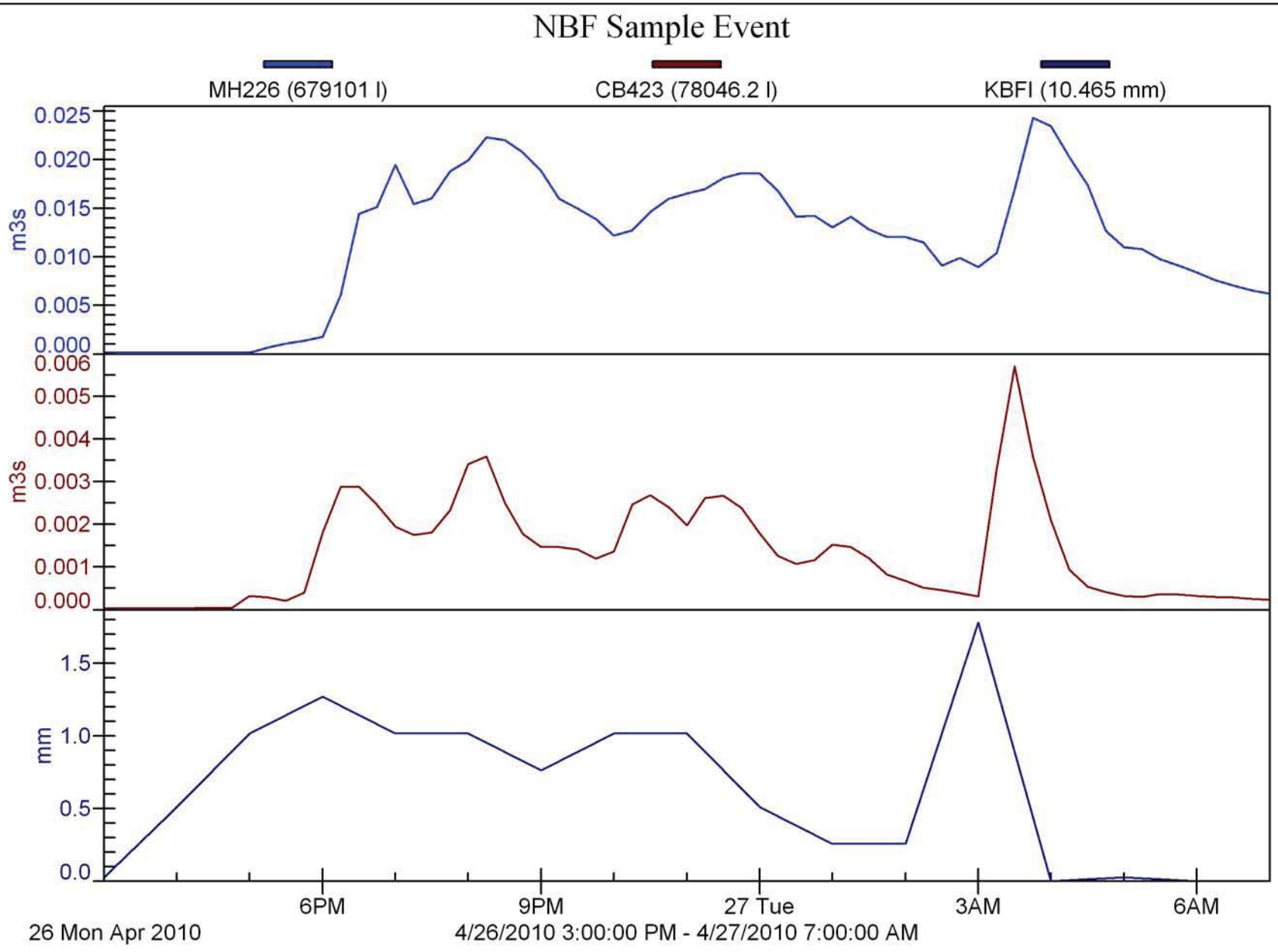
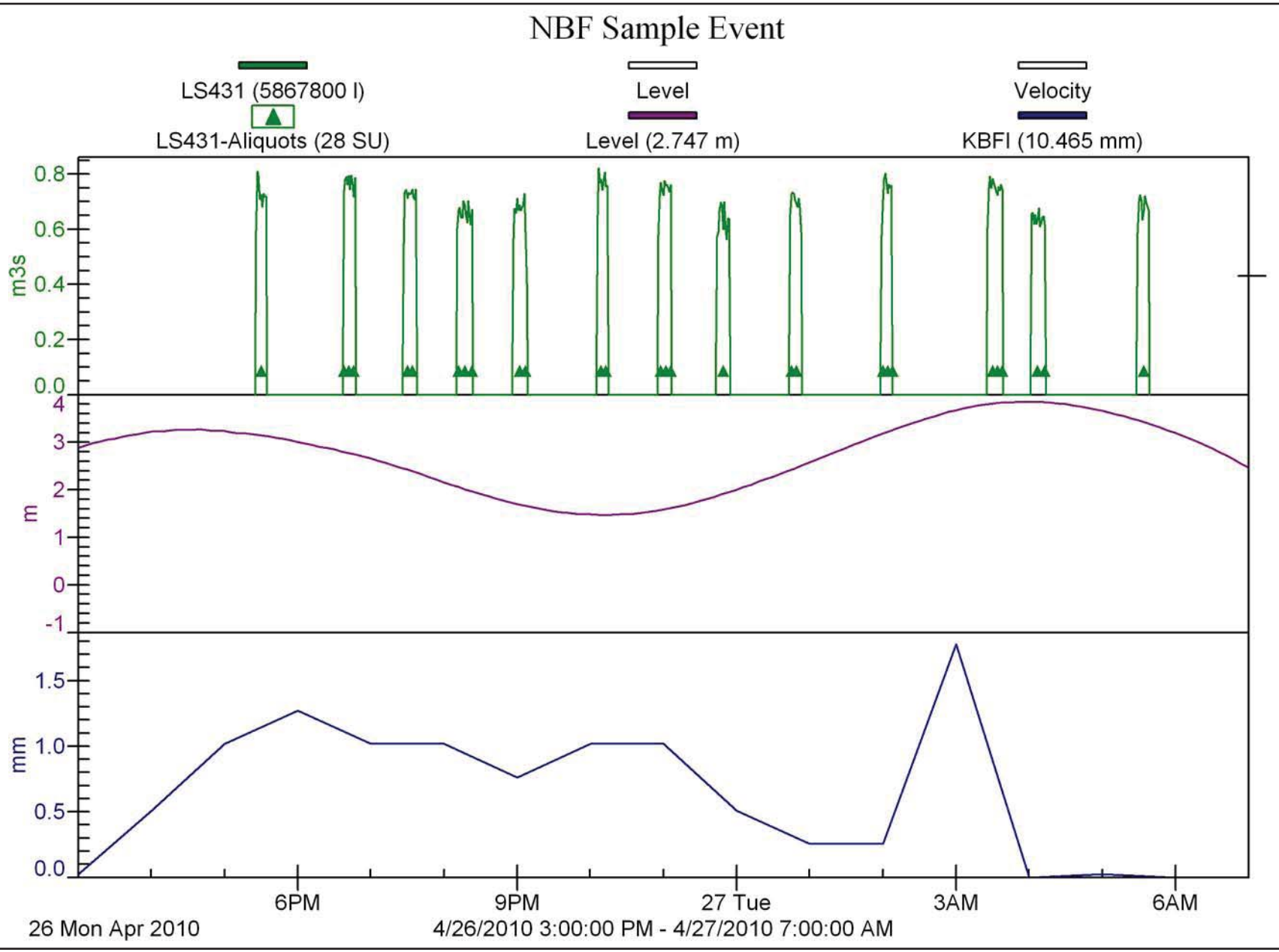


Figure B–6. Storm Hydrographs and Precipitation for Event 8 (continued)



SAIC® From Science to Solutions

Figure B–7. Storm Hydrograph and Tidal Height for LS431 Event 8

DEPARTMENT OF ECOLOGY State of Washington

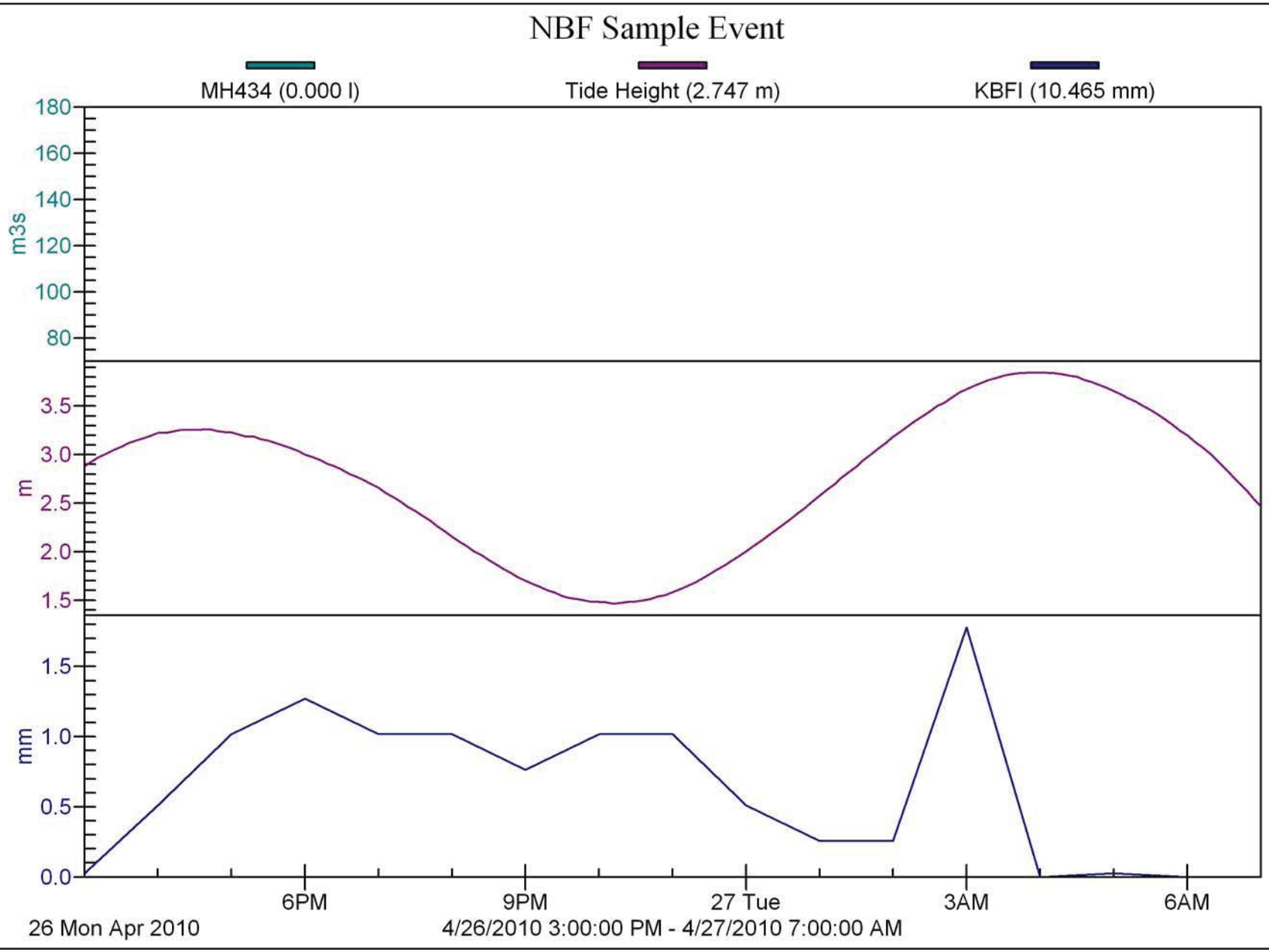


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Figure B–8. Storm Hydrograph and Tidal Height for MH434 Event 8

DEPARTMENT OF ECOLOGY State of Washington

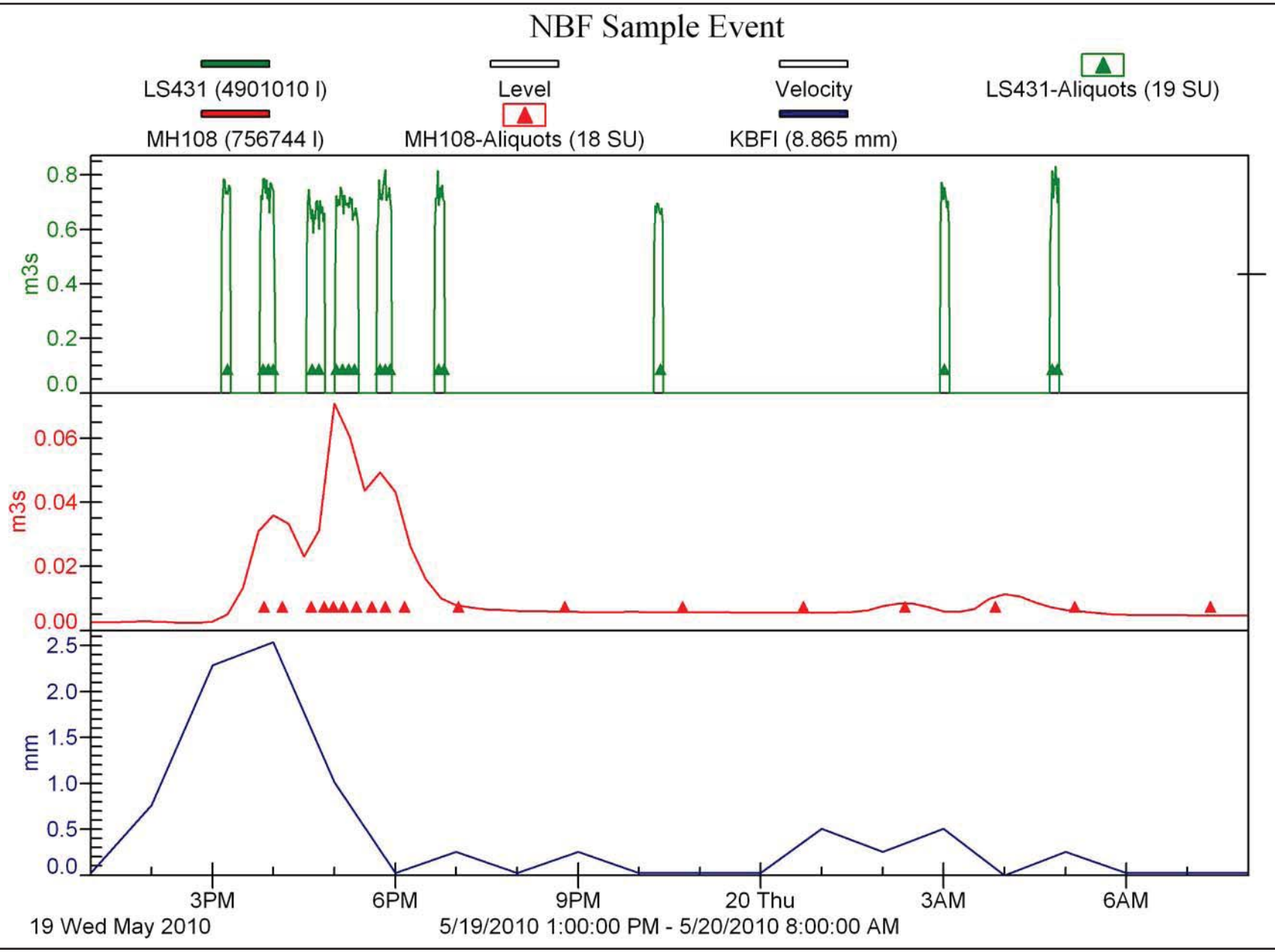

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Figure B–9. Storm Hydrographs and Precipitation for Event 9

DEPARTMENT OF ECOLOGY State of Washington

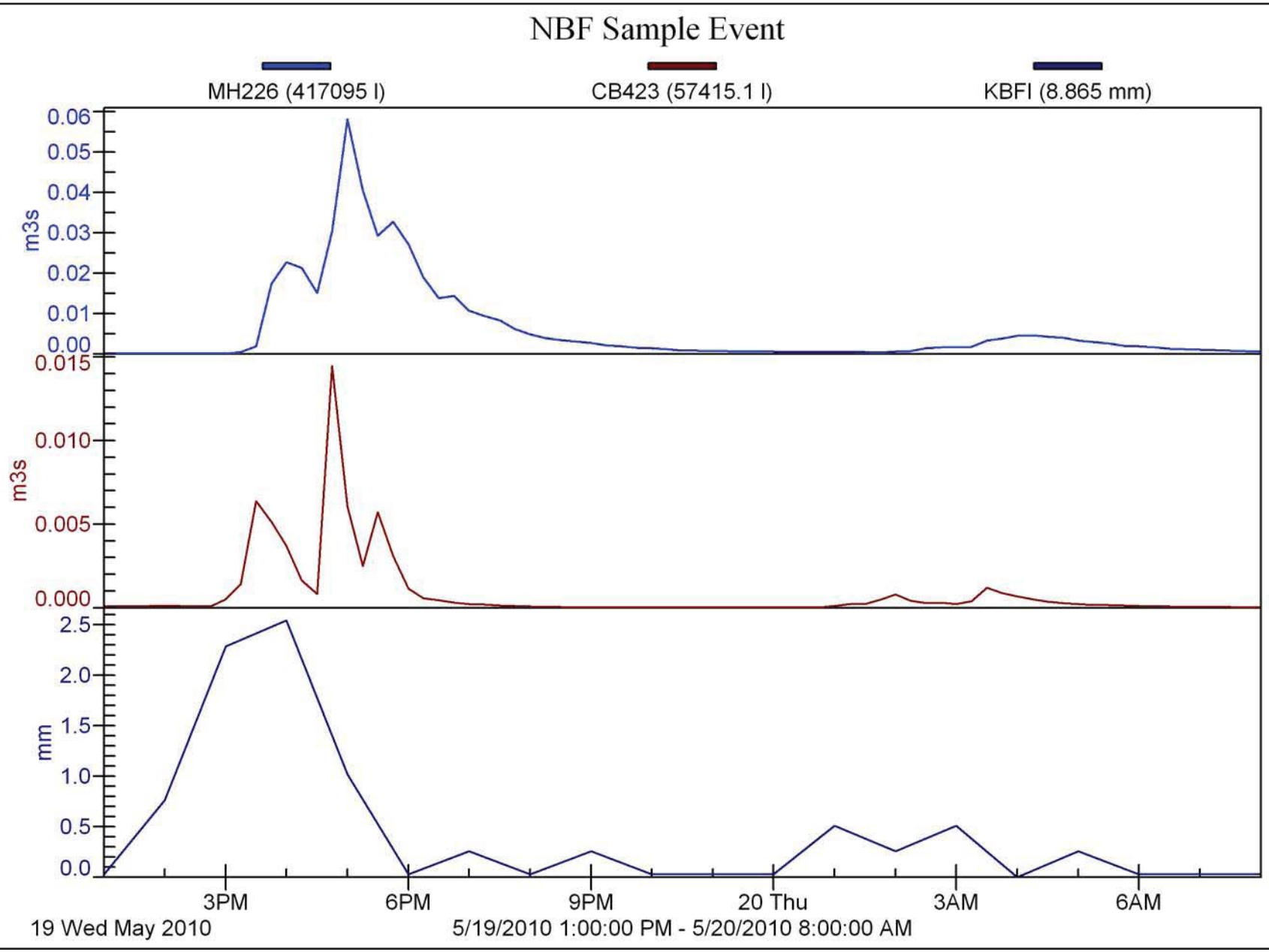

Figure B–10. Storm Hydrographs and Precipitation for Event 9 (continued)

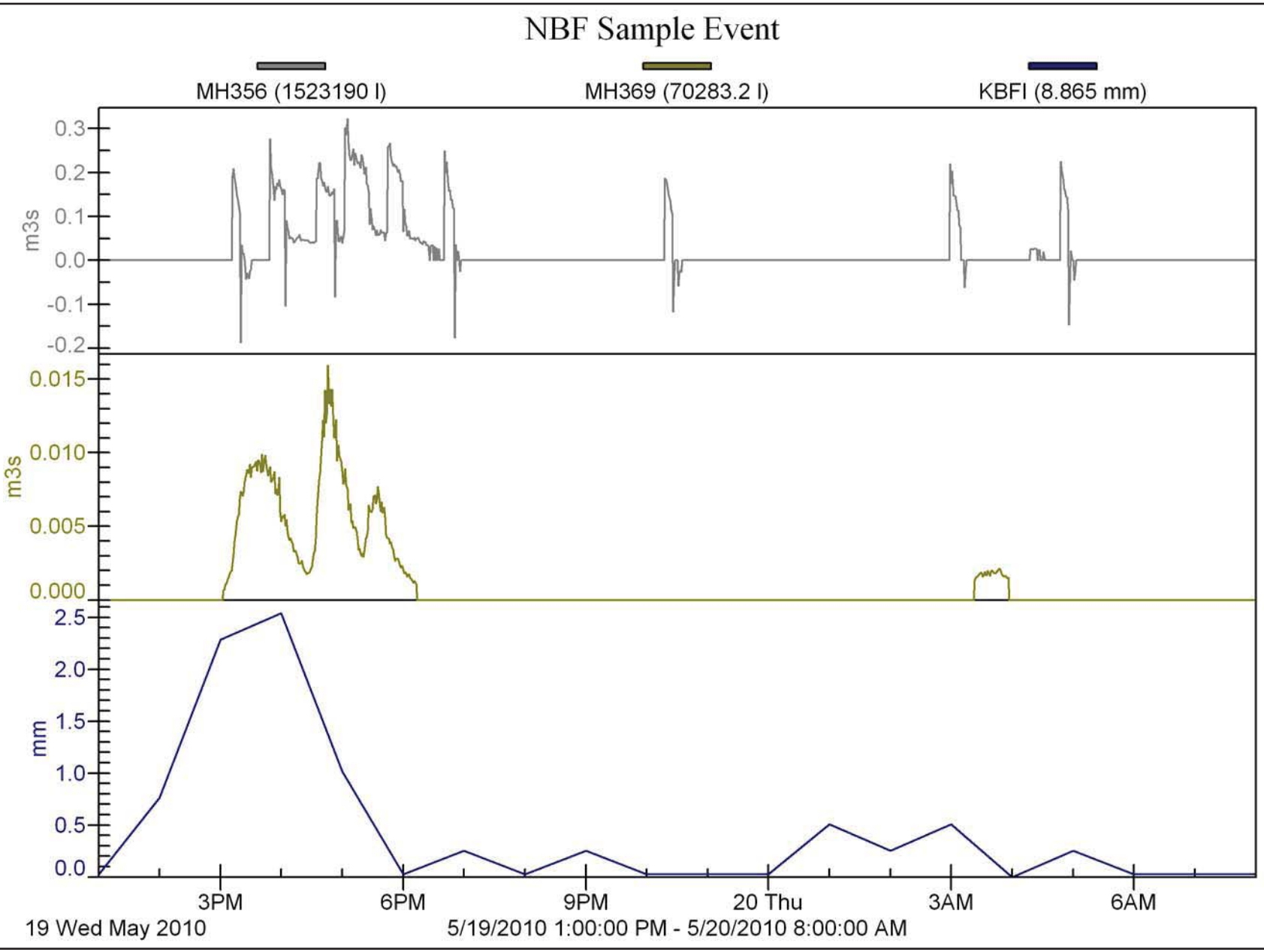

Figure B–11. Storm Hydrographs and Precipitation for Event 9 (continued)

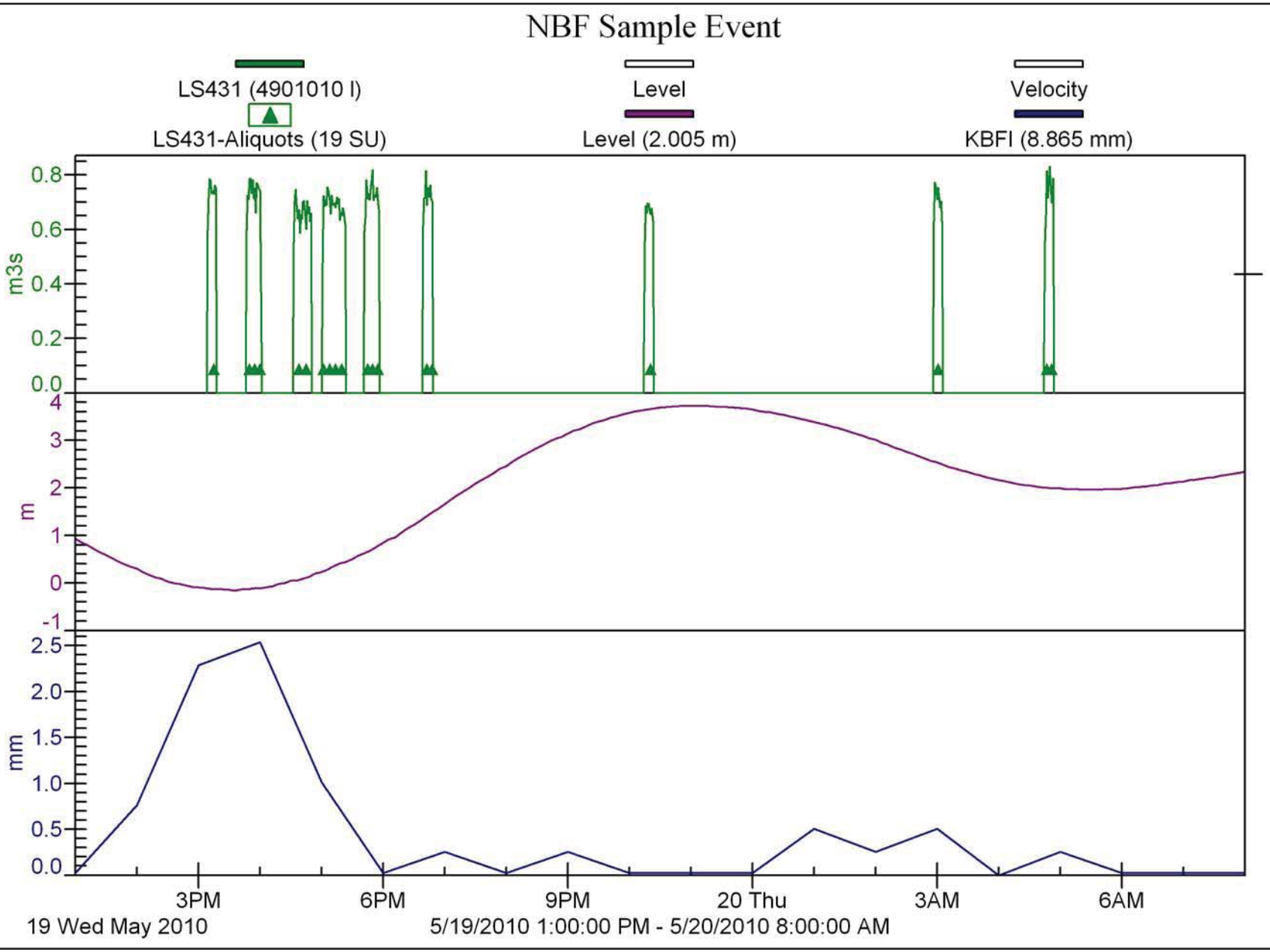

Figure B–12. Storm Hydrograph and Tidal Height for LS431 Event 9

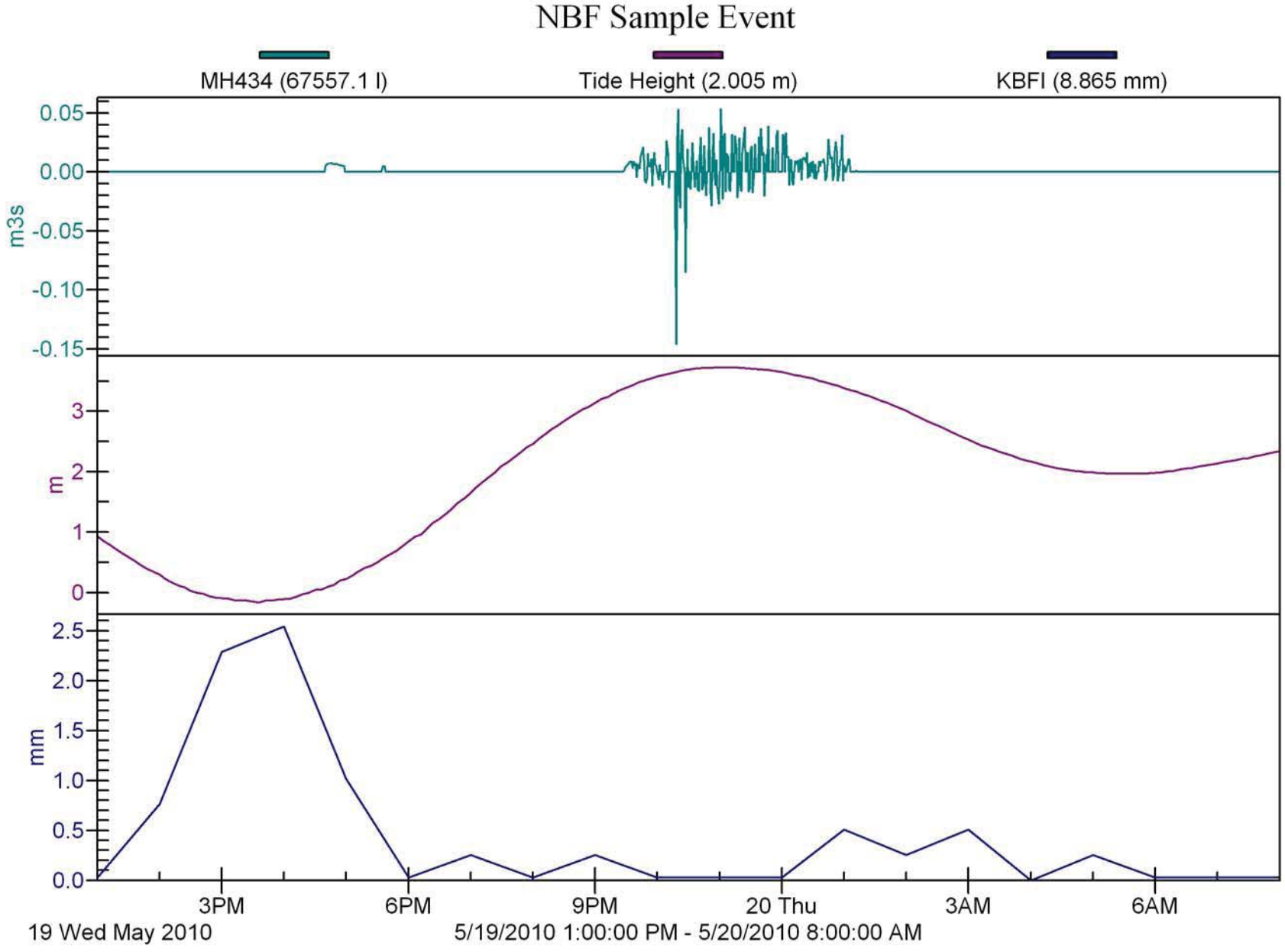

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Figure B–13. Storm Hydrograph and Tidal Height for MH434 Event 9

DEPARTMENT OF ECOLOGY State of Washington

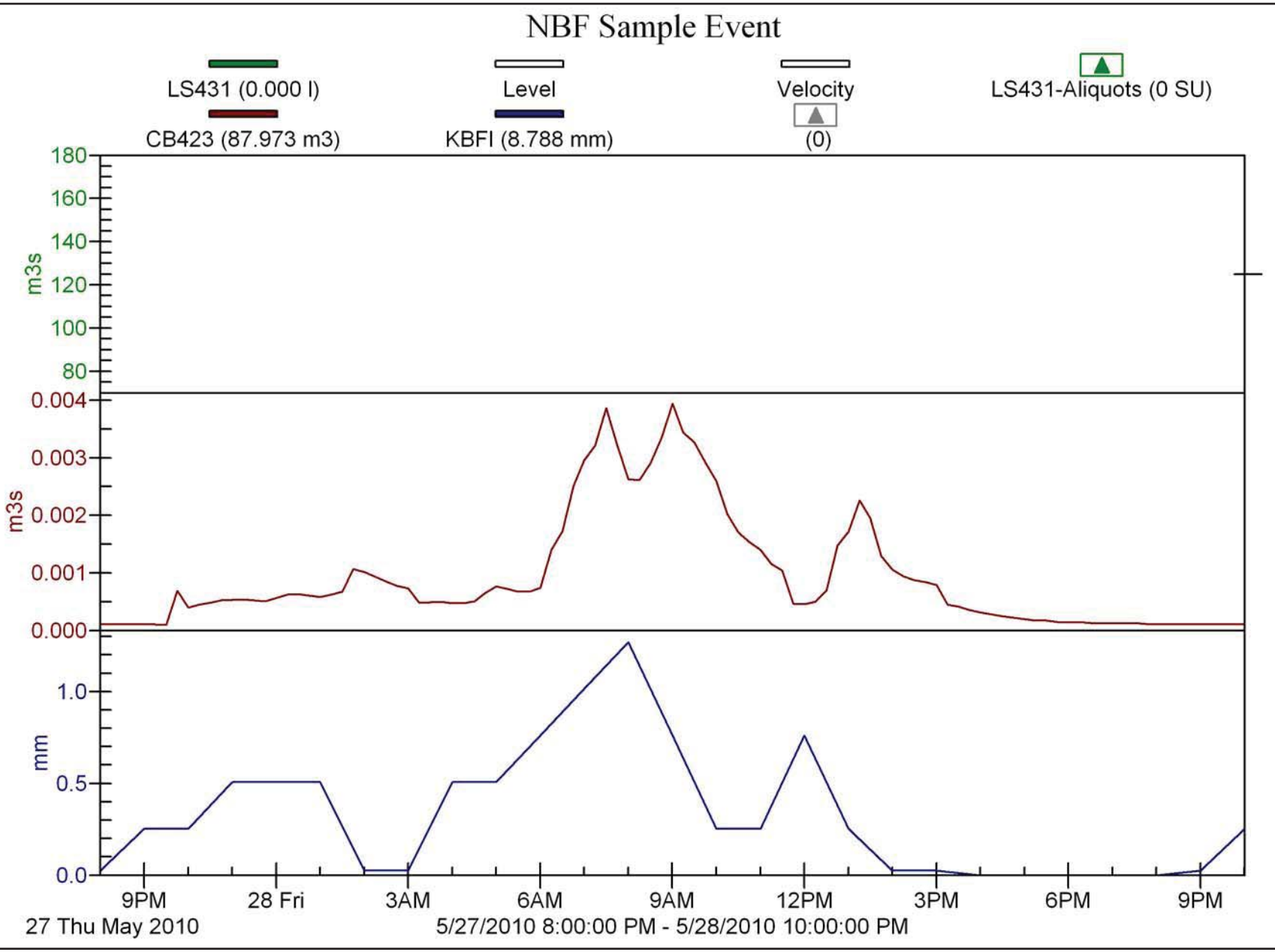

Figure B–14. Storm Hydrographs and Precipitation for Event 9b

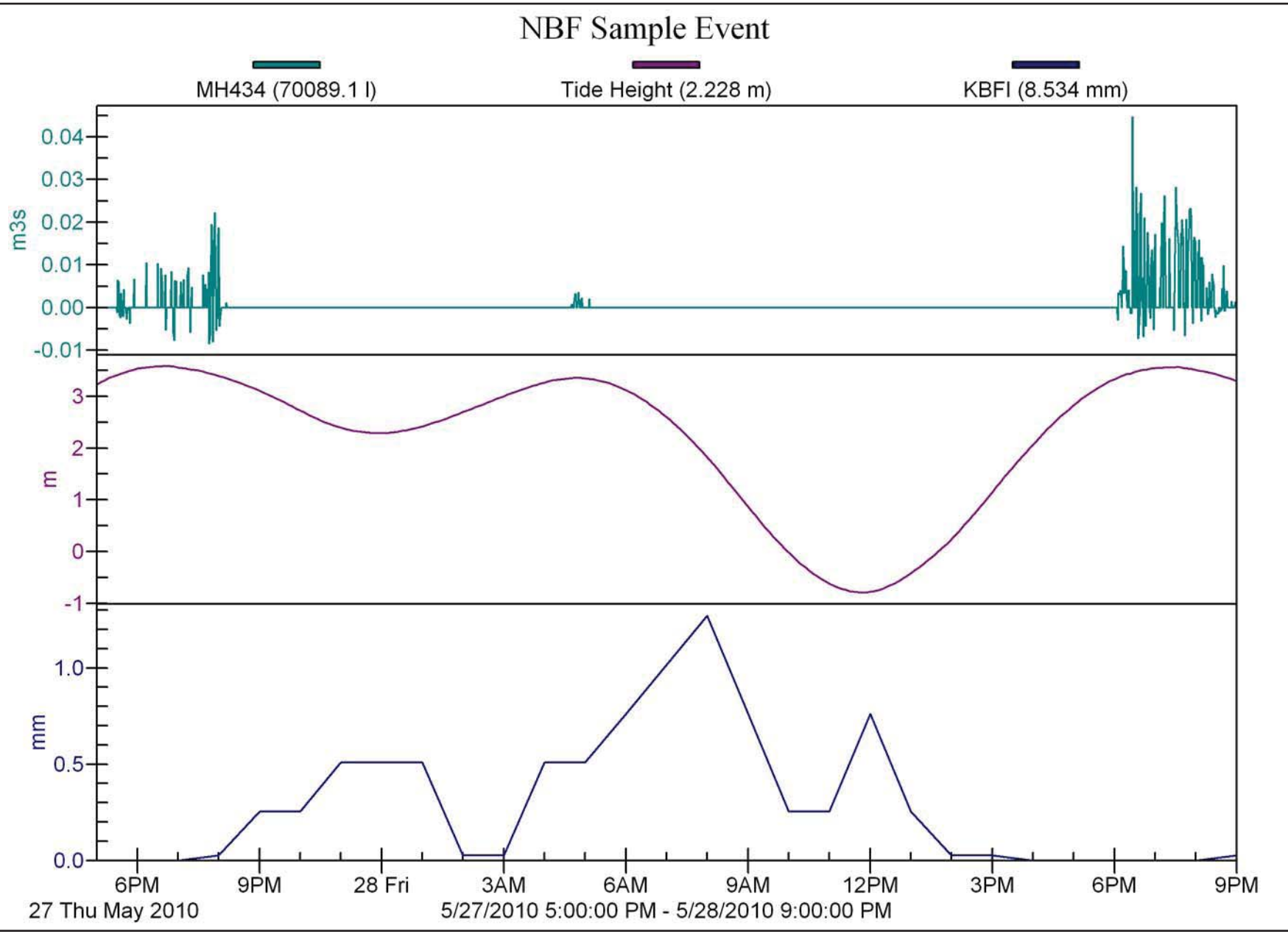

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Figure B–15. Storm Hydrograph and Tidal Height for MH434 Event 9b

DEPARTMENT OF ECOLOGY State of Washington

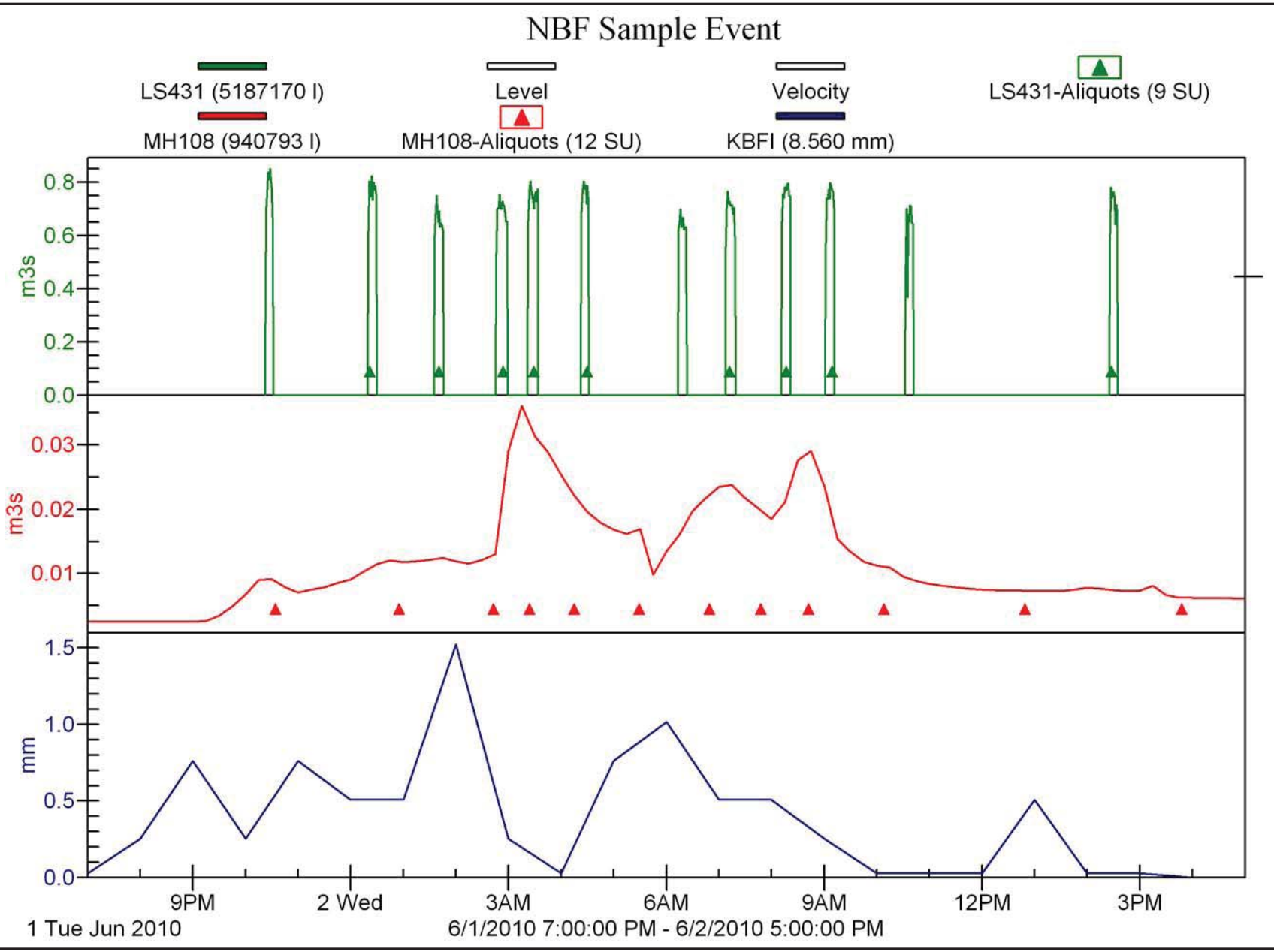

Figure B–16. Storm Hydrographs and Precipitation for Event 10

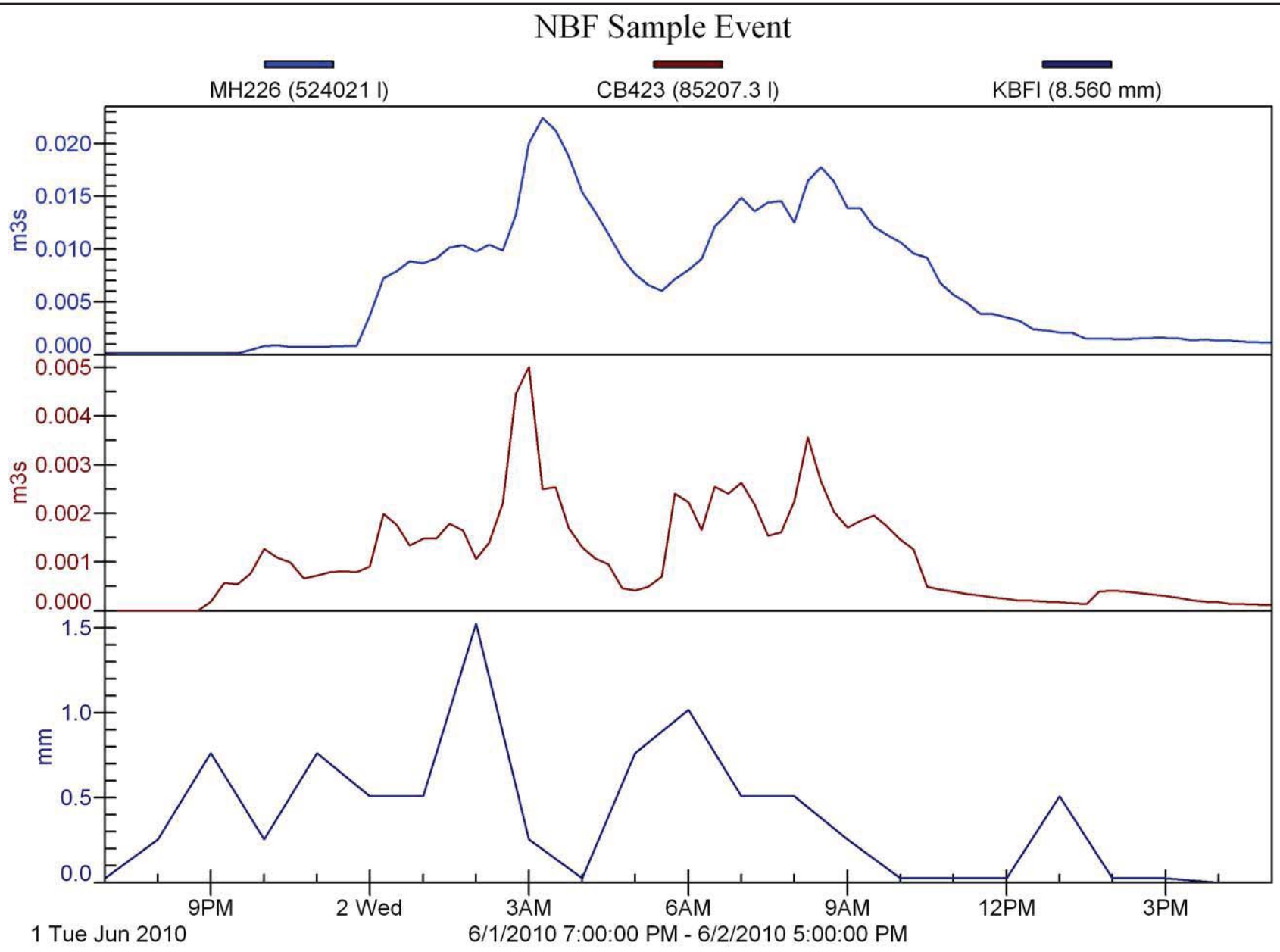

Figure B–17. Storm Hydrographs and Precipitation for Event 10 (continued)

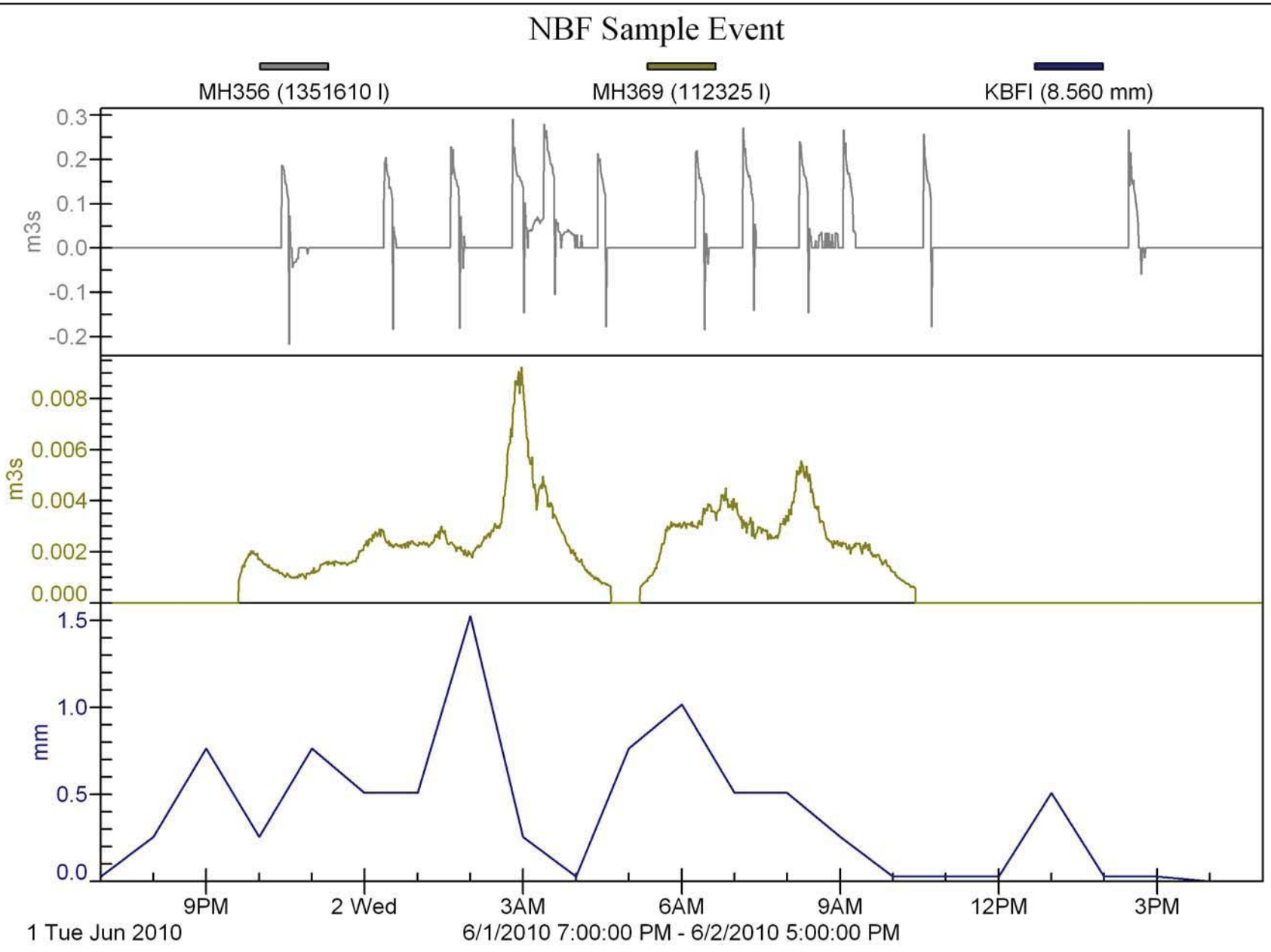

Figure B–18. Storm Hydrographs and Precipitation for Event 10 (continued)

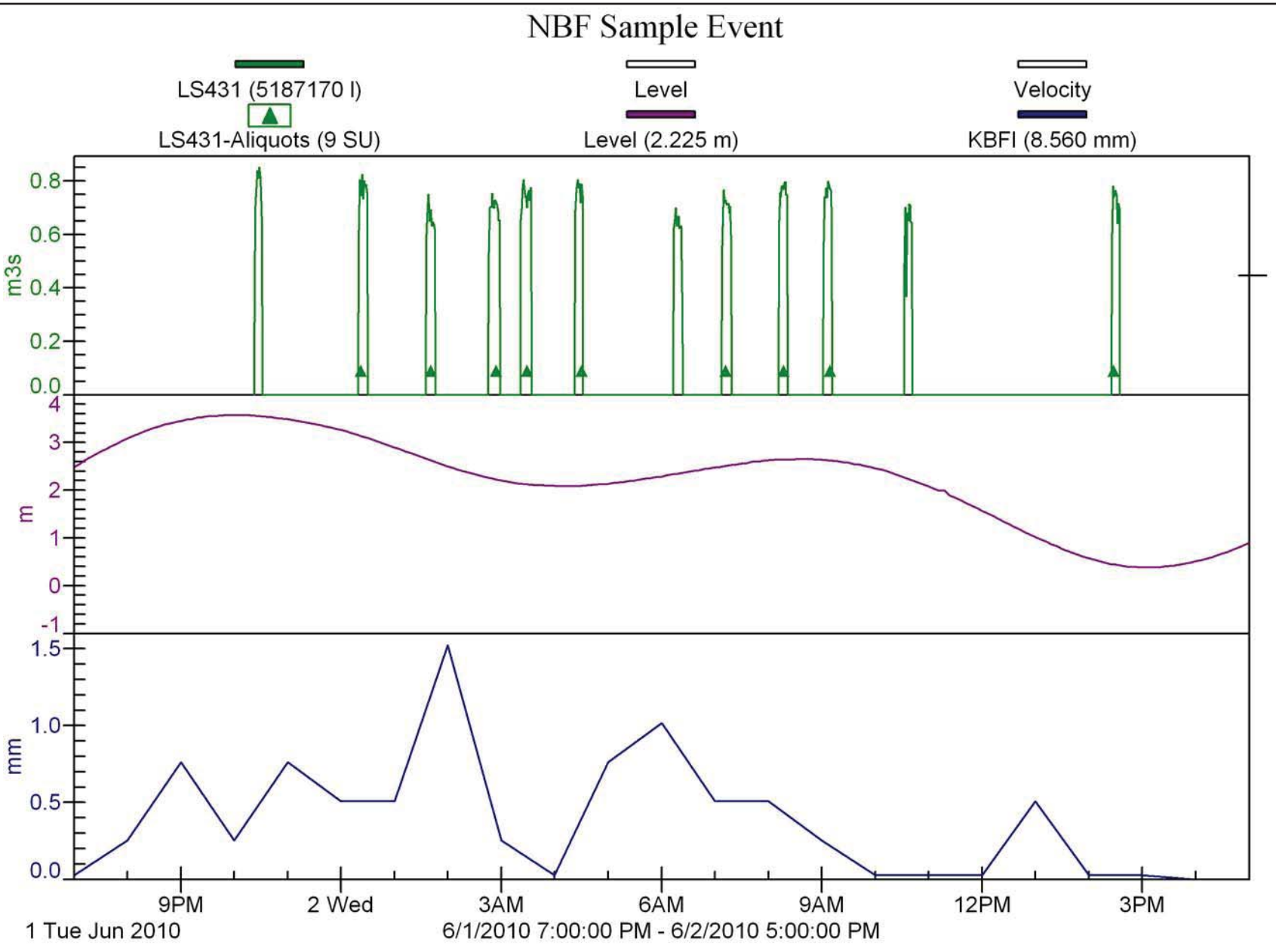

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Figure B–19. Storm Hydrograph and Tidal Height for LS431 Event 10

DEPARTMENT OF ECOLOGY State of Washington

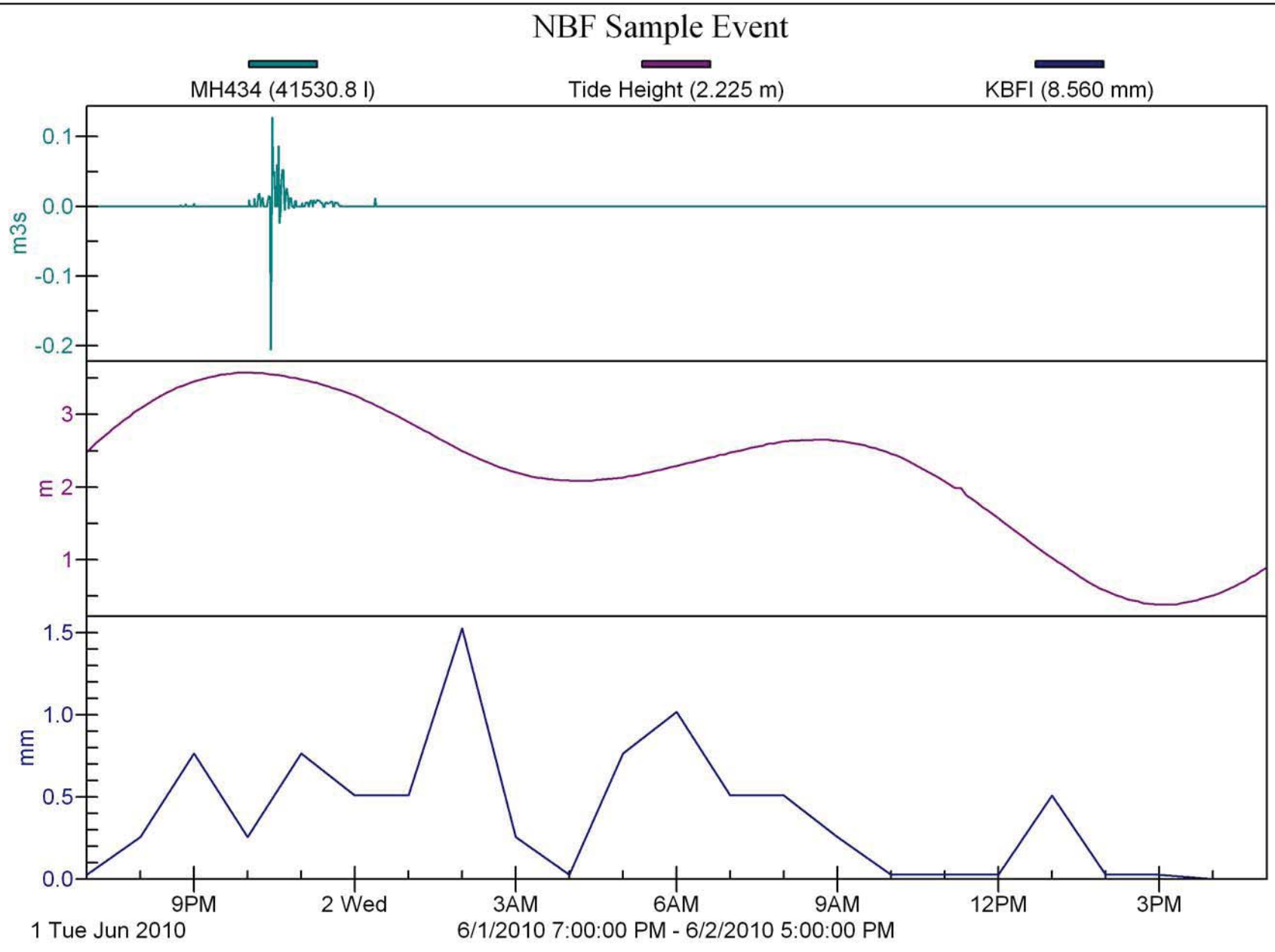

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Figure B–20. Storm Hydrograph and Tidal Height for MH434 Event 10

DEPARTMENT OF ECOLOGY State of Washington

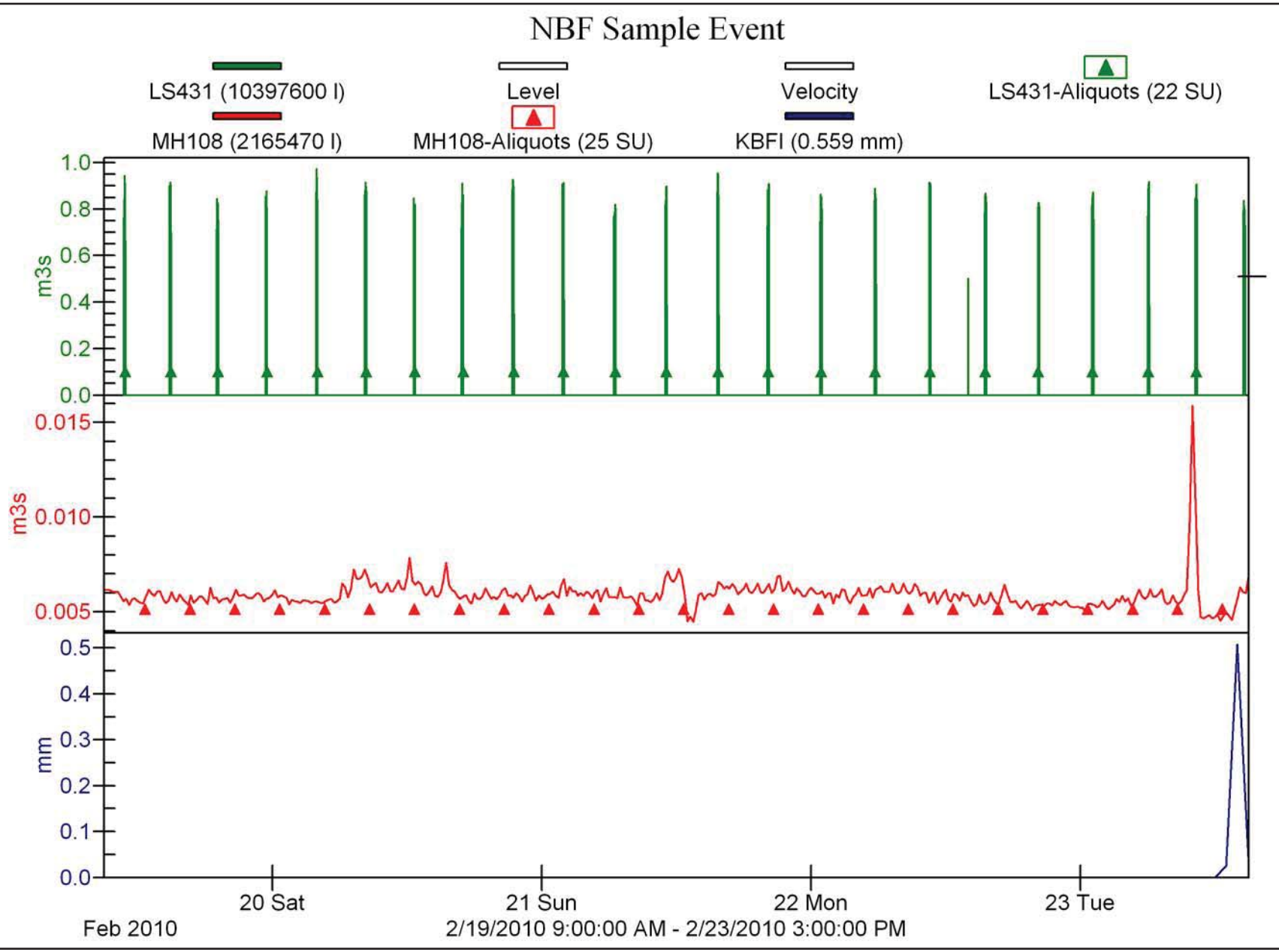

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Figure B–21. Flow Hydrograph for Base Flow Event 1

DEPARTMENT OF ECOLOGY State of Washington

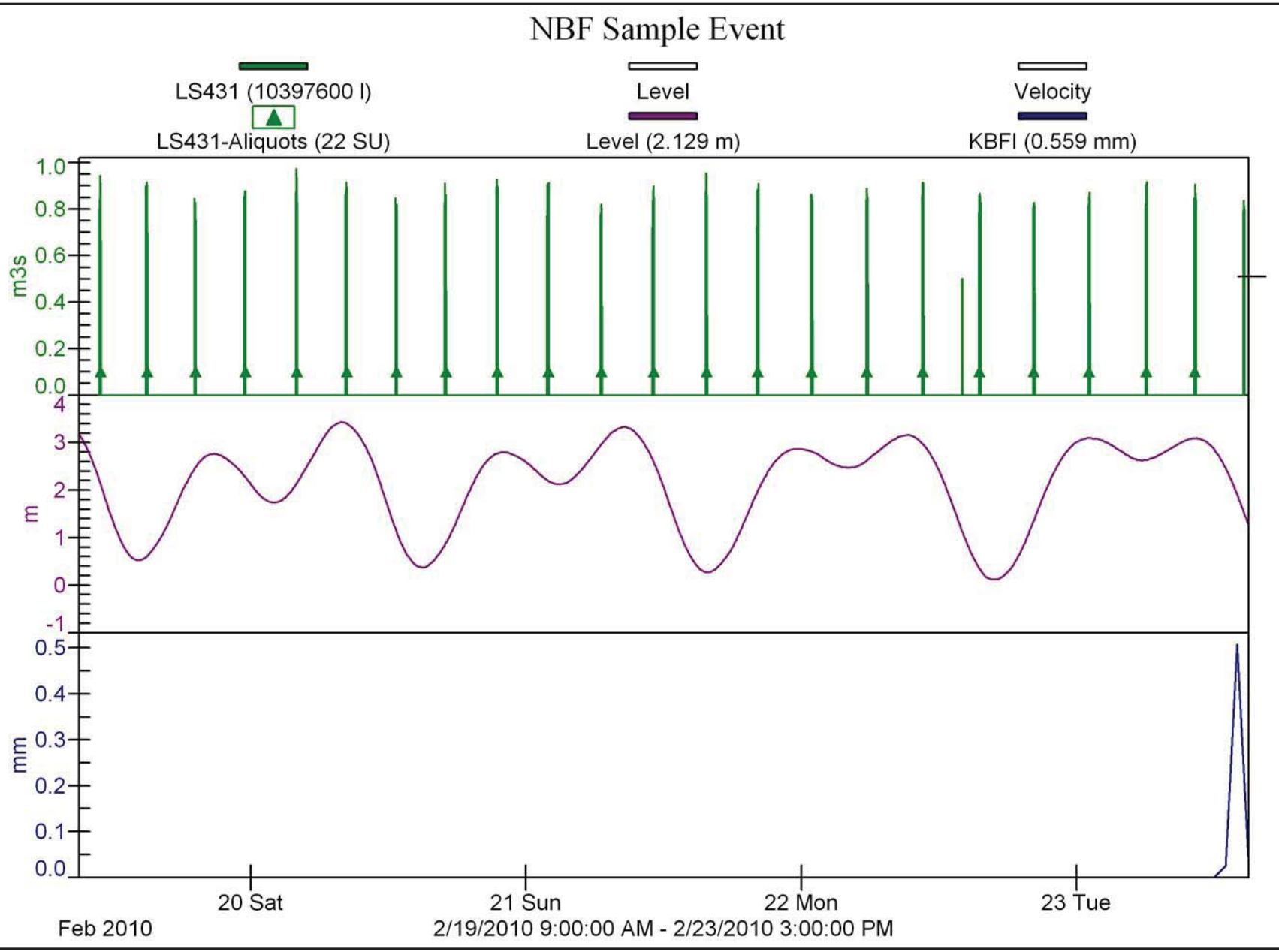

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Figure B–22. Flow Hydrograph and Tidal Height for LS431 Base Flow Event 1

DEPARTMENT OF ECOLOGY State of Washington

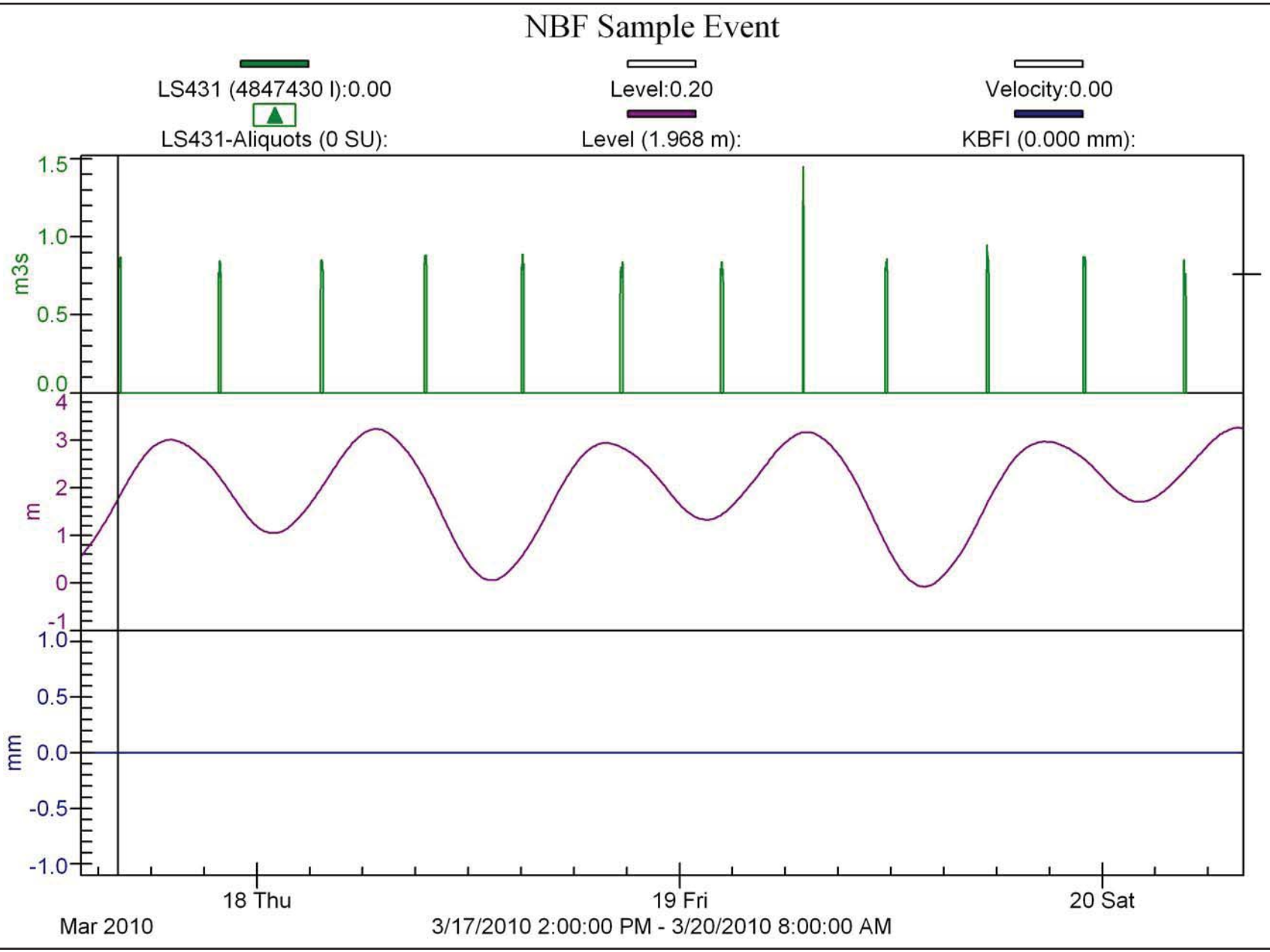

Figure B–23. Flow Hydrograph and Tidal Height for LS431 Base Flow Event 1b

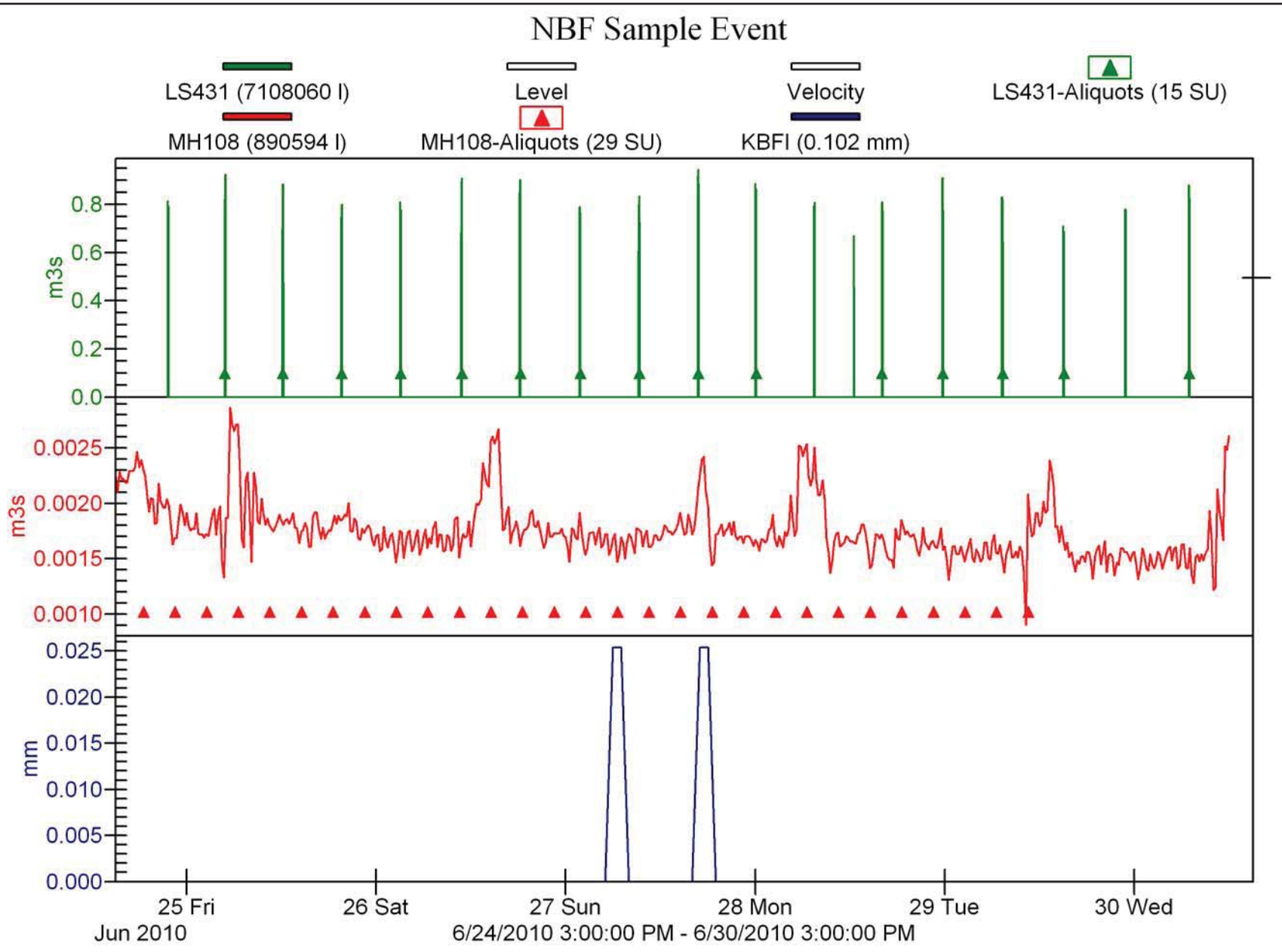

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Figure B–24. Flow Hydrograph for Base Flow Event 2

DEPARTMENT OF ECOLOGY State of Washington

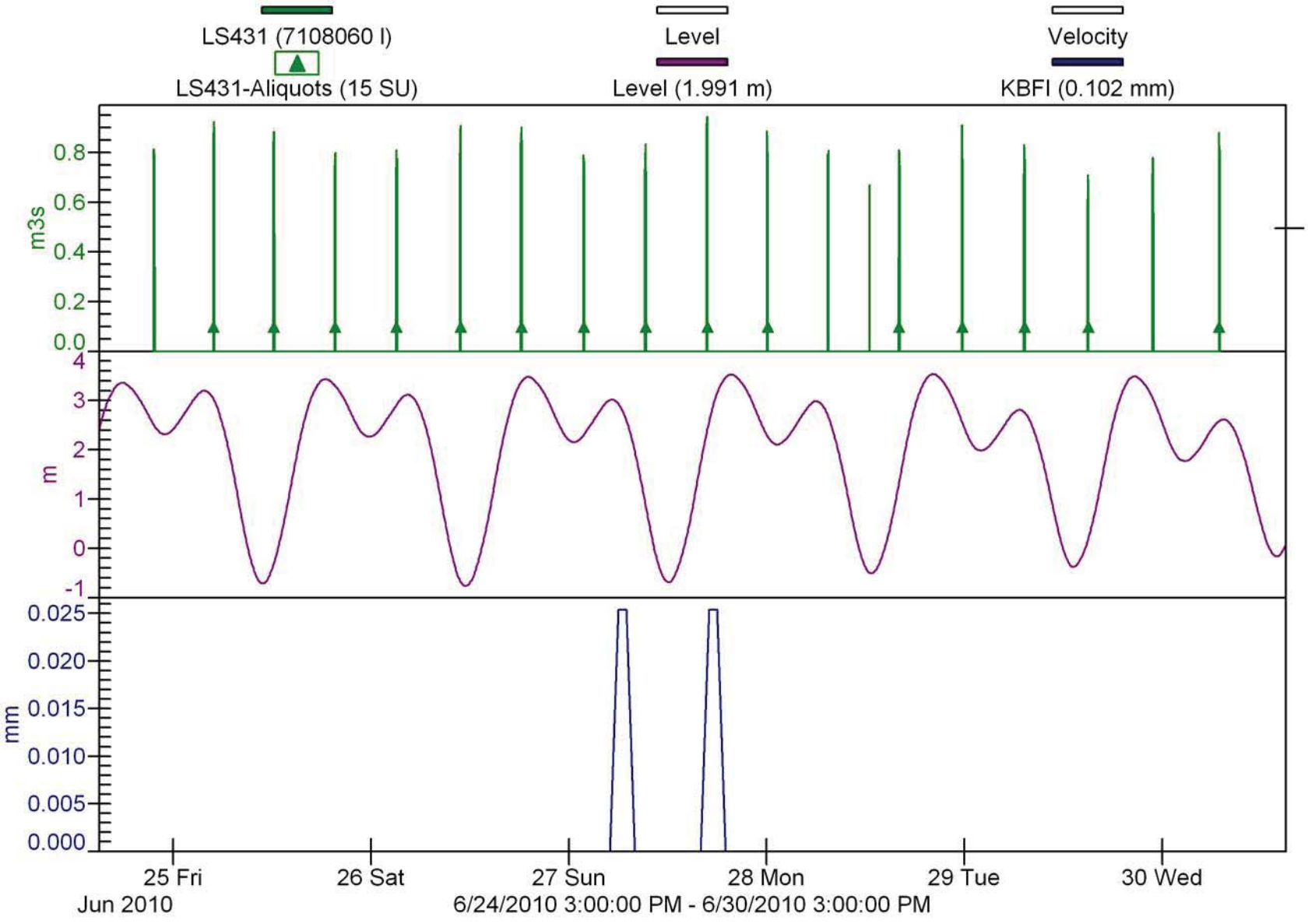


Figure B–25. Flow Hydrograph and Tidal Height for LS431 Base Flow Event 2

Appendix C

Laboratory Data Reports

(Included electronically on CD)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

March 16, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater
ARI Job No: QJ67 & QJ68

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile QJ67/QJ68

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF/GTSP

ARI JOB NO: QJ67, QJ68

prepared
by

Analytical Resources, Inc.

SAIC
From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: _____ Project Mgr: Glen Vedera
Project Name: NBF / GTSP
Project Location: NBF
Sample Collectors: JN JB GV JW
Client Name: Ecology

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors	Metals & Mercury	Grain Size	Low Level PCB Aroclors	SVOC / SIM SVOC	Pesticides	VOCs	Metals + H_g total/dissolved	Hardness, pH, alkalinity	Anions, TOC, DOC, TSS	Comments
NBF-MH108A-021110-S	110-S	sediment	2/11/10	13:30	1 bag	X	X	X								
NBF-MH108B-021110-S	110-S	sediment	2/11/10	13:30	1 bag											Archive
NBF-LS431A-021110-S	110-S	sediment	2/11/10	14:30	1 bag	X	X	X								
NBF-LS431B-021110-S	110-S	sediment	2/11/10	14:30	1 bag											Archive
NBF-MH108-021110-W	110-W	water	2/11/10	13:30	1 carboy				X	X	X	X	X	X	X	
NBF-LS431-021110-W	110-W	water	2/11/10	14:30	1 carboy				X	X	X	X	X	X	X	
NBF-MH108-021110-RW	110-RW	water	2/11/10	13:30	1 bottle											Rinse Water
NBF-LS431-021110-RW	110-RW	water	2/11/10	14:30	1 bottle											Rinse Water

Shipping Information

Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 2/11/10	Date/Time: 2/11/10 1520	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ARL	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

0067 : 0003

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC
COC No(s): _____ (NA)
Assigned ARI Job No: QJ167

Project Name: NBF Stormwater Sampling
Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____
Tracking No: _____ (NA)

Preliminary Examination Phase:

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

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 9.2 8.9 11.9 ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID#: 90941619

Cooler Accepted by: XX Date: 2/11/10 Time: 1520

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)	_____	

Samples Logged by: JP Date: 2/11/10 Time: 1625

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

Cooler#: 1,2,3	Temperature(°C): 9.2, 8.9, 11.9	
Sample ID	**Bottle Count**	**Bottle Type**
All Samples arrived out of ~~cam~~ temperature compliance	All	All

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: _____ Date: _____ Time: _____

PRESERVATION VERIFICATION 02/11/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QJ67**

PC: Cheronne
VTSR: 02/11/10

received 2-11-10 at 18:10

Inquiry Number: NONE
Analysis Requested: 02/11/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: JP
Sample Set Used: Yes-494
Validatable Package: Yes
Deliverables:

Project #:
Project: NBF/GTSP
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-3865 **QJ67E**	NBF-MH108-021110-W						TOT PASS					PASS										
10-3866 **QJ67F**	NBF-LS431-021110-W						TOT PASS					PASS										
10-3869 **QJ67I**	NBF-MH108-021110-W						DIS									N						
10-3870 **QJ67J**	NBF-LS431-021110-W						DIS									N						

Dissolved metals ✓ are not preserved

QJ67 9999

Checked By JP Date 2/11/10

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC

COC No(s): _____ (NA)

Assigned ARI Job No: QJ108

Project Name: NBF Stormwater Sampling

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

Tracking No: _____ (NA)

Preliminary Examination Phase:

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

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 9.2 8.9 11.9 ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID#: 90941619

Cooler Accepted by: _____ Date: 2/11/10 Time: 1520

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)	_____	

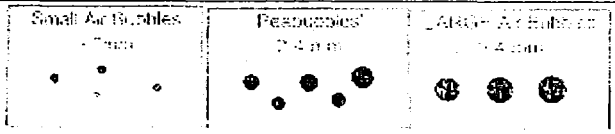
Samples Logged by: JP Date: 2/11/10 Time: 1625

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm"

Peabubbles → "pb"

Large → "lg"

Headspace → "hs"

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

Cooler#: 1,2,3 Temperature(°C): 9.2, 8.9, 11.9

Sample ID	Bottle Count	Bottle Type
All samples arrived out of ~~temp~~ temperature compliance	All	All

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: Date: Time:

PRESERVATION VERIFICATION 02/11/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QJ68**

PC: Cheronne
VTSR: 02/11/10

Inquiry Number: NONE
Analysis Requested: 02/11/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: JP
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #:
Project: NBF/GTSP
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-3874 **QJ68A**	NBF-MH108-021110-W						DIS									N						
10-3875 **QJ68B**	NBF-LS431-021110-W						DIS									N						

Dissolved metals are unpreserved

QJ67 : 000009

Checked By JP Date 2/11/10

Case Narrative

prepared
for

Science App. International Corp

Project: NBF/GTSP

ARI JOB NO: QJ67, QJ68

prepared
by

Analytical Resources, Inc.

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater
ARI Job No.: QJ67 & QJ68

Sample Receipt

Four water samples and four filter-bags were received on February 11, 2010, under ARI jobs QJ67 and QJ68 (Low-Level Mercury). The cooler temperatures measured by IR thermometer following ARI SOP were 8.9, 9.2, and 11.9°C and samples were received within a short time of collection. Please note two of the water samples were submitted in five gallon carboys. Select samples were archived upon receipt. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The carboy water samples were homogenized using a fourteen liter churn-splitter and then poured in to individual sample containers for analysis.

Volatile by SW8260C

The samples were analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The continuing calibrations of Bromomethane, 2-Chloroethylvinylether, and 1,2-Dibromo-3-chloropropane fell outside the 20% control limit low. All detected results for these compounds have been flagged with a "Q" qualifier. No further corrective action was required.

The continuing calibration of Acrolein was outside the 20% control limit high. All detected results for this compound have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS and LCSD percent recoveries of Acrolein were outside the control limits high for **LCS-021210**. All associated samples were undetected for this compound. No corrective action was required.

Semivolatiles by SW8270D

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The 2/17/10 continuing calibrations of Pentachlorophenol, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, and Benzo(g,h,i))perylene were outside the 20% control limit high. All associated samples were undetected for these compounds. No corrective action was required.

The 2/18/10 continuing calibrations of Benzyl Alcohol and Benzo(b)fluoranthene fell outside the 20% control limit low. All detected results for these compounds have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recovery of d5-Phenol was outside the control limits high for **LCSD-021610**. All other surrogate percent recoveries were within control limits. No corrective action was required.

The method blank was clean at the reporting limits.

The LCS percent recovery of Benzo(b)fluoranthene fell outside the control limits low for **LCS-021610**. All other LCS and LCSD percent recoveries were within control limits. No corrective action was required.

Low-Level Semivolatiles by SW8270D-SIM

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The continuing calibration of Dibenz(a,h)anthracene was outside the 20% control limit high. All detected results for this compound have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Aroclor Low Level PCBs by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Filter-bag Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods. Please note that the plastic ring was removed before extracting the filter-bag samples.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Total/Dissolved Metals and Total Mercury

Approximately seven to ten grams of solid material was removed from the filter-bags to be analyzed for metals and mercury. Water sample volumes were transferred to Fremont Analytical in Seattle, WA to be analyzed for Total and Dissolved Metals. All data have been included in this package.

All samples were digested and analyzed within method recommended holding times, using internal standards.

Zinc was present in the filter-bag method blank at a level that was greater than the reporting limit. The associated samples contained concentrations of zinc that were greater than ten times the level found in the method blank. No further corrective action was required.

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

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

Dissolved Low-Level Mercury

The samples were digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery and duplicate RPD were within control limits.

General Chemistry

The samples were prepared and analyzed within method recommended holding times, using internal standards.

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

The SRM percent recoveries were within limits.

The matrix spike percent recoveries were within control limits.

The replicate RPD of Total Suspended Solids (TSS) was outside the control limit for sample **NBF-MG108-021110-W**. All other quality control parameters were met for TSS. No corrective action was required.

Geotechnical Parameters

A laboratory-specific case narrative follows. Approximately seven to seventeen grams of solid material was removed from each filter-bag to be analyzed by the geotechnical laboratory. A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science App. Int. Corp.	**ARI Project No.:** QJ67
Client Project: NBF/GTSP	

Case Narrative

1. Two samples were received on February 19, 2010, and were in good condition.
2. Both samples were submitted for grain size analysis by means of X-ray diffraction. However, neither sample contained enough volume for accurate examination, therefore only the sieve results are reported.
3. The samples contained woody or other organic matter, which may have broken down during the sieving process, affecting grain size distribution.
4. The data is provided in summary tables and plots.
5. There were no other noted anomalies in this project.

Approved by: _____ Date: Feb 22, 2010
Lead Technician

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

SURR SOLUTIONS

2/2/2010

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1662-3	ABN	100/150	MEOH	10/08/10
B	1633-3	SIM PNA	15/75	MEOH	08/12/10
C*	1559-1	SIM ABN	25/37.5	MEOH	03/13/10
D	1689-2	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G*	1534-1	1,4DIOXANE	100	MEOH	02/20/10
H	1594-1	OP-PEST	25	MEOH	04/01/10
I	1634-1	LOW S. PNA	1.5	MEOH	08/12/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1699-1	TPH	450	MECL2	07/02/10
P	1666-3	HCID	2250	MECL2	05/06/10
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S#	1568-5	PBDE	.25	MEOH	NA
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					
#project specific					
Y					
Z					

LCS SOLUTIONS

2/2/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1686-1	PCB 1660	20	ACETONE	09/01/10
2#	1472-3	BCOC PEST	10	ACETONE	NA
3	1620-4	PEST	02/04/20	ACETONE	06/26/10
4	1667-1	LOW PEST	0.2/0.4/2	ACETONE	06/26/10
5	1677-1	EPH	1500	MECL2	11/12/10
6	1655-3	PCP	12.5/125	ACETONE	09/24/10
7	1697-2	ABN	100	ACETONE	01/27/11
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1642-2	TPHD	15000	ACETONE	09/07/10
12	1698-1	ABN BASE	200	MEOH	07/24/10
13	1613-1	LOW PCB	2	ACETONE	06/08/10
14*	1547-1	LOW ABN ACID	10/20	MEOH	04/10/10
15*	1591-3	SIM PNA	15/75	MEOH	08/28/10
16	1602-3	DIOXANE	100	MEOH	03/20/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18*	1591-4	LOW SIM PNA	1.5	ACETONE	08/28/10
19	1685-3	AK103	7500	ACETONE	09/03/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1593-3	SKY/BHT	100	MEOH	03/31/10
22	1675-1	HERB	12.5/12500	MEOH	02/19/10
23*	1505-1	LW ABN BASE	20	MEOH	03/20/10
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#	1481-1	DIPHENYL	100	MEOH	NA
26*	1545-2	OP-PEST	25	MEOH	02/16/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#	1684-1	ADD. PEST	4	ACETONE	03/25/10
29#	1496-3	DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

2/2/2010

31	1596-1	TERPINEOL	100	MEOH	04/03/10
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
	*=REVERIFIED SOLUTION				
	#=PROJECT SPECIFIC SOLUTION				

Spike Recovery Control Limits for Analysis of Aqueous Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 10 mL Purge Volume [1,7]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI Control Limits	ARI ME Control Limits[2]
LCS Spike Recovery [6]		
tert-Butanol	49 - 150	32 - 167
Metyl-*tert*-butylether	47 - 154	29 - 172
Di-*iso*-propylether	43 - 149	25 - 167
Ethyl-*tert*-butylether	45 - 155	27 - 173
tert-Amyl methylether	52 - 151	35 - 168
Dichlorodifluoromethane	59 - 129	47 - 141
Chloromethane	66 - 123	57 - 133
Vinyl Chloride	68 - 121	59 - 130
Bromomethane	55 - 148	40 - 164
Chloroethane	47 - 155	29 - 173
1,1,2-Trichloro-1,2,2-trifluoroethane	70 - 129	60 - 139
Acrolein	24 170	**10** - 194
Trichlorotrifluoroethane	74 - 127	65 - 136
Acetone	70 - 130	60 - 140
1,1-Dichloroethene	72 - **120**	64 - 127
Bromoethane	73 - 131	63 - 141
Methyl Iodide	34 - 183	**10** - 208
Methylene Chloride	70 - 124	61 - 133
Acrylonitrile	71 - 135	60 - 146
Methyl tert-Butyl Ether	78 - **120**	72 - 122
Carbon Disulfide	66 - 129	56 - 140
trans-1,2-Dichloroethene	76 - **120**	70 - 120
Vinyl Acetate	49 - 134	35 - 148
1,1-Dichloroethane	75 - **120**	68 - 124
2-Butanone	78 - 131	69 - 140
2,2-Dichloropropane	68 - 121	59 - 130
cis-1,2-Dichloroethene	80 - **120**	75 - **120**
Chloroform	78 - **120**	72 - 121
Bromodichloromethane	79 - **120**	73 - **120**
1,1,1-Trichloroethane	76 - **120**	69 - 123
1,1-Dichloropropene	78 - **120**	72 - 120
Carbon Tetrachloride	70 - 126	61 - 135
1,2-Dichloroethane	78 - **120**	72 - **120**
Benzene	79 - **120**	73 - **120**
Trichloroethene	78 - **120**	72 - 122
1,2-Dichloropropane	80 - **120**	75 - **120**
Bromochloromethane	78 - **120**	72 - 124

Dibromomethane	80 - **120**	75 - **120**
2-Chloroethylvinylether	68 - 134	57 - 145
4-Methyl-2-Pentanone	73 - 131	63 - 141
cis-1,3-Dichloropropene	78 - **120**	72 - 121
Toluene	79 - **120**	74 - **120**
trans-1,3-Dichloropropene	75 - **120**	68 - 124
2-Hexanone	75 - 130	66 - 139
1,1,2-Trichloroethane	79 - **120**	74 - **120**
1,3-Dichloropropane	78 - **120**	72 - 120
Tetrachloroethene	72 - **120**	65 - 125
Dibromochloromethane	78 - **120**	71 - 125
Ethylene Dibromide	75 - **120**	68 - 125
Chlorobenzene	79 - **120**	73 - **120**
Ethylbenzene	78 - 121	71 - 128
1,1,2,2-Tetrachloroethane	72 - **120**	64 - 127
m,p-Xylene	65 - 129	54 - 140
o-Xylene	76 - 120	69 - 127
Styrene	74 - 121	66 - 129
Isopropylbenzene	74 - 120	66 - 128
Bromoform	71 - 120	63 - 128
1,1,1,2-Tetrachloroethane	75 - **120**	68 - 126
1,2,3-Trichloropropane	73 - 120	65 - 128
trans-1,4-Dichloro-2-butene	65 - 135	53 - 147
n-Propylbenzene	76 - 121	69 - 129
Bromobenzene	72 - **120**	64 - 126
1,3,5-Trimethylbenzene	74 - 123	66 - 131
2-Chlorotoluene	74 - **120**	67 - 127
4-Chlorotoluene	75 - **120**	68 - 125
tert-Butylbenzene	73 - 121	65 - 129
1,2,4-Trimethylbenzene	73 - 124	65 - 133
sec-Butylbenzene	75 - 123	67 - 131
4-Isopropyltoluene	71 - 125	62 - 134
1,3-Dichlorobenzene	72 - **120**	64 - 127
1,4-Dichlorobenzene	76 - **120**	69 - 123
n-Butylbenzene	72 - 124	63 - 133
1,2-Dichlorobenzene	75 - **120**	68 - 124
1,2-Dibromo-3-chloropropane	67 - 121	58 - 130
1,2,4-Trichlorobenzene	71 - 120	63 - 128
Hexachloro-1,3-butadiene	67 - 124	58 - 134
Naphthalene	71 - 125	62 - 134
1,2,3-Trichlorobenzene	61 - 134	49 - 146
MB/LCS Surrogate Recovery		
Dibromofluoromethane	64 - 133	(3)
d4-1,2-Dichloroethane	70 - 132	(3)
d8-Toluene	**80 - 120**	(3)

4-Bromofluorobenzene	**80 - 120**	(3)
d4-1,2-Dichlorobenzene	**80 - 120**	(3)
Sample Surrogate Recovery		
Dibromofluoromethane	30 - 160 [5]	(3)
d4-1,2-Dichloroethane	**80** - 143	(3)
d8-Toluene	**80 - 120**	(3)
4-Bromofluorobenzene	**80 - 120**	(3)
D4-1,2-Dichlorobenzene	**80** - 120	(3)

(1) Control Limits calculated using all data generated 1/1/08 through 4/15/09.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard[4] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances require corrective action.
(3) Marginal Exceedances not allowed for surrogate standards.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) are adjusted from the calculated values as follows:

a) ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
b) Control limits for analyzes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME [1,2]	Separatory Funnel [1]	Separatory Funnel - ME [1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
LCS Spike Recovery [8]				
Phenol [3]	50 - **100**	43 - 103	16 - **100**	6 - **100**
Bis-(2-chloroethyl) ether	52 - **100**	45 - 105	41 - 112	29 - 124
2-Chlorophenol	56 - **100**	49 - 103	43 - 111	32 - 122
1,3-Dichlorobenzene	23 - **100**	15 - **100**	32 - **100**	22 - 103
1,4-Dichlorobenzene	25 - **100**	17 - **100**	32 - **100**	22 - 103
Benzyl Alcohol	19 - 100	**10** - 114	22 - 100	9 - 113
1,2-Dichlorobenzene	30 - **100**	22 - **100**	34 - **100**	24 - 104
2-Methylphenol	52 - **100**	44 - 106	36 - 110	24 - 122
2,2'-oxybis(1-chloropropane)	32 - 111	19 - 124	29 - 118	14 - 133
4-Methylphenol	53 - 102	45 - 110	38 - 104	27 - 115
N-Nitroso-di-n-propylamine	43 - 104	33 - 114	38 - 115	25 - 128
Hexachloroethane	12 - **100**	**10** - **100**	24 - **100**	13 - 100
Nitrobenzene	33 - 125	18 - 140	45 - 106	35 - 116
Isophorone	57 - 115	47 - 125	55 - 119	44 - 130
2-Nitrophenol	56 - 102	48 - 110	46 - 118	34 - 130
2,4-Dimethyphenol	29 - **100**	20 - **100**	28 - 105	15 - 118
Bis-(2-chloroethoxy) methane	54 - 101	46 - 109	44 - 118	32 - 130
Benzoic Acid [3]	**10** - 131	**10** - 151	11 - **100**	**10** - **100**
2,4-Dichlorophenol	56 - 104	48 - 112	43 - 121	30 - 134
1,2,4-Trichlorobenzene	27 - **100**	18 - **100**	35 - **100**	25 - 107
Naphthalene	45 - **100**	38 - **100**	36 - 111	24 - 124
4-Chloroaniline [3]	**10** - 139	**10** - 161	10 - 174	**10** - 201
2-Chloronaphthalene	45 - **100**	37 - 105	39 - 118	26 - 131
Hexachlorobutadiene	**10** - **100**	**10** - **100**	24 - **100**	12 - 108
4-Chloro-3-methylphenol	53 - 109	44 - 118	45 - 122	32 - 135
2-Methylnaphthalene	46 - **100**	38 - 100	45 - 103	35 - 113
Hexachlorocyclopentadiene	**10** - **100**	**10** - **100**	23 - 108	**10** - 122
2,4,6-Trichlorophenol	58 - 108	50 - 116	48 - 122	36 - 134
2,4,5-Trichlorophenol	58 - 107	50 - 115	48 - 122	36 - 134
2-Nitroaniline	50 - 107	41 - 117	48 - 118	36 - 130
Dimethylphthalate	58 - 107	50 - 115	50 - 120	38 - 132
Acenaphthylene	57 - 100	50 - 107	50 - 119	39 - 131
2,6-Dinitrotoluene	58 - 112	49 - 121	48 - 133	34 - 147
3-Nitroaniline [3]	21 - 150	**10** - 172	54 - 140	40 - 154
Acenaphthene	51 - **100**	43 - 106	41 - 120	28 - 133
2,4-Dinitrophenol	12 - 169	**10** - 195	23 - 176	**10** - 202

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME [1,2]	Separatory Funnel [1]	Separatory Funnel - ME [1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibenzofuran	57 - 100	50 - 107	51 - 114	41 - 125
4-Nitrophenol [3]	35 - 119	21 - 133	13 - **100**	**10** - **100**
2,4-Dinitrotoluene	58 - 117	48 - 127	51 - 134	37 - 148
Fluorene	56 - 104	48 - 112	50 - 120	38 - 132
Diethylphthlalate	52 - 111	42 - 121	48 - 122	36 - 134
4-Chlorophenyl-phenyl ether	55 - 104	47 - 112	50 - 118	39 - 129
4-Nitroaniline	49 - 112	39 - 123	42 - 136	26 - 152
4,6-Dinitro-2-Methylphenol	13 - 139	**10** - 160	32 - 121	17 - 136
N-Nitrosodiphenylamine	60 - 136	47 - 149	58 - 141	44 - 155
4-Bromophenyl-phenyl ether	55 - 103	47 - 111	50 - 122	38 - 134
Hexachlorobenzene	54 - 106	45 - 115	47 - 125	34 - 138
Pentachlorophenol	46 - 114	35 - 125	35 - 130	19 - 146
Phenanthrene	56 - 102	48 - 110	49 - 120	37 - 132
Anthracene	56 - 101	49 - 109	53 - 116	43 - 127
Carbazole	60 - 108	52 - 116	57 - 122	46 - 133
Di-n-butylphthalate	56 - 112	47 - 121	57 - 121	46 - 132
Fluoranthene	57 - 110	48 - 119	56 - 119	46 - 130
Pyrene	48 - 119	36 - 131	37 - 143	19 - 161
Butylbenzylphthalate	51 - 114	41 - 125	34 - 152	14 - 172
Benzo(a)Anthracene	55 - 105	47 - 113	49 - 129	36 - 142
3,3'-Dichlorbenzidine [3]	**10** - 128	**10** - 148	50 - 128	37 - 141
Chrysene	55 - 104	47 - 112	45 - 128	31 - 142
bis(2-Ethylhexyl) phthalate	28 - 164	**10** - 187	57 - 133	44 - 146
Di-n-octylphthalate	57 - 107	49 - 115	52 - 120	41 - 131
Benzo(b)Fluoranthene	53 - 112	43 - 122	50 - 126	37 - 139
Benzo(k)Fluoranthene	50 - 116	39 - 127	49 - 126	36 - 139
Benzo(a)Pyrene	45 - 103	35 - 113	46 - 109	36 - 120
Indeno(1,2,3-cd)Pyrene	35 - 118	21 - 132	34 - 136	17 - 153
Dibenz(a,h)anthracene	42 - 119	29 - 132	41 - 134	26 - 150
Benzo(g,h,i)Perylene	39 - 123	25 - 137	41 - 133	26 - 148
Aniline [3]	**10** - **100**	**10** - **100**	28 - 126	12 - 142
1,2-Diphenylhydrazine /Azobenzene	57 - 109	48 - 118	55 - 119	44 - 130
N-Nitrosodimethylamine	49 - **100**	41 - 104	31 - **100**	21 - 105
1-Methylnaphthalene	46 - **100**	37 - 107	43 - 115	31 - 127
1,4-Dioxane	40 - **100**	30 - 108	30 - 160 [4]	30 - 160 [4]
Pyridine	-	-	25 - **100**	15 - **100**
Tributyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME [1,2]	Separatory Funnel [1]	Separatory Funnel - ME [1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibutyl Phenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butyl Diphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Triphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butylated Hydroxytoluene (BHT)	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
MB / LCS Surrogate Recovery				
d4-2-Chlorophenol	53 - 100	(5)	49 - 101	(5)
d4-1,2-Dichlorobenzene	38 - **100**	(5)	40 - **100**	(5)
2,4,6-Tribromophenol	52 - 123	(5)	51 - 122	(5)
2-Fluorophenol	46 - **100**	(5)	31 - **100**	(5)
d5-Phenol [3]	50 - 100	52 - 108	19 - **100**	12 - **100**
d5-Nitrobenzene	46 - 100	(5)	46 - 101	(5)
2-Fluorobiphenyl	49 - **100**	(5)	49 - 103	(5)
d14-p-Terphenyl	53 - 119	(5)	49 - 130	(5)
d8-1,4-Dioxane	45 - **100**	(5)	30 - 160 [4]	(5)
Sample Surrogate Recovery				
d4-2-Chlorophenol	44 - **100**	(5)	23 - 104	(5)
d4-1,2-Dichlorobenzene	32 - **100**	(5)	22 - **100**	(5)
2,4,6-Tribromophenol	48 - 118	(5)	22 - 125	(5)
2-Fluorophenol	38 - **100**	(5)	18 - **100**	(5)
d5-Phenol	41 - **100**	32 - 104	**10** - **100**	17 - **100**
d5-Nitrobenzene	39 - **100**	(5)	21 - 106	(5)
2-Fluorobiphenyl	42 - **100**	(5)	26 - 104	(5)
d14-p-Terphenyl	26 - 114	(5)	11 - 132	(5)
d8-1,4-Dioxane	32 - **100**	(5)	30 - 160 [4]	(5)

(1) Control Limits calculated using all data generated 1/1/07 through 12/1/07.
(2) **ME** = A ***marginal exceedance*** defined in the NELAC Standard [6] as beyond the CL but still within the ME limits. ARI defines ME limits as between 3 and 4 standard deviations around the mean with upper limit ≥ 100%. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances in an analysis require corrective action.
(3) These are "**poor performers**" defined in the DoD QSM[7] as compounds that "produce low mean recoveries and high standard deviations, resulting in wide LCS control limits with particularly low lower control limits (sometimes-negative values). ARI does not control batch acceptance based on these compounds since there is a high level of uncertainty in their recovery."
(4) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(5) Marginal Exceedances not allowed for surrogate unless it is a "poor performer".
(6) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(7) Page 182 of: **Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 Final, March 2005** Prepared By Environmental Data Quality Workgroup, Department of Navy, Lead Service (Based On National Environmental Laboratory Accreditation Conference (NELAC) Chapter 5 (Quality Systems) NELAC Voted Version – 5 June 2003
(8) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(9) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified Low Level Aqueous Samples[1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Volume / Final Volume	500 mL to 0.5 mL	
	Control Limits	ME Limits [2]
LCS Spike Recovery [6]		
Napthalene	41 - 101	31 - 111
2-Methylnapthalene	47 - **100**	39 - 103
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	35 - **100**	25 - 104
Acenapthene	43 - 104	33 - 114
Dibenzofuran	37 - **100**	27 - 108
Fluorene	51 - 103	42 - 112
Phenanthrene	55 - 109	46 - 118
Anthracene	30 - 101	18 - 113
Fluoranthene	49 - 123	37 - 135
Pyrene	48 - 120	36 - 132
Benz(a)anthracene	43 - 113	31 - 125
Chrysene	59 - 112	50 - 121
Benzo(b)fluoranthene	44 - 121	31 - 134
Benzo(k)fluoranthene	50 - 117	39 - 128
Benzo(a)pyrene	**10** - **100**	**10** - 109
Indeno(1,2,3-cd)pyrene	43 - 112	32 - 124
Dibenzo(a,h)anthracene	42 - 114	30 - 126
Benzo(g,h,i)perylene	31 - 118	17 - 133
MB / LCS Surrogate Recovery		
d10-2-Methylnaphthalene	42 - **100**	(4)
d14-Dibenzo(a,h)anthracene	40 - 125	(4)
Sample Surrogate Recovery		
d10-2-Methylnaphthalene	31 - 109	(4)
d14-Dibenzo(a,h)anthracene	**10** - 133	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/1/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6)Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

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Spike Recovery Control Limits for Chlorinated Pesticides EPA Method SW-846-8081B Analysis of Aqueous Samples [1,5]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Volume / Final Volume	500 mL to 5 mL		1000 / 1 mL	
LCS Spike Recovery [4]	**Control Limits**	**ME Limits [2]**	**Control Limits**	**ME Limits [2]**
α-BHC	56 - 122	45 - 133	32 - 129	16 - 145
β-BHC	52 - 127	40 - 140	30 - 132	13 - 149
δ-BHC	59 - 128	48 - 140	**10** - 163	**10** - 189
γ-BHC (Lindane)	59 - 120	49 - 130	35 - 135	18 - 152
Heptachlor	50 - 133	36 - 147	34 - 115	21 - 129
Aldrin	51 - 113	41 - 123	32 - 115	18 - 129
Hepachlor Epoxide	58 - 125	47 - 136	41 - 138	25 - 154
Endosulfan I	67 - 118	59 - 127	37 - 131	21 - 147
Dieldrin	68 - 122	59 - 131	42 - 134	27 - 149
4,4'-DDE	67 - 131	56 - 142	42 - 147	25 - 165
Endrin	68 - 134	57 - 145	28 - 152	**10** - 173
Endosulfan II	68 - 133	57 - 144	36 - 141	19 - 159
4,4'-DDD	66 - 138	54 - 150	30 - 159	**10** - 181
Endosulfan Sulfate	60 - 132	48 - 144	22 - 140	**10** - 160
4,4'-DDT	68 - 126	58 - 136	20 - 165	**10** - 189
Methoxychlor	62 - 134	50 - 146	16 - 168	**10** - 193
Endrin Ketone	60 - 139	47 - 152	39 - 148	21 - 166
Endrin Aldehyde	27 - 133	**10** - 151	**10** - 120	**10** - 138
γ-Chlordane	59 - 121	49 - 131	42 - 128	28 - 142
α-Chlordane	65 - 118	56 - 127	45 - 129	31 - 143
MB / LCS Surrogate Recovery				
Tetrachloro-*m*-xylene (TCMX)	46 - **100**	(3)	28 - **100**	(3)
Decachlorobiphenyl	39 - 114	(3)	46 - 104	(3)
Sample Surrogate Recovery				
Tetrachloro-xylene (TCMX)	27 - 130	(3)	18 - **100**	(3)
Decachlorobiphenyl	21 - 126	(3)	14 - 120	(3)

(1) Control limits calculated using all recovery data from 1/1/08 through 12/1/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [6] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) Marginal Exceedances not allowed for a surrogate standard.
(4) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(5) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(6) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.

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Spike Recovery Control Limits Analysis of PCB / Aroclors in Aqueous Samples - EPA SW-846 Methods 8081 & 8082 [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Analytical Method:	Standard Analysis	MTCA Analysis	Low Level Analysis	Manchester Extraction
Sample Weight / Final Volume:	500 / 5 mL	500 / 1 mL	1000 / 0.5 mL	3000 / 1 mL
LCS Spike Recovery [4]				
Aroclor 1016	45 - 121	36 - **100**	44 - 117	30 - 160[3]
Aroclor 1260	54 - 129	41 - 113	46 - 131	30 - 160[3]
Method Blank/LCS Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	40 - 118	29 - **100**	31 - **100**	30 - 160[3]
Decachlorobiphenyl	41 - 111	35 - 116	32 - 108	30 - 160[3]
Sample Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	38 - 118	25 - **100**	21 - **100**	30 - 160[3]
Decachlorobiphenyl	29 - 118	**10** - 128	19 - 111	30 - 160[3]

(1) Control Limits calculated using all data generated 1/1/08 through 12/1/08.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Analytical Resources,Incorporated
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Spike Recovery Control Limits - Analysis of PCB / Aroclors in Soil & Sediment Samples - EPA SW-846 Method 8082

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	Routine Analysis	PSDDA	Low Level	Low level	Soxhlet Extraction	Medium Level
Typical Reporting Limit (µg/kg):	**33**	**20**	**10**	**4**	**100**	**800**
Nominal Sample Wet Weight (g):	**12**	**25**	**25**	**25**	**10**	**5**
Final Extract Volume (mL):	**4**	**5**	**2.5**	**1**	**10**	**40**
LCS Spike Recovery [1,2]						
Aroclor 1016	48 - 106	52 - 101	53 - **100**	37 - 106	30 - 160[3]	59 - 108
Aroclor 1260	50 - 121	52 - 126	58 - 112	50 - 116	30 - 160[3]	43 - 177
Method Blank / LCS Surrogate Recovery						
Tetrachloro-*meta*-xylene (TCMX)	46 - 111	47 - 110	43 - 108	35 - 100	30 - 160[3]	49 - 110
Decachlorobiphenyl	51 - 112	48 - 119	48 - 118	40 - 109	30 - 160[3]	51 - 127
Sample Surrogate Recovery						
Tetrachloro-*meta*-xylene (TCMX)	50 - 114	46 - 113	35 - 119	38 - 102	30 - 160[3]	28 - 106
Decachlorobiphenyl	42 - 127	40 - 130	33 - 143	34 - 141	30 - 160[3]	22 - 168

(1) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.

Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF/GTSP

ARI JOB NO: QJ67, QJ68

prepared
by

Analytical Resources, Inc.

VOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-MH108-021110-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QJ67E
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/19/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 02/12/10 19:54

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**1.2**	
67-64-1	**Acetone**	**5.0**	**5.4**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	**Chloroform**	**0.2**	**0.3**	
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**38**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-MH108-021110-W**
 SAMPLE

Lab Sample ID: QJ67E
LIMS ID: 10-3865
Matrix: Water
Date Analyzed: 02/12/10 19:54

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	108%
d8-Toluene	100%
Bromofluorobenzene	94.2%
d4-1,2-Dichlorobenzene	103%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-LS431-021110-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QJ67F
LIMS ID: 10-3866
Matrix: Water
Data Release Authorized:
Reported: 02/19/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 02/12/10 20:20

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**1.6**	
67-64-1	**Acetone**	**5.0**	**5.1**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**26**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-LS431-021110-W**
 SAMPLE

Lab Sample ID: QJ67F QC Report No: QJ67-Science App. International Corp
LIMS ID: 10-3866 Project: NBF/GTSP
Matrix: Water
Date Analyzed: 02/12/10 20:20

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	109%
d8-Toluene	97.8%
Bromofluorobenzene	91.3%
d4-1,2-Dichlorobenzene	106%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-021210	Method Blank	10	109%	101%	91.6%	104%	0
LCS-021210	Lab Control	10	110%	101%	98.4%	103%	0
LCSD-021210	Lab Control Dup	10	104%	101%	96.8%	103%	0
QJ67E	NBF-MH108-021110-W	10	108%	100%	94.2%	103%	0
QJ67F	NBF-LS431-021110-W	10	109%	97.8%	91.3%	106%	0

	LCS/MB LIMITS	QC LIMITS
SW8260C		
(DCE) = d4-1,2-Dichloroethane	70-132	80-143
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 10-3865 to 10-3866

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-021210**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-021210 QC Report No: QJ67-Science App. International Corp
LIMS ID: 10-3865 Project: NBF/GTSP
Matrix: Water
Data Release Authorized:
Reported: 02/19/10 Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT5/PKC Sample Amount LCS: 10.0 mL
LCSD: NT5/PKC LCSD: 10.0 mL
Date Analyzed LCS: 02/12/10 11:11 Purge Volume LCS: 10.0 mL
LCSD: 02/12/10 11:36 LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	10.8	10.0	108%	10.4	10.0	104%	3.8%
Bromomethane	8.4 Q	10.0	84.0%	8.0 Q	10.0	80.0%	4.9%
Vinyl Chloride	10.5	10.0	105%	10.4	10.0	104%	1.0%
Chloroethane	10.5	10.0	105%	10.3	10.0	103%	1.9%
Methylene Chloride	10.2	10.0	102%	10.1	10.0	101%	1.0%
Acetone	54.0	50.0	108%	53.3	50.0	107%	1.3%
Carbon Disulfide	10.8	10.0	108%	10.6	10.0	106%	1.9%
1,1-Dichloroethene	10.1	10.0	101%	9.8	10.0	98.0%	3.0%
1,1-Dichloroethane	10.5	10.0	105%	10.4	10.0	104%	1.0%
trans-1,2-Dichloroethene	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
cis-1,2-Dichloroethene	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
Chloroform	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
1,2-Dichloroethane	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
2-Butanone	53.1	50.0	106%	51.7	50.0	103%	2.7%
1,1,1-Trichloroethane	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
Carbon Tetrachloride	10.4	10.0	104%	10.3	10.0	103%	1.0%
Vinyl Acetate	10.5	10.0	105%	10.0	10.0	100%	4.9%
Bromodichloromethane	9.7	10.0	97.0%	9.6	10.0	96.0%	1.0%
1,2-Dichloropropane	10.4	10.0	104%	10.0	10.0	100%	3.9%
cis-1,3-Dichloropropene	10.2	10.0	102%	10.0	10.0	100%	2.0%
Trichloroethene	9.7	10.0	97.0%	9.6	10.0	96.0%	1.0%
Dibromochloromethane	9.2	10.0	92.0%	8.9	10.0	89.0%	3.3%
1,1,2-Trichloroethane	10.4	10.0	104%	10.1	10.0	101%	2.9%
Benzene	10.2	10.0	102%	10.1	10.0	101%	1.0%
trans-1,3-Dichloropropene	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
2-Chloroethylvinylether	8.4 Q	10.0	84.0%	8.3 Q	10.0	83.0%	1.2%
Bromoform	9.2	10.0	92.0%	9.2	10.0	92.0%	0.0%
4-Methyl-2-Pentanone (MIBK)	55.2	50.0	110%	53.6	50.0	107%	2.9%
2-Hexanone	53.4	50.0	107%	51.2	50.0	102%	4.2%
Tetrachloroethene	9.5	10.0	95.0%	9.1	10.0	91.0%	4.3%
1,1,2,2-Tetrachloroethane	9.2	10.0	92.0%	8.9	10.0	89.0%	3.3%
Toluene	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
Chlorobenzene	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
Ethylbenzene	10.1	10.0	101%	9.6	10.0	96.0%	5.1%
Styrene	9.8	10.0	98.0%	9.4	10.0	94.0%	4.2%
Trichlorofluoromethane	10.3	10.0	103%	10.0	10.0	100%	3.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.6	10.0	106%	10.3	10.0	103%	2.9%
m,p-Xylene	19.7	20.0	98.5%	19.3	20.0	96.5%	2.1%
o-Xylene	9.8	10.0	98.0%	9.3	10.0	93.0%	5.2%
1,2-Dichlorobenzene	9.4	10.0	94.0%	9.2	10.0	92.0%	2.2%
1,3-Dichlorobenzene	9.4	10.0	94.0%	9.3	10.0	93.0%	1.1%
1,4-Dichlorobenzene	9.2	10.0	92.0%	9.0	10.0	90.0%	2.2%
Acrolein	102 Q	50.0	204%	97.3 Q	50.0	195%	4.7%
Methyl Iodide	9.0	10.0	90.0%	8.9	10.0	89.0%	1.1%
Bromoethane	10.0	10.0	100%	9.9	10.0	99.0%	1.0%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-021210**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-021210 QC Report No: QJ67-Science App. International Corp
LIMS ID: 10-3865 Project: NBF/GTSP
Matrix: Water

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Acrylonitrile	10.6	10.0	106%	10.1	10.0	101%	4.8%
1,1-Dichloropropene	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
Dibromomethane	10.3	10.0	103%	10.1	10.0	101%	2.0%
1,1,1,2-Tetrachloroethane	9.4	10.0	94.0%	9.1	10.0	91.0%	3.2%
1,2-Dibromo-3-chloropropane	9.1 Q	10.0	91.0%	8.8 Q	10.0	88.0%	3.4%
1,2,3-Trichloropropane	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
trans-1,4-Dichloro-2-butene	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
1,3,5-Trimethylbenzene	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
1,2,4-Trimethylbenzene	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
Hexachlorobutadiene	10.1	10.0	101%	10.3	10.0	103%	2.0%
Ethylene Dibromide	10.1	10.0	101%	10.0	10.0	100%	1.0%
Bromochloromethane	10.4	10.0	104%	10.0	10.0	100%	3.9%
2,2-Dichloropropane	10.2	10.0	102%	9.7	10.0	97.0%	5.0%
1,3-Dichloropropane	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
Isopropylbenzene	10.0	10.0	100%	9.8	10.0	98.0%	2.0%
n-Propylbenzene	10.2	10.0	102%	10.0	10.0	100%	2.0%
Bromobenzene	9.5	10.0	95.0%	9.3	10.0	93.0%	2.1%
2-Chlorotoluene	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
4-Chlorotoluene	9.9	10.0	99.0%	9.9	10.0	99.0%	0.0%
tert-Butylbenzene	9.7	10.0	97.0%	9.6	10.0	96.0%	1.0%
sec-Butylbenzene	10.1	10.0	101%	10.0	10.0	100%	1.0%
4-Isopropyltoluene	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
n-Butylbenzene	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
1,2,4-Trichlorobenzene	9.1	10.0	91.0%	8.8	10.0	88.0%	3.4%
Naphthalene	9.2	10.0	92.0%	8.8	10.0	88.0%	4.4%
1,2,3-Trichlorobenzene	9.4	10.0	94.0%	9.2	10.0	92.0%	2.2%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	110%	104%
d8-Toluene	101%	101%
Bromofluorobenzene	98.4%	96.8%
d4-1,2-Dichlorobenzene	103%	103%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0212

Lab Name: ANALYTICAL RESOURCES, INC
Client: SCIENCE APP. INTERNATION

ARI Job No: QJ67
Project: NBF/GTSB

Lab File ID: 02121005
Lab Sample ID: MB0212

Date Analyzed: 02/12/10
Time Analyzed: 1202

Instrument ID: NT5
Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0212	LCS0212	02121003	1111
02	LCSD0212	LCSD0212	02121004	1136
03	NBF-MH108-02	QJ67E	02121023	1954
04	NBF-LS431-02	QJ67F	02121024	2020
05				
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08				
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-021210**
 METHOD BLANK

Lab Sample ID: MB-021210
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/19/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/PKC
Date Analyzed: 02/12/10 12:02

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.5	< 0.5	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

Lab Sample ID: MB-021210 QC Report No: QJ67-Science App. International Corp
LIMS ID: 10-3865 Project: NBF/GTSP
Matrix: Water
Date Analyzed: 02/12/10 12:02

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	109%
d8-Toluene	101%
Bromofluorobenzene	91.6%
d4-1,2-Dichlorobenzene	104%

SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH108-021110-W
SAMPLE

Lab Sample ID: QJ67E
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/19/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP
NA
Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted: 02/16/10
Date Analyzed: 02/17/10 22:25
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**1.0**	**2.1**
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	49.2%	2-Fluorobiphenyl	54.0%
d14-p-Terphenyl	74.4%	d4-1,2-Dichlorobenzene	40.4%
d5-Phenol	61.1%	2-Fluorophenol	49.6%
2,4,6-Tribromophenol	76.8%	d4-2-Chlorophenol	51.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-LS431-021110-W
SAMPLE

Lab Sample ID: QJ67F
LIMS ID: 10-3866
Matrix: Water
Data Release Authorized:
Reported: 02/19/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP
NA
Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted: 02/16/10
Date Analyzed: 02/17/10 22:58
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	50.4%	2-Fluorobiphenyl	55.6%
d14-p-Terphenyl	84.0%	d4-1,2-Dichlorobenzene	40.0%
d5-Phenol	60.0%	2-Fluorophenol	50.4%
2,4,6-Tribromophenol	82.9%	d4-2-Chlorophenol	52.3%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MB-021610	60.4%	64.0%	86.4%	53.6%	74.9%	64.5%	66.9%	66.9%	0
LCS-021610	67.2%	70.4%	84.4%	65.6%	85.9%	69.6%	81.6%	73.1%	0
LCSD-021610	82.0%	82.4%	103%	79.6%	109%*	88.3%	103%	89.1%	1
NBF-MH108-021110-W	49.2%	54.0%	74.4%	40.4%	61.1%	49.6%	76.8%	51.7%	0
NBF-LS431-021110-W	50.4%	55.6%	84.0%	40.0%	60.0%	50.4%	82.9%	52.3%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 10-3865 to 10-3866

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-021610
LCS/LCSD

Lab Sample ID: LCS-021610
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/19/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted LCS/LCSD: 02/16/10

Sample Amount LCS: 500 mL
LCSD: 500 mL

Date Analyzed LCS: 02/18/10 13:30
LCSD: 02/18/10 14:04

Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL

Instrument/Analyst LCS: NT4/JZ
LCSD: NT4/JZ

Dilution Factor LCS: 1.00
LCSD: 1.00

GPC Cleanup: NO

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	15.0	25.0	60.0%	18.9	25.0	75.6%	23.0%
1,4-Dichlorobenzene	12.9	25.0	51.6%	16.3	25.0	65.2%	23.3%
Benzyl Alcohol	26.4 Q	50.0	52.8%	33.4 Q	50.0	66.8%	23.4%
1,2-Dichlorobenzene	13.4	25.0	53.6%	17.0	25.0	68.0%	23.7%
2-Methylphenol	13.9	25.0	55.6%	17.8	25.0	71.2%	24.6%
4-Methylphenol	28.3	50.0	56.6%	35.6	50.0	71.2%	22.8%
2,4-Dimethylphenol	9.8	25.0	39.2%	12.6	25.0	50.4%	24.6%
Benzoic Acid	45.6	75.0	60.8%	54.7	75.0	72.9%	18.1%
1,2,4-Trichlorobenzene	12.9	25.0	51.6%	16.4	25.0	65.6%	23.9%
Naphthalene	14.8	25.0	59.2%	18.6	25.0	74.4%	22.8%
Hexachlorobutadiene	12.2	25.0	48.8%	15.6	25.0	62.4%	24.5%
2-Methylnaphthalene	14.3	25.0	57.2%	17.4	25.0	69.6%	19.6%
Dimethylphthalate	16.9	25.0	67.6%	20.0	25.0	80.0%	16.8%
Acenaphthylene	15.8	25.0	63.2%	18.9	25.0	75.6%	17.9%
Acenaphthene	15.4	25.0	61.6%	18.5	25.0	74.0%	18.3%
Dibenzofuran	15.0	25.0	60.0%	17.9	25.0	71.6%	17.6%
Diethylphthalate	14.7	25.0	58.8%	17.8	25.0	71.2%	19.1%
Fluorene	15.4	25.0	61.6%	18.9	25.0	75.6%	20.4%
N-Nitrosodiphenylamine	15.1	25.0	60.4%	18.8	25.0	75.2%	21.8%
Hexachlorobenzene	17.3	25.0	69.2%	21.0	25.0	84.0%	19.3%
Pentachlorophenol	19.6	25.0	78.4%	23.6	25.0	94.4%	18.5%
Phenanthrene	17.6	25.0	70.4%	21.9	25.0	87.6%	21.8%
Anthracene	17.2	25.0	68.8%	20.9	25.0	83.6%	19.4%
Di-n-Butylphthalate	18.1	25.0	72.4%	21.8	25.0	87.2%	18.5%
Fluoranthene	17.4	25.0	69.6%	21.2	25.0	84.8%	19.7%
Pyrene	18.4	25.0	73.6%	22.2	25.0	88.8%	18.7%
Butylbenzylphthalate	17.5	25.0	70.0%	21.2	25.0	84.8%	19.1%
Benzo(a)anthracene	18.9	25.0	75.6%	23.5	25.0	94.0%	21.7%
bis(2-Ethylhexyl)phthalate	18.4	25.0	73.6%	22.5	25.0	90.0%	20.0%
Chrysene	18.1	25.0	72.4%	22.0	25.0	88.0%	19.5%
Di-n-Octyl phthalate	18.8	25.0	75.2%	22.6	25.0	90.4%	18.4%
Benzo(b)fluoranthene	12.8 Q	25.0	51.2%	16.3 Q	25.0	65.2%	24.1%
Benzo(k)fluoranthene	18.6	25.0	74.4%	22.0	25.0	88.0%	16.7%
Benzo(a)pyrene	15.9	25.0	63.6%	19.4	25.0	77.6%	19.8%
Indeno(1,2,3-cd)pyrene	19.2	25.0	76.8%	23.5	25.0	94.0%	20.1%
Dibenz(a,h)anthracene	19.1	25.0	76.4%	23.3	25.0	93.2%	19.8%
Benzo(g,h,i)perylene	21.3	25.0	85.2%	26.3	25.0	105%	21.0%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	67.2%	82.0%
2-Fluorobiphenyl	70.4%	82.4%
d14-p-Terphenyl	84.4%	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-021610
LCS/LCSD

Lab Sample ID: LCS-021610
LIMS ID: 10-3865
Matrix: Water
Date Analyzed LCS: 02/18/10 13:30
LCSD: 02/18/10 14:04

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d4-1,2-Dichlorobenzene			65.6%	79.6%			
d5-Phenol			85.9%	109%			
2-Fluorophenol			69.6%	88.3%			
2,4,6-Tribromophenol			81.6%	103%			
d4-2-Chlorophenol			73.1%	89.1%			

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QJ67MBW1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: QJ67 Project: NBF/GTSP

Lab File ID: 02171017 Date Extracted: 02/16/10

Instrument ID: NT4 Date Analyzed: 02/17/10

Matrix: LIQUID Time Analyzed: 2045

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	NBF-MH108-021110	QJ67E	02171020	02/17/10
02	NBF-LS431-021110	QJ67F	02171021	02/17/10
03	QJ67LCSW1	QJ67LCSW1	02181025	02/18/10
04	QJ67LCSDW1	QJ67LCSDW1	02181026	02/18/10
05				
06				
07				
08				
09				
10				
11				
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30				

COMMENTS:

FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-021610
METHOD BLANK

Lab Sample ID: MB-021610
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/19/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP
NA
Date Sampled: NA
Date Received: NA

Date Extracted: 02/16/10
Date Analyzed: 02/17/10 20:45
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	60.4%	2-Fluorobiphenyl	64.0%
d14-p-Terphenyl	86.4%	d4-1,2-Dichlorobenzene	53.6%
d5-Phenol	74.9%	2-Fluorophenol	64.5%
2,4,6-Tribromophenol	66.9%	d4-2-Chlorophenol	66.9%

SIM SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-MH108-021110-W
SAMPLE

Lab Sample ID: QJ67E
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/23/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP
Event: NA
Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted: 02/15/10
Date Analyzed: 02/18/10 18:58
Instrument/Analyst: NT2/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.27**
91-57-6	**2-Methylnaphthalene**	**0.010**	**0.37**
90-12-0	**1-Methylnaphthalene**	**0.010**	**0.28**
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	**Acenaphthene**	**0.010**	**0.013**
86-73-7	**Fluorene**	**0.010**	**0.016**
85-01-8	**Phenanthrene**	**0.010**	**0.034**
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	**Fluoranthene**	**0.010**	**0.044**
129-00-0	**Pyrene**	**0.010**	**0.026**
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	**Chrysene**	**0.010**	**0.017**
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	**Dibenzofuran**	**0.010**	**0.017**

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	68.7%
d14-Dibenzo(a,h)anthracene	82.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-LS431-021110-W
SAMPLE

Lab Sample ID: QJ67F
LIMS ID: 10-3866
Matrix: Water
Data Release Authorized:
Reported: 02/23/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP
Event: NA
Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted: 02/15/10
Date Analyzed: 02/18/10 19:23
Instrument/Analyst: NT2/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.050**
91-57-6	**2-Methylnaphthalene**	**0.010**	**0.056**
90-12-0	**1-Methylnaphthalene**	**0.010**	**0.047**
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	**Acenaphthene**	**0.010**	**0.030**
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	**Phenanthrene**	**0.010**	**0.037**
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	**Fluoranthene**	**0.010**	**0.094**
129-00-0	**Pyrene**	**0.010**	**0.069**
56-55-3	**Benzo(a)anthracene**	**0.010**	**0.019**
218-01-9	**Chrysene**	**0.010**	**0.070**
205-99-2	**Benzo(b)fluoranthene**	**0.010**	**0.042**
207-08-9	**Benzo(k)fluoranthene**	**0.010**	**0.042**
50-32-8	**Benzo(a)pyrene**	**0.010**	**0.032**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.010**	**0.030**
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	**Benzo(g,h,i)perylene**	**0.010**	**0.035**
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	68.7%
d14-Dibenzo(a,h)anthracene	71.7%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Client ID	MNP	DBA	TOT OUT
MB-021510	83.7%	74.0%	0
LCS-021510	74.0%	85.3%	0
LCSD-021510	68.7%	81.7%	0
NBF-MH108-021110-W	68.7%	82.7%	0
NBF-LS431-021110-W	68.7%	71.7%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(42-100)	(31-109)
(DBA) = d14-Dibenzo(a,h)anthracene	(40-125)	(10-133)

Prep Method: SW3520C
Log Number Range: 10-3865 to 10-3866

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: LCS-021510
LAB CONTROL SAMPLE

Lab Sample ID: LCS-021510
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/23/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 02/15/10

Date Analyzed LCS: 02/18/10 18:09
LCSD: 02/18/10 18:34
Instrument/Analyst LCS: NT2/PK
LCSD: NT2/PK

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	0.183	0.300	61.0%	0.172	0.300	57.3%	6.2%
2-Methylnaphthalene	0.208	0.300	69.3%	0.195	0.300	65.0%	6.5%
1-Methylnaphthalene	0.198	0.300	66.0%	0.190	0.300	63.3%	4.1%
Acenaphthylene	0.202	0.300	67.3%	0.202	0.300	67.3%	0.0%
Acenaphthene	0.216	0.300	72.0%	0.210	0.300	70.0%	2.8%
Fluorene	0.236	0.300	78.7%	0.231	0.300	77.0%	2.1%
Phenanthrene	0.254	0.300	84.7%	0.253	0.300	84.3%	0.4%
Anthracene	0.229	0.300	76.3%	0.233	0.300	77.7%	1.7%
Fluoranthene	0.250	0.300	83.3%	0.252	0.300	84.0%	0.8%
Pyrene	0.251	0.300	83.7%	0.257	0.300	85.7%	2.4%
Benzo(a)anthracene	0.249	0.300	83.0%	0.260	0.300	86.7%	4.3%
Chrysene	0.259	0.300	86.3%	0.262	0.300	87.3%	1.2%
Benzo(b)fluoranthene	0.222	0.300	74.0%	0.216	0.300	72.0%	2.7%
Benzo(k)fluoranthene	0.249	0.300	83.0%	0.251	0.300	83.7%	0.8%
Benzo(a)pyrene	0.215	0.300	71.7%	0.224	0.300	74.7%	4.1%
Indeno(1,2,3-cd)pyrene	0.230	0.300	76.7%	0.226	0.300	75.3%	1.8%
Dibenz(a,h)anthracene	0.255 Q	0.300	85.0%	0.245 Q	0.300	81.7%	4.0%
Benzo(g,h,i)perylene	0.222	0.300	74.0%	0.217	0.300	72.3%	2.3%
Dibenzofuran	0.253	0.300	84.3%	0.247	0.300	82.3%	2.4%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	74.0%	68.7%
d14-Dibenzo(a,h)anthracene	85.3%	81.7%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QJ67MBW1

Lab Name: ANALYTICAL RESOURCES, INC — Client: SAIC

ARI Job No: QJ67 — Project: NBF/GTSP

Lab File ID: 021815 — Date Extracted: 02/15/10

Instrument ID: NT2 — Date Analyzed: 02/18/10

Matrix: LIQUID — Time Analyzed: 1745

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QJ67LCSW1	QJ67LCSW1	021816	02/18/10
02	QJ67LCSDW1	QJ67LCSDW1	021817	02/18/10
03	NBF-MH108-021110	QJ67E	021818	02/18/10
04	NBF-LS431-021110	QJ67F	021819	02/18/10
05				
06				
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08				
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COMMENTS:

FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: MB-021510
METHOD BLANK

Lab Sample ID: MB-021510
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/23/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 02/15/10
Date Analyzed: 02/18/10 17:45
Instrument/Analyst: NT2/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	83.7%
d14-Dibenzo(a,h)anthracene	74.0%

LOW LEVEL PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108-021110-W
SAMPLE

Lab Sample ID: QJ67E
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/22/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted: 02/15/10
Date Analyzed: 02/19/10 04:38
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	**Aroclor 1248**	**0.010**	**0.075**
11097-69-1	**Aroclor 1254**	**0.010**	**0.070**
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	75.2%
Tetrachlorometaxylene	60.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-LS431-021110-W
SAMPLE

Lab Sample ID: QJ67F
LIMS ID: 10-3866
Matrix: Water
Data Release Authorized:
Reported: 02/22/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted: 02/15/10
Date Analyzed: 02/19/10 04:59
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	**Aroclor 1248**	**0.010**	**0.014**
11097-69-1	**Aroclor 1254**	**0.010**	**0.014**
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	77.2%
Tetrachlorometaxylene	53.5%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-021510	78.8%	32-108	44.0%	31-100	0
LCS-021510	84.2%	32-108	45.8%	31-100	0
LCSD-021510	89.5%	32-108	46.5%	31-100	0
NBF-MH108-021110-W	75.2%	19-111	60.8%	21-100	0
NBF-LS431-021110-W	77.2%	19-111	53.5%	21-100	0

Prep Method: SW3510C
Log Number Range: 10-3865 to 10-3866

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-021510
LCS/LCSD

Lab Sample ID: LCS-021510
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/22/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 02/15/10

Date Analyzed LCS: 02/19/10 03:55
LCSD: 02/19/10 04:16
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1000 mL
LCSD: 1000 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.039	0.050	78.0%	0.042	0.050	84.0%	7.4%
Aroclor 1260	0.041	0.050	82.0%	0.046	0.050	92.0%	11.5%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	84.2%	89.5%
Tetrachlorometaxylene	45.8%	46.5%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QJ67MBW1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QJ67
Project: NBF/GTSP

Lab Sample ID: QJ67MBW1
Lab File ID: 0218B045

Date Extracted: 02/15/10
Matrix: LIQUID

Date Analyzed: 02/19/10
Instrument ID: ECD5

Time Analyzed: 0333
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QJ67LCSW1	QJ67LCSW1	02/19/10
02	QJ67LCSDW1	QJ67LCSDW1	02/19/10
03	NBF-MH108-021110-W	QJ67E	02/19/10
04	NBF-LS431-021110-W	QJ67F	02/19/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-021510
METHOD BLANK

Lab Sample ID: MB-021510
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 02/22/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: NA

Date Extracted: 02/15/10
Date Analyzed: 02/19/10 03:33
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	78.8%
Tetrachlorometaxylene	44.0%

PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108A-021110-S
SAMPLE

Lab Sample ID: QJ67A
LIMS ID: 10-3861
Matrix: Filter Bag
Data Release Authorized:
Reported: 02/22/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted: 02/16/10
Date Analyzed: 02/19/10 18:40
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 100
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	10	< 10 U
53469-21-9	**Aroclor 1242**	**10**	**72**
12672-29-6	Aroclor 1248	10	< 10 U
11097-69-1	**Aroclor 1254**	**10**	**100**
11096-82-5	**Aroclor 1260**	**10**	**22**
11104-28-2	Aroclor 1221	10	< 10 U
11141-16-5	Aroclor 1232	10	< 10 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	124%
Tetrachlorometaxylene	112%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-LS431A-021110-S
SAMPLE

Lab Sample ID: QJ67C
LIMS ID: 10-3863
Matrix: Filter Bag
Data Release Authorized:
Reported: 02/22/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted: 02/16/10
Date Analyzed: 02/19/10 19:01
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 100
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	10	< 10 U
53469-21-9	**Aroclor 1242**	**10**	**11**
12672-29-6	Aroclor 1248	10	< 10 U
11097-69-1	**Aroclor 1254**	**10**	**10**
11096-82-5	Aroclor 1260	10	< 10 U
11104-28-2	Aroclor 1221	10	< 10 U
11141-16-5	Aroclor 1232	10	< 10 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	106%
Tetrachlorometaxylene	105%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Filter Bag

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Client ID	DCBP	TCMX	TOT OUT
MB-021610	66.5%	65.2%	0
LCS-021610	66.8%	62.2%	0
LCSD-021610	66.5%	64.5%	0
NBF-MH108A-021110-S	124%	112%	0
NBF-LS431A-021110-S	106%	105%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A
Log Number Range: 10-3861 to 10-3863

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-021610
LCS/LCSD

Lab Sample ID: LCS-021610
LIMS ID: 10-3861
Matrix: Filter Bag
Data Release Authorized:
Reported: 02/22/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted LCS/LCSD: 02/16/10

Date Analyzed LCS: 02/19/10 17:57
LCSD: 02/19/10 18:18
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1.00 Filter Bag
LCSD: 1.00 Filter Bag
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	2.4	2.5	96.0%	2.3	2.5	92.0%	4.3%
Aroclor 1260	1.8	2.5	72.0%	2.1	2.5	84.0%	15.4%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	66.8%	66.5%
Tetrachlorometaxylene	62.2%	64.5%

Reported in Total µg
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QJ67MB1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QJ67
Project: NBF/GTSP

Lab Sample ID: QJ67MB1
Lab File ID: 0219B015

Date Extracted: 02/16/10
Matrix: SOLID

Date Analyzed: 02/19/10
Instrument ID: ECD5

Time Analyzed: 1735
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QJ67LCS1	QJ67LCS1	02/19/10
02	QJ67LCSD1	QJ67LCSD1	02/19/10
03	NBF-MH108A-021110-S	QJ67A	02/19/10
04	NBF-LS431A-021110-S	QJ67C	02/19/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-021610
METHOD BLANK

Lab Sample ID: MB-021610
LIMS ID: 10-3861
Matrix: Filter Bag
Data Release Authorized:
Reported: 02/22/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: NA

Date Extracted: 02/16/10
Date Analyzed: 02/19/10 17:35
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.1	< 0.1 U
53469-21-9	Aroclor 1242	0.1	< 0.1 U
12672-29-6	Aroclor 1248	0.1	< 0.1 U
11097-69-1	Aroclor 1254	0.1	< 0.1 U
11096-82-5	Aroclor 1260	0.1	< 0.1 U
11104-28-2	Aroclor 1221	0.1	< 0.1 U
11141-16-5	Aroclor 1232	0.1	< 0.1 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	66.5%
Tetrachlorometaxylene	65.2%

METALS ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108A-021110-S
SAMPLE

Lab Sample ID: QJ67K
LIMS ID: 10-3871
Matrix: Soil
Data Release Authorized:
Reported: 03/11/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Percent Total Solids: 15.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/17/10	6010B	03/10/10	7440-38-2	Arsenic	80	80	U
3050B	02/17/10	6010B	03/10/10	**7440-43-9**	**Cadmium**	3	**6**	
3050B	02/17/10	6010B	03/10/10	**7440-47-3**	**Chromium**	8	**52**	
3050B	02/17/10	6010B	03/10/10	**7440-50-8**	**Copper**	3	**311**	
3050B	02/17/10	6010B	03/10/10	**7439-92-1**	**Lead**	30	**90**	
CLP	02/17/10	7471A	02/19/10	**7439-97-6**	**Mercury**	0.1	**1.7**	
3050B	02/17/10	6010B	03/10/10	7440-22-4	Silver	5	5	U
3050B	02/17/10	6010B	03/10/10	**7440-66-6**	**Zinc**	20	**880**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431A-021110-S
SAMPLE

Lab Sample ID: QJ67L
LIMS ID: 10-3872
Matrix: Soil
Data Release Authorized:
Reported: 03/11/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Percent Total Solids: 22.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/17/10	6010B	03/10/10	7440-38-2	Arsenic	50	50	U
3050B	02/17/10	6010B	03/10/10	**7440-43-9**	**Cadmium**	2	**5**	
3050B	02/17/10	6010B	03/10/10	**7440-47-3**	**Chromium**	5	**36**	
3050B	02/17/10	6010B	03/10/10	**7440-50-8**	**Copper**	2	**68**	
3050B	02/17/10	6010B	03/10/10	**7439-92-1**	**Lead**	20	**30**	
CLP	02/17/10	7471A	02/19/10	**7439-97-6**	**Mercury**	0.09	**0.12**	
3050B	02/17/10	6010B	03/10/10	7440-22-4	Silver	3	3	U
3050B	02/17/10	6010B	03/10/10	**7440-66-6**	**Zinc**	10	**450**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH108A-021110-S
MATRIX SPIKE

Lab Sample ID: QJ67K
LIMS ID: 10-3871
Matrix: Soil
Data Release Authorized:
Reported: 03/12/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	80 U	1,250	1,210	103%	
Cadmium	6010B	6	304	302	98.7%	
Chromium	6010B	52	354	302	100%	
Copper	6010B	311	611	302	99.3%	
Lead	6010B	90	1,260	1,210	96.7%	
Mercury	7471A	1.7	2.7	1.23	81.3%	
Silver	6010B	5 U	296	302	98.0%	
Zinc	6010B	880	1,160	302	92.7%	

Reported in mg/kg-dry

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH108A-021110-S
DUPLICATE

Lab Sample ID: QJ67K
LIMS ID: 10-3871
Matrix: Soil
Data Release Authorized:
Reported: 03/11/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	80 U	80 U	0.0%	+/- 80	L
Cadmium	6010B	6	6	0.0%	+/- 3	L
Chromium	6010B	52	54	3.8%	+/- 20%	
Copper	6010B	311	305	1.9%	+/- 20%	
Lead	6010B	90	90	0.0%	+/- 30	L
Mercury	7471A	1.7	1.5	12.5%	+/- 20%	
Silver	6010B	5 U	5 U	0.0%	+/- 5	L
Zinc	6010B	880	930	5.5%	+/- 20%	

Reported in mg/kg-dry

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QJ67LCS
LIMS ID: 10-3872
Matrix: Soil
Data Release Authorized:
Reported: 03/12/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	198	200	99.0%	
Cadmium	6010B	48.9	50.0	97.8%	
Chromium	6010B	47.4	50.0	94.8%	
Copper	6010B	48.9	50.0	97.8%	
Lead	6010B	200	200	100%	
Mercury	7471A	0.48	0.50	96.0%	
Silver	6010B	47.1	50.0	94.2%	
Zinc	6010B	50	50	100%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: QJ67MB
LIMS ID: 10-3872
Matrix: Soil
Data Release Authorized:
Reported: 03/11/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/17/10	6010B	03/09/10	7440-38-2	Arsenic	5	5	U
3050B	02/17/10	6010B	03/09/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	02/17/10	6010B	03/09/10	7440-47-3	Chromium	0.5	0.5	U
3050B	02/17/10	6010B	03/09/10	7440-50-8	Copper	0.2	0.2	U
3050B	02/17/10	6010B	03/09/10	7439-92-1	Lead	2	2	U
CLP	02/17/10	7471A	02/19/10	7439-97-6	Mercury	0.02	0.02	U
3050B	02/17/10	6010B	03/09/10	7440-22-4	Silver	0.3	0.3	U
3050B	02/17/10	6010B	03/09/10	**7440-66-6**	**Zinc**	1	**2**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-021110-W
SAMPLE

Lab Sample ID: QJ67E
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 03/11/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
7470A	02/15/10	7470A	02/22/10	7439-97-6	Mercury	0.0001	0.0001	U

Calculated Hardness (mg-CaCO3/L): 88

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431-021110-W
SAMPLE

Lab Sample ID: QJ67F
LIMS ID: 10-3866
Matrix: Water
Data Release Authorized:
Reported: 03/11/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
7470A	02/15/10	7470A	02/22/10	7439-97-6	Mercury	0.0001	0.0001	U

Calculated Hardness (mg-CaCO3/L): 89

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-021110-W
MATRIX SPIKE

Lab Sample ID: QJ67E
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 03/11/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7470A	0.0001 U	0.0010	0.0010	100%	

Reported in mg/L

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH108-021110-W
DUPLICATE

Lab Sample ID: QJ67E
LIMS ID: 10-3865
Matrix: Water
Data Release Authorized:
Reported: 03/11/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7470A	0.0001 U	0.0001 U	0.0%	+/- 0.0001	L

Reported in mg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: QJ67LCS
LIMS ID: 10-3866
Matrix: Water
Data Release Authorized:
Reported: 03/11/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	0.0020	0.0020	100%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Sample ID: METHOD BLANK

Lab Sample ID: QJ67MB
LIMS ID: 10-3866
Matrix: Water
Data Release Authorized:
Reported: 03/11/10

QC Report No: QJ67-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
7470A	02/15/10	7470A	02/22/10	7439-97-6	Mercury	0.0001	0.0001	U

U-Analyte undetected at given RL
RL-Reporting Limit

MERCURY ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
Dissolved Mercury by Method SW7470A

Data Release Authorized:
Reported: 02/20/10
Date Received: 02/11/10
Page 1 of 1

QC Report No: QJ68-Science App. International Corp
Project: NBF/GTSP

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
NBF-MH108-021110-W QJ68A 10-3874	02/11/10	Water	02/16/10 02/19/10	20.0	20.0 U
NBF-LS431-021110-W QJ68B 10-3875	02/11/10	Water	02/16/10 02/19/10	20.0	20.0 U
MB-021610 Method Blank	NA	Water	02/16/10 02/18/10	20.0	20.0 U

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-021110-W
MATRIX SPIKE

Lab Sample ID: QJ68A
LIMS ID: 10-3874
Matrix: Water
Data Release Authorized:
Reported: 02/20/10

QC Report No: QJ68-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7470A	20.0 U	91.6	100	91.6%	

Reported in ng/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-021110-W DUPLICATE

Lab Sample ID: QJ68A
LIMS ID: 10-3874
Matrix: Water
Data Release Authorized:
Reported: 02/20/10

QC Report No: QJ68-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7470A	20.0 U	20.0 U	0.0%	+/- 20.0	L

Reported in ng/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QJ68LCS
LIMS ID: 10-3875
Matrix: Water
Data Release Authorized:
Reported: 02/20/10

QC Report No: QJ68-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	177	200	88.5%	

Reported in ng/L

N-Control limit not met
Control Limits: 80-120%

GENERAL CHEMISTRY ANALYSIS

SAMPLE RESULTS-CONVENTIONALS
QJ67-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 02/22/10

Project: NBF/GTSP
Event: NA
Date Sampled: 02/11/10
Date Received: 02/11/10

Client ID: NBF-MH108-021110-W
ARI ID: 10-3865 QJ67E

Analyte	Date Batch	Method	Units	RL	Sample
pH	02/11/10 021110#1	EPA 150.1	std units	0.01	7.20
Alkalinity	02/11/10 021110#1	SM 2320	mg/L CaCO3	1.0	86.0
Carbonate	02/11/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	02/11/10	SM 2320	mg/L CaCO3	1.0	86.0
Hydroxide	02/11/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	02/15/10 021510#1	EPA 160.2	mg/L	2.1	16.8
Chloride	02/16/10 021610#1	EPA 300.0	mg/L	1.0	4.1
N-Nitrate	02/12/10 021210#1	EPA 300.0	mg-N/L	0.1	0.7
Sulfate	02/16/10 021610#1	EPA 300.0	mg/L	1.0	14.2
Total Organic Carbon	02/15/10 021510#1	EPA 415.1	mg/L	1.50	4.70

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QJ67-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 02/22/10

Project: NBF/GTSP
Event: NA
Date Sampled: 02/11/10
Date Received: 02/11/10

Client ID: NBF-LS431-021110-W
ARI ID: 10-3866 QJ67F

Analyte	Date Batch	Method	Units	RL	Sample
pH	02/11/10 021110#1	EPA 150.1	std units	0.01	7.45
Alkalinity	02/11/10 021110#1	SM 2320	mg/L CaCO3	1.0	116
Carbonate	02/11/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	02/11/10	SM 2320	mg/L CaCO3	1.0	116
Hydroxide	02/11/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	02/15/10 021510#1	EPA 160.2	mg/L	1.7	22.0
Chloride	02/16/10 021610#1	EPA 300.0	mg/L	1.0	23.6
N-Nitrate	02/12/10 021210#1	EPA 300.0	mg-N/L	0.1	0.3
Sulfate	02/16/10 021610#1	EPA 300.0	mg/L	1.0	6.6
Total Organic Carbon	02/15/10 021510#1	EPA 415.1	mg/L	1.50	6.51

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QJ67-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 02/22/10

Project: NBF/GTSP
Event: NA
Date Sampled: 02/11/10
Date Received: 02/11/10

Client ID: NBF-MH108-021110-W
ARI ID: 10-3869 QJ67I

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	02/15/10 021510#1	EPA 415.1	mg/L	1.50	3.78

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QJ67-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 02/22/10

Project: NBF/GTSP
Event: NA
Date Sampled: 02/11/10
Date Received: 02/11/10

Client ID: NBF-LS431-021110-W
ARI ID: 10-3870 QJ67J

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	02/15/10 021510#1	EPA 415.1	mg/L	1.50	5.05

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
QJ67-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 02/22/10

Project: NBF/GTSP
Event: NA
Date Sampled: 02/11/10
Date Received: 02/11/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: QJ67E Client ID: NBF-MH108-021110-W							
Chloride	EPA 300.0	02/16/10	mg/L	4.1	23.4	20.0	96.5%
N-Nitrate	EPA 300.0	02/12/10	mg-N/L	0.7	2.8	2.0	105.0%
Sulfate	EPA 300.0	02/16/10	mg/L	14.2	34.6	20.0	102.0%
Total Organic Carbon	EPA 415.1	02/15/10	mg/L	4.70	24.6	20.0	99.5%
ARI ID: QJ67I Client ID: NBF-MH108-021110-W							
Dissolved Organic Carbon	EPA 415.1	02/15/10	mg/L	3.78	24.0	20.0	101.1%

REPLICATE RESULTS-CONVENTIONALS
QJ67-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 02/22/10

Project: NBF/GTSP
Event: NA
Date Sampled: 02/11/10
Date Received: 02/11/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: QJ67E Client ID: NBF-MH108-021110-W						
pH	EPA 150.1	02/11/10	std units	7.20	7.21	0.01
Alkalinity	SM 2320	02/11/10	mg/L CaCO3	86.0	85.8	0.2%
Carbonate	SM 2320	02/11/10	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	02/11/10	mg/L CaCO3	86.0	85.8	0.2%
Hydroxide	SM 2320	02/11/10	mg/L CaCO3	< 1.0	< 1.0	NA
Total Suspended Solids	EPA 160.2	02/15/10	mg/L	16.8	12.1	32.5%
Chloride	EPA 300.0	02/16/10	mg/L	4.1	4.0	2.5%
N-Nitrate	EPA 300.0	02/12/10	mg-N/L	0.7	0.7	0.0%
Sulfate	EPA 300.0	02/16/10	mg/L	14.2	14.3	0.7%
Total Organic Carbon	EPA 415.1	02/15/10	mg/L	4.70	4.63	1.5%
ARI ID: QJ67I Client ID: NBF-MH108-021110-W						
Dissolved Organic Carbo	EPA 415.1	02/15/10	mg/L	3.78	3.88	2.6%

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

LAB CONTROL RESULTS-CONVENTIONALS
QJ67-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 02/22/10

Project: NBF/GTSP
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH EPA 150.1	ICVL	02/11/10	std units	7.03	7.00	0.03
Total Suspended Solids EPA 160.2	ICVL	02/15/10	mg/L	49.9	50.0	99.8%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

METHOD BLANK RESULTS-CONVENTIONALS
QJ67-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 02/22/10

Project: NBF/GTSP
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Total Suspended Solids	EPA 160.2	02/15/10	mg/L	< 1.0 U	
Chloride	EPA 300.0	02/16/10	mg/L	< 0.1 U	
N-Nitrate	EPA 300.0	02/12/10	mg-N/L	< 0.1 U	
Sulfate	EPA 300.0	02/16/10	mg/L	< 0.1 U	
Total Organic Carbon	EPA 415.1	02/15/10	mg/L	< 1.50 U	
Dissolved Organic Carbon	EPA 415.1	02/15/10	mg/L	< 1.50 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
QJ67-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 02/22/10

Project: NBF/GTSP
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	02/11/10	mg/L CaCO3	73.7	73.6	100.1%
Chloride ERA #230109	EPA 300.0	02/16/10	mg/L	3.0	3.0	100.0%
N-Nitrate ERA #09127	EPA 300.0	02/12/10	mg-N/L	2.9	3.0	96.7%
Sulfate ERA #220109	EPA 300.0	02/16/10	mg/L	3.1	3.0	103.3%
Total Organic Carbon ERA 0506-09-01	EPA 415.1	02/15/10	mg/L	19.9	20.0	99.5%
Dissolved Organic Carbon ERA 0506-09-01	EPA 415.1	02/15/10	mg/L	19.9	20.0	99.5%

GEOTECHNICAL ANALYSIS

Science App. Int. Corp.
NBF/GTSP

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
NBF-MH108A-021110-S	9.2	6.3	2.9	4.6	7.1	4.5	-	-	-	-	-	-	-	65.3
NBF-LS431A-021110-S	0.0	1.2	4.6	29.2	22.0	6.2	-	-	-	-	-	-	-	36.9

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

QJ67

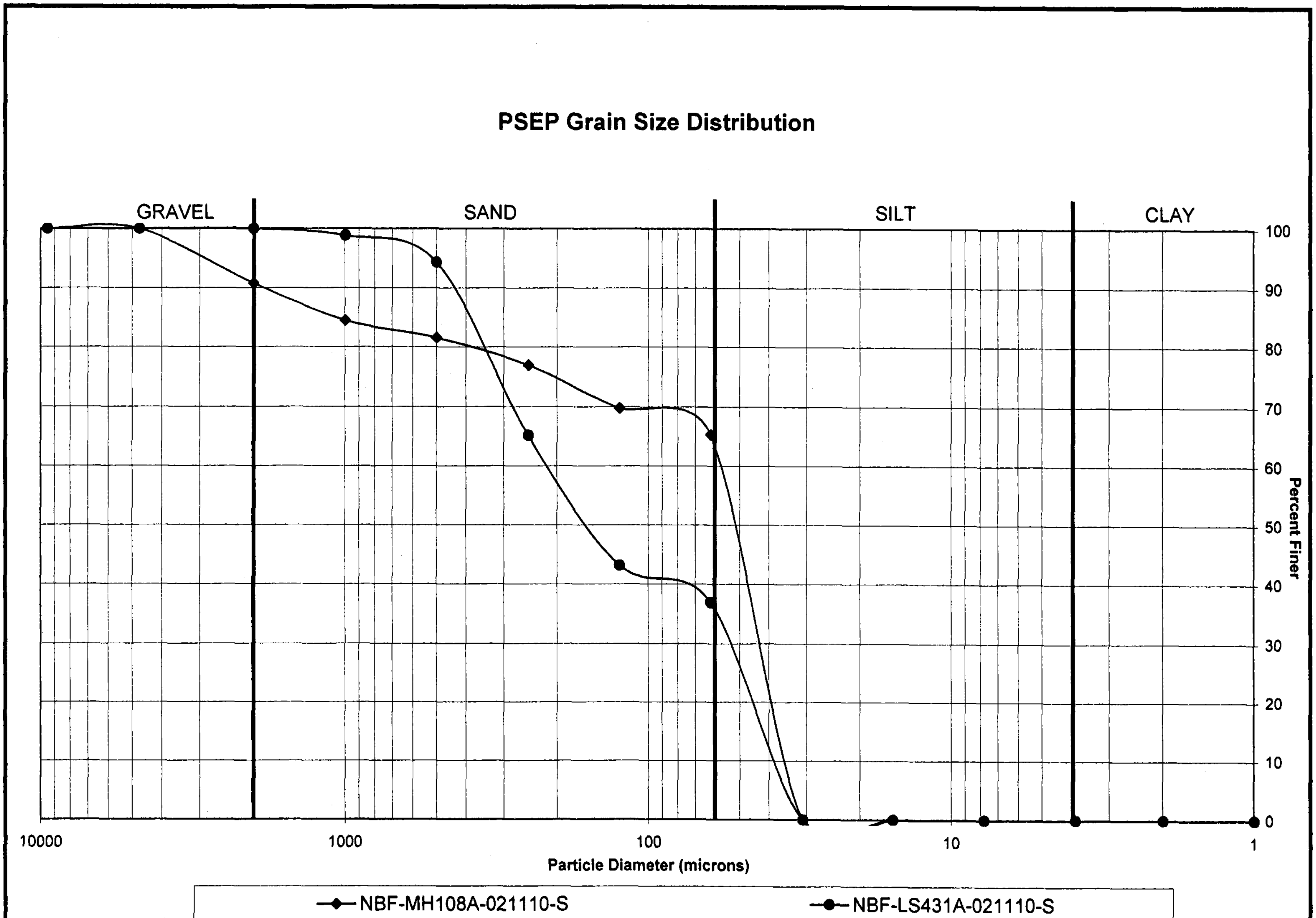
Science App. Int. Corp.
NBF/GTSP

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
NBF-MH108A-021110-S	100.0	100.0	90.8	84.5	81.6	76.9	69.8	65.3	-	-	-	-	-	-
NBF-LS431A-021110-S	100.0	100.0	100.0	98.8	94.3	65.1	43.1	36.9	-	-	-	-	-	-

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.


PSEP Grain Size Distribution
GRAVEL
SAND
SILT
CLAY
100
90
80
70
60
50
40
30
20
10
0
Percent Finer
10000
1000
100
10
1
Particle Diameter (microns)
NBF-MH108A-021110-S
NBF-LS431A-021110-S

TOTAL SOLIDS

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory
Analyst Notes

ARI Job No.: QJ67 Client ID: Science App. International Cor

Parameter: PCB Client Project: NBF/GTSP

SOP Number(s): 3545 No Anomalies:

List problems, concerns, corrective actions and any other pertinent information

Prep time (before drying) - 1 hr Prep time (After drying) - 25mins

Sample wet weights - A = 345.25g C = 356.86g

Metals split - A = 10.15g C = 7.41g

Geotech split - A - 17.48g C = 7.03g WW 2/12/10

Sample dry weights with plastic Ring - A = 67.21g C = 74.46g

Plastic ring weights (Removed) - A = 14.55g C = 14.80g

Sample dry weights without plastic Ring - A = 42.66g C = 59.66g WC 2/16/10

GC analyst, Samples A & C are surrogated at 5X normal level to leave room for possible dilutions. SH 2/16/10

Analyst Initials:		Date:	

Solids Data Entry Report Checked by: DM Date: 2/18/10
Date: 02/18/10 Data Analyst: MH

Solids Determination performed on 02/17/10 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
QJ67	K	NBF-MH108A-021110-S	0.961	4.276	1.486	15.84
QJ67	L	NBF-LS431A-021110-S	0.988	4.892	1.875	22.72

SUBCONTRACTED ANALYSIS

Fremont Analytical

2930 Westlake Ave. N., Suite 100
Seattle, WA 98109

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email: info@fremontanalytical.com

Analysis of Total Metals in Water by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QI68
Lab Project #: CHM100309-10

EPA 200.8 (µg/L)	MRL	Method Blank	LCS	NBF-MH108-021110-W	NBF-LS431-021110-W
Date Extracted		3/10/10	3/10/10	3/10/10	3/10/10
Date Analyzed		3/10/10	3/10/10	3/10/10	3/10/10
Matrix				Water	Water
Arsenic (As)	0.95	nd	94%	**1.60**	**1.95**
Cadmium (Cd)	0.20	nd	112%	**15.9**	**4.60**
Calcium (Ca)	100	nd	90%	**27,800**	**22,200**
Chromium (Cr)	0.60	nd	106%	**2.65**	**3.90**
Copper (Cu)	0.40	nd	101%	**8.80**	**2.50**
Lead (Pb)	0.20	nd	109%	**3.00**	**1.65**
Magnesium (Mg)	100	nd	94%	**7200**	**10,200**
Nickel (Ni)	0.40	nd	101%	**2.1**	**1.10**
Selenium (Se)	1.0	nd	114%	**5.10**	**3.85**
Silver (Ag)	0.04	nd	111%	nd	nd
Zinc (Zn)	1.5	nd	90%	**63.8**	**38.1**

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:
- LCS: 85% to 115%
- MS/MSD/PDS: 70% to 130%

MS/MSD Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 1000 µg/L

PDS Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 2500 µg/L

LCS Concentration:
- As, Cr, Cu, Zn, Ni = 100 µg/L
- Ca = 1000 µg/L
- Pb = 50 µg/L
- Cd, Ag = 5 µg/L
- Se = 10 µg/L
- Mg = 700 µg/L

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Analysis of Total Metals in Water by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QI68
Lab Project #: CHM100309-10

EPA 200.8 (µg/L)	MRL	QA Sample *100309-12-1*	QA Duplicate *100309-12-1*	RPD %
Date Extracted		3/10/10	3/10/10	
Date Analyzed		3/10/10	3/10/10	
Matrix		Water	Water	
Arsenic (As)	0.95	**3.10**	**2.60**	18%
Cadmium (Cd)	0.20	**14.90**	**14.80**	1%
Calcium (Ca)	100	**42,600**	**42,800**	0.5%
Chromium (Cr)	0.60	**2.10**	**1.85**	13%
Copper (Cu)	0.40	**2.55**	**2.80**	9%
Lead (Pb)	0.20	**1.85**	**1.65**	11%
Magnesium (Mg)	100	**10,900**	**11,000**	1%
Nickel (Ni)	0.40	**2.15**	**2.25**	5%
Selenium (Se)	1.0	**4.80**	**5.85**	20%
Silver (Ag)	0.04	nd	nd	
Zinc (Zn)	1.5	**13.1**	**48.3**	115%

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"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:
- LCS: 85% to 115%
- MS/MSD/PDS: 70% to 130%

MS/MSD Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 1000 µg/L

PDS Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 2500 µg/L

LCS Concentration:
- As, Cr, Cu, Zn, Ni = 100 µg/L
- Ca = 1000 µg/L
- Pb = 50 µg/L
- Cd, Ag = 5 µg/L
- Se = 10 µg/L
- Mg = 700 µg/L

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Analysis of Total Metals in Water by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QI68
Lab Project #: CHM100309-10

EPA 200.8 (µg/L)	MRL	MS Sample+Spike	MS Recovery	MSD Sample+Spike	MSD Recovery	RPD %
		100309-11-3		*100309-11-3*		
Date Extracted		3/10/10		3/10/10		
Date Analyzed		3/10/10		3/10/10		
Matrix		Water		Water		
Arsenic (As)	0.95	*489*	98%	*454*	91%	7%
Cadmium (Cd)	0.20	*29.8*	92%	*27.7*	84%	10%
Calcium (Ca)	100	*18,000*	76%	*17,040*	38%	68%
Chromium (Cr)	0.60	*539*	107%	*504*	100%	7%
Copper (Cu)	0.40	*506*	100%	*473*	94%	7%
Lead (Pb)	0.20	*274.0*	107%	*263*	102%	4%
Magnesium (Mg)	100	*7730*	90%	*7305*	48%	62%
Nickel (Ni)	0.40	*509*	101%	*473*	95%	7%
Selenium (Se)	1.0	*56.3*	113%	*51.8*	104%	8%
Silver (Ag)	0.04	*27.9*	112%	*26.2*	105%	6%
Zinc (Zn)	1.5	*498*	92%	*466*	93%	1%

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"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:
- LCS: 85% to 115%
- MS/MSD/PDS: 70% to 130%

MS/MSD Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 1000 µg/L

PDS Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 2500 µg/L

LCS Concentration:
- As, Cr, Cu, Zn, Ni = 100 µg/L
- Ca = 1000 µg/L
- Pb = 50 µg/L
- Cd, Ag = 5 µg/L
- Se = 10 µg/L
- Mg = 700 µg/L

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Analysis of Total Metals in Water by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QI68
Lab Project #: CHM100309-10

EPA 200.8 (µg/L)	MRL	PDS Sample+Spike	Recovery
		100309-12-2	
Date Extracted		3/10/10	
Date Analyzed		3/10/10	
Matrix			Water
Arsenic (As)	0.95	*426*	85%
Cadmium (Cd)	0.20	*38.1*	87%
Calcium (Ca)	100	*29,600*	88%
Chromium (Cr)	0.60	*473*	94%
Copper (Cu)	0.40	*441*	88%
Lead (Pb)	0.20	*254*	100%
Magnesium (Mg)	100	*16,800*	80%
Nickel (Ni)	0.40	*443*	88%
Selenium (Se)	1.0	*43.1*	75%
Silver (Ag)	0.04	*24.9*	99%
Zinc (Zn)	1.5	*413*	79%

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"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:
- LCS: 85% to 115%
- MS/MSD/PDS: 70% to 130%

MS/MSD Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 1000 µg/L

PDS Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 2500 µg/L

LCS Concentration:
- As, Cr, Cu, Zn, Ni = 100 µg/L
- Ca = 1000 µg/L
- Pb = 50 µg/L
- Cd, Ag = 5 µg/L
- Se = 10 µg/L
- Mg = 700 µg/L

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Analysis of Dissolved Metals by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QI68
Lab Project #: CHM100309-10

EPA 200.8 (µg/L)	MRL	Method Blank	LCS	NBF-MH108-021110-W	NBF-LS431-021110-W
Date Extracted		3/10/10	3/10/10	3/10/10	3/10/10
Date Analyzed		3/10/10	3/10/10	3/10/10	3/10/10
Matrix				Water	Water
Arsenic (As)	0.95	nd	107%	nd	nd
Cadmium (Cd)	0.20	nd	109%	nd	nd
Chromium (Cr)	0.60	nd	109%	**1.05**	**1.15**
Copper (Cu)	0.40	nd	112%	**9.35**	nd
Lead (Pb)	0.20	nd	107%	nd	nd
Nickel (Ni)	0.40	nd	111%	**1.65**	**1.05**
Selenium (Se)	1.0	nd	98%	nd	nd
Silver (Ag)	0.04	nd	108%	nd	nd
Zinc (Zn)	1.5	nd	103%	**33.6**	**12.5**

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"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:

LCS: 85% to 115%
MS/MSD: 70% to 130%

Spike Concentration:

As, Cr = 500 µg/L
Cu, Zn, Ni = 500 µg/L
Pb = 250 µg/L
Cd, Ag =25 µg/L
Se = 50 µg/L

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Analysis of Dissolved Metals by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QI68
Lab Project #: CHM100309-10

EPA 200.8 (µg/L)	MRL	QA Sample *100309-12-1*	QA Duplicate *100309-12-1*	RPD %
Date Extracted		3/10/10	3/10/10	
Date Analyzed		3/10/10	3/10/10	
Matrix		Water	Water	
Arsenic (As)	0.95	nd	nd	
Cadmium (Cd)	0.20	nd	nd	
Chromium (Cr)	0.60	**1.10**	**1.05**	5%
Copper (Cu)	0.40	**8.90**	**9.05**	2%
Lead (Pb)	0.20	nd	nd	
Nickel (Ni)	0.40	**2.00**	**2.00**	0%
Selenium (Se)	1.0	nd	nd	
Silver (Ag)	0.04	nd	nd	
Zinc (Zn)	1.5	**18.7**	**19.6**	5%

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"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:
LCS: 85% to 115%
MS/MSD: 70% to 130%

Spike Concentration:
As, Cr = 500 µg/L
Cu, Zn, Ni = 500 µg/L
Pb = 250 µg/L
Cd, Ag =25 µg/L
Se = 50 µg/L

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Analysis of Dissolved Metals by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QI68
Lab Project #: CHM100309-10

		MS		MSD		
		Sample+Spike	*Recovery*	*Sample+Spike*	*Recovery*	
EPA 200.8 (µg/L)	**MRL**	**NBF-LS431-021110-W**		**NBF-LS431-021110-W**		**RPD %**
Date Extracted		3/10/10		3/10/10		
Date Analyzed		3/10/10		3/10/10		
Matrix		Water		Water		
Arsenic (As)	0.95	*526*	105%	*503*	101%	4%
Cadmium (Cd)	0.20	*26.6*	106%	*25.0*	100%	6%
Chromium (Cr)	0.60	*534*	106%	*514*	102%	4%
Copper (Cu)	0.40	*523*	105%	*502*	100%	4%
Lead (Pb)	0.20	*252*	101%	*252*	101%	0.2%
Nickel (Ni)	0.40	*530*	106%	*507*	101%	5%
Selenium (Se)	1.0	*41.5*	83%	*36.4*	73%	13%
Silver (Ag)	0.04	*26.1*	104%	*25.2*	101%	3%
Zinc (Zn)	1.5	*520*	101%	*503*	98%	3%

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"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:
LCS: 85% to 115%
MS/MSD: 70% to 130%

Spike Concentration:
As, Cr = 500 µg/L
Cu, Zn, Ni = 500 µg/L
Pb = 250 µg/L
Cd, Ag =25 µg/L
Se = 50 µg/L

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Total Hardness by EPA Method 200.8 / SM 2340B

Project: NBF/GTSP
Client: ARI
Client Project #: QI68
Lab Project #: CHM100309-10

EPA Method 200.8/SM 2340B (mg equivalent $CaCO_3$/L)	MRL	NBF-MH108-021110-W	NBF-LS431-021110-W
Date Analyzed		3/10/10	3/10/10
Matrix		Water	Water
Hardness	0.8	**99**	**98**

"MRL" Indicates Method Reporting Limit
"RPD" Indicates Relative Percent Difference

Acceptable RPD % is determined to be less than 30%

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Total Hardness by EPA Method 200.8 / SM 2340B

Project: NBF/GTSP
Client: ARI
Client Project #: QI68
Lab Project #: CHM100309-10

		QA Sample	QA Duplicate	
EPA Method 200.8/SM 2340B (mg equivalent $CaCO_3$/L)	**MRL**	*100309-12-3*	*100309-12-3*	**RPD %**
Date Analyzed		3/10/10	3/10/10	
Matrix		Water	Water	
Hardness	0.8	**151**	**152**	1%

"MRL" Indicates Method Reporting Limit
"RPD" Indicates Relative Percent Difference

Acceptable RPD % is determined to be less than 30%

Analytical Resources, Incorporated
Analytical Chemists and Consultants

March 16, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater
ARI Job No: QL13 & QL14

Dear Glen:

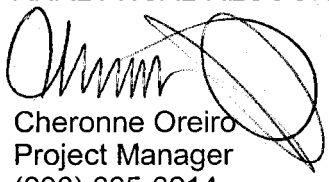
Please find enclosed the Chain-of-Custody (COC) record, sample receipt documentation, and the final data package for samples from the project referenced above.

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.



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

Enclosures

cc: eFile QL13/QL14

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QL13, QL14

prepared
by

Analytical Resources, Inc.

QL13

SAIC®
From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.:
Project Mgr: Glen Vedera
Project Name: NBF / GTSP stormwater Sampling
Project Location: NBF
Sample Collectors: J Nuwer J Beas
Client Name: Ecology

Shipping Information

Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors	Metals & Mercury	Grain Size	Low Level PCB Aroclors	SVOC / SIM SVOC	VOCs	Metals + Hg total / diss	hardness, pH, alk	anions, TOC, DOC, TSS		Comments
NBF-MH108A-022310-S		sediment	2/23/10	13:15	1 bag	X	X	X								
NBF-MH108B-022310-S		sediment	2/23/10	13:15	1 bag											Archive
NBF-MH108-022310-W		water	2/23/10	13:15	1 carboy				X	X	X	X	X	X		
NBF-LS431-022310-W		water	2/23/10	13:15	1 carboy				X	X	X	X	X	X		

RELINQUISHED BY:
Signature: [signature]
Date/Time: 2/23/10 1514
Affiliation: SAIC

RECEIVED BY:
Signature: [signature]
Date/Time: 2/23/10 1514
Affiliation: ARI

RELINQUISHED BY:
Signature:
Date/Time:
Affiliation:

RECEIVED BY:
Signature:
Date/Time:
Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC | Project Name: NBF/GTSP Stormwater

COC No(s): _____ NA | Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: QL13 | 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 3.0 ___ ___ ___ ___	

If cooler temperature is out of compliance fill out form 00070F | Temp Gun ID#: 90941619

Cooler Accepted by: CO Date: 2/23/10 Time: 1514

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)		_____

Samples Logged by: AV Date: 2/23/10 Time: 1706

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles' 2-4 mm	LARGE Air Bubbles > 4 mm
• • •	• • •	● ● ●

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 02/23/10

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QL13**

PC: Cheronne
VTSR: 02/23/10

Inquiry Number: NONE
Analysis Requested: 02/24/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: YES
Deliverables:

Project #:
Project: NBF/GTSP Stormwater Sampling
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-4524 **QL13A**	NBF-MH108-022310-W						TOT Pass				Unpreserved	pass										
10-4525 **QL13B**	NBF-LS431-022310-W						TOT ↓					↓										
10-4526 **QL13C**	NBF-MH108-022310-W						DIS Fail					Fail				N	Y uw	2-23-10	<2		few drops H_2SO_4 uw	2-23-10 uw
10-4527 **QL13D**	NBF-LS431-022310-W						DIS ↓					↓				N	Y uw		<2		↓	↓

DIS met & DOC unfiltered & unpreserved

DOC filtered + preserved 2-23-10
17:40
uw

Checked By AV Date 2/23/10

PRESERVATION VERIFICATION 02/23/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QL14**

PC: Cheronne
VTSR: 02/23/10

Inquiry Number: NONE
Analysis Requested: 02/24/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: ~~No~~ Yes
Deliverables:

Project #:
Project: NBF/GTSP Stormwater Sampling
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-4531 **QL14A**	NBF-MH108-022310-W						DIS Fail									N						
10-4532 **QL14B**	NBF-LS431-022310-W						DIS ↓									N						

unpreserved

QL1405

Checked By AV Date 2/23/10

Case Narrative

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QL13, QL14

prepared
by

Analytical Resources, Inc.

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater
ARI Job No.: QL13 & QL14

Sample Receipt

Two water samples and two filter-bags were received on February 23, 2010, under ARI jobs QL13 and QL14 (Low-Level Mercury). The cooler temperatures measured by IR thermometer following ARI SOP were 3.0 and 4.6°C. Please note the two of the water samples were submitted in five gallon carboys. One filter-bag sample was archived upon receipt. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The carboy water samples were homogenized using a fourteen liter churn-splitter and then poured in to individual sample containers for analysis.

Volatile by SW8260C

The samples were analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

Semivolatiles by SW8270D

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The 2/18/10 continuing calibrations of Benzoic Acid and Pentachlorophenol fell outside the 20% control limit low. All detected results for these compounds have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS and LCSD percent recoveries of Pentachlorophenol fell outside the control limits low for **LCS-022410**. All associated samples were undetected for this compound. No corrective action was required.

Low-Level Semivolatiles by SW8270D-SIM

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Aroclor Low Level Waters and Filter-Bag PCBs by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods. Please note that the plastic ring was removed before extracting the filter-bag sample.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

The undetected result for Aroclor 1260 was raised and "Y"-flagged due to interference from the matrix.

Total/Dissolved Metals and Total Mercury

Approximately ten grams of solid material was removed from the filter-bag to be analyzed for metals and mercury. Water sample volumes were transferred to Fremont Analytical in Seattle, WA to be analyzed for Total and Dissolved Metals. All data have been included in this package.

All samples were digested and analyzed within method recommended holding times, using internal standards.

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

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

Dissolved Low-Level Mercury

The samples were digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery and duplicate RPD were within control limits.

General Chemistry

The samples were prepared and analyzed within method recommended holding times, using internal standards.

The method blanks were clean at the reporting limits.

The LCS percent recovery of Alkalinity was outside the control limits high. All other quality control parameters were within control limits for Alkalinity. No corrective action was required.

The SRM percent recoveries were within limits.

The matrix spike percent recoveries and replicate RPD/RSDs were within control limits.

Geotechnical Parameters

A laboratory-specific case narrative follows. Approximately twenty grams of solid material was removed from each filter-bag to be analyzed by the geotechnical laboratory. A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science App. International Corp. **ARI Project No.:** QL13

Client Project: NBF/GTSP Stormwater Sampling

Case Narrative

1. One sample was received on February 23, 2010.
2. The sample was submitted for grain size analysis by means of X-ray diffraction using a Sedigraph 5120. The values are calculated using Stokes' Law of sedimentation and Beer's law of extinction. The sample was submitted with limited sample volume, and there was not enough sample to split a triplicate.
3. The standard operating procedure calls for the sample to be measured on the #4 (4750 µm) sieve, down to the 0.1 µm particle size with the Sedigraph 5120. If there were no particles measured at these extremes, the data is not included in the report.
4. The sample contained a percentage of organic material. Organic material does not absorb X-rays, and is not included in the fine portion of the analysis.
5. Due to the apparent high volume of organic material in the sample, some of the fine material data was skewed enough to result in a negative number in the percent retained data.
6. The data is provided in summary tables and plot.
7. There were no other noted anomalies in the samples or methods on this project.

Approved by: _____ Date: March 4, 2010
Lead Technician

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

LCS SOLUTIONS

3/6/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1686-1	PCB 1660	20	ACETONE	09/01/10
2#	1472-3	BCOC PEST	10	ACETONE	NA
3	1620-4	PEST	02/04/20	ACETONE	06/26/10
4	1667-1	LOW PEST	0.2/0.4/2	ACETONE	06/26/10
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1705-1	ABN	100	ACETONE	07/01/10
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1642-2	TPHD	15000	ACETONE	09/07/10
12	1698-1	ABN BASE	200	MEOH	07/24/10
13	1613-1	LOW PCB	2	ACETONE	06/08/10
14*	1547-1	LOW ABN ACID	10/20	MEOH	04/10/10
15*	1591-3	SIM PNA	15/75	MEOH	08/28/10
16	1602-3	DIOXANE	100	MEOH	03/20/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18*	1591-4	LOW SIM PNA	1.5	ACETONE	08/28/10
19	1685-3	AK103	7500	ACETONE	09/03/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1593-3	SKY/BHT	100	MEOH	03/31/10
22	1702-4	HERB	12.5/12500	MEOH	04/17/10
23*	1505-1	LW ABN BASE	20	MEOH	03/20/10
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#	1481-1	DIPHENYL	100	MEOH	NA
26	1702-5	OP-PEST	25	MEOH	03/31/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#	1684-1	ADD. PEST	4	ACETONE	03/25/10
29#	1496-3	DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

3/6/2010

31	1596-1	TERPINEOL	100	MEOH	04/03/10
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
	*=REVERIFIED SOLUTION				

SURR SOLUTIONS

3/6/2010

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1662-3	ABN	100/150	MEOH	10/08/10
B	1633-3	SIM PNA	15/75	MEOH	08/12/10
C*	1559-1	SIM ABN	25/37.5	MEOH	03/13/10
D	1689-2	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G*	1534-1	1,4DIOXANE	100	MEOH	02/20/10
H	1594-1	OP-PEST	25	MEOH	04/01/10
I	1634-1	LOW S. PNA	1.5	MEOH	08/12/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1699-1	TPH	450	MECL2	07/02/10
P	1666-3	HCID	2250	MECL2	05/06/10
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S#	1568-5	PBDE	.25	MEOH	NA
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					
#project specific					
Y					
Z					

Spike Recovery Control Limits for Analysis of Aqueous Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 10 mL Purge Volume [1,7]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI Control Limits	ARI ME Control Limits[2]
LCS Spike Recovery [6]		
tert-Butanol	49 - 150	32 - 167
Metyl-*tert*-butylether	47 - 154	29 - 172
Di-*iso*-propylether	43 - 149	25 - 167
Ethyl-*tert*-butylether	45 - 155	27 - 173
tert-Amyl methylether	52 - 151	35 - 168
Dichlorodifluoromethane	59 - 129	47 - 141
Chloromethane	66 - 123	57 - 133
Vinyl Chloride	68 - 121	59 - 130
Bromomethane	55 - 148	40 - 164
Chloroethane	47 - 155	29 - 173
1,1,2-Trichloro-1,2,2-trifluoroethane	70 - 129	60 - 139
Acrolein	24 170	**10** - 194
Trichlorotrifluoroethane	74 - 127	65 - 136
Acetone	70 - 130	60 - 140
1,1-Dichloroethene	72 - **120**	64 - 127
Bromoethane	73 - 131	63 - 141
Methyl Iodide	34 - 183	**10** - 208
Methylene Chloride	70 - 124	61 - 133
Acrylonitrile	71 - 135	60 - 146
Methyl tert-Butyl Ether	78 - **120**	72 - 122
Carbon Disulfide	66 - 129	56 - 140
trans-1,2-Dichloroethene	76 - **120**	70 - 120
Vinyl Acetate	49 - 134	35 - 148
1,1-Dichloroethane	75 - **120**	68 - 124
2-Butanone	78 - 131	69 - 140
2,2-Dichloropropane	68 - 121	59 - 130
cis-1,2-Dichloroethene	80 - **120**	75 - **120**
Chloroform	78 - **120**	72 - 121
Bromodichloromethane	79 - **120**	73 - **120**
1,1,1-Trichloroethane	76 - **120**	69 - 123
1,1-Dichloropropene	78 - **120**	72 - 120
Carbon Tetrachloride	70 - 126	61 - 135
1,2-Dichloroethane	78 - **120**	72 - **120**
Benzene	79 - **120**	73 - **120**
Trichloroethene	78 - **120**	72 - 122
1,2-Dichloropropane	80 - **120**	75 - **120**
Bromochloromethane	78 - **120**	72 - 124

Dibromomethane	80 - **120**	75 - **120**
2-Chloroethylvinylether	68 - 134	57 - 145
4-Methyl-2-Pentanone	73 - 131	63 - 141
cis-1,3-Dichloropropene	78 - **120**	72 - 121
Toluene	79 - **120**	74 - **120**
trans-1,3-Dichloropropene	75 - **120**	68 - 124
2-Hexanone	75 - 130	66 - 139
1,1,2-Trichloroethane	79 - **120**	74 - **120**
1,3-Dichloropropane	78 - **120**	72 - 120
Tetrachloroethene	72 - **120**	65 - 125
Dibromochloromethane	78 - **120**	71 - 125
Ethylene Dibromide	75 - **120**	68 - 125
Chlorobenzene	79 - **120**	73 - **120**
Ethylbenzene	78 - 121	71 - 128
1,1,2,2-Tetrachloroethane	72 - **120**	64 - 127
m,p-Xylene	65 - 129	54 - 140
o-Xylene	76 - 120	69 - 127
Styrene	74 - 121	66 - 129
Isopropylbenzene	74 - 120	66 - 128
Bromoform	71 - 120	63 - 128
1,1,1,2-Tetrachloroethane	75 - **120**	68 - 126
1,2,3-Trichloropropane	73 - 120	65 - 128
trans-1,4-Dichloro-2-butene	65 - 135	53 - 147
n-Propylbenzene	76 - 121	69 - 129
Bromobenzene	72 - **120**	64 - 126
1,3,5-Trimethylbenzene	74 - 123	66 - 131
2-Chlorotoluene	74 - **120**	67 - 127
4-Chlorotoluene	75 - **120**	68 - 125
tert-Butylbenzene	73 - 121	65 - 129
1,2,4-Trimethylbenzene	73 - 124	65 - 133
sec-Butylbenzene	75 - 123	67 - 131
4-Isopropyltoluene	71 - 125	62 - 134
1,3-Dichlorobenzene	72 - **120**	64 - 127
1,4-Dichlorobenzene	76 - **120**	69 - 123
n-Butylbenzene	72 - 124	63 - 133
1,2-Dichlorobenzene	75 - **120**	68 - 124
1,2-Dibromo-3-chloropropane	67 - 121	58 - 130
1,2,4-Trichlorobenzene	71 - 120	63 - 128
Hexachloro-1,3-butadiene	67 - 124	58 - 134
Naphthalene	71 - 125	62 - 134
1,2,3-Trichlorobenzene	61 - 134	49 - 146
MB/LCS Surrogate Recovery		
Dibromofluoromethane	64 - 133	(3)
d4-1,2-Dichloroethane	70 - 132	(3)
d8-Toluene	**80 - 120**	(3)

4-Bromofluorobenzene	**80 - 120**	(3)
d4-1,2-Dichlorobenzene	**80 - 120**	(3)
Sample Surrogate Recovery		
Dibromofluoromethane	30 - 160 [5]	(3)
d4-1,2-Dichloroethane	**80 - 143**	(3)
d8-Toluene	**80 - 120**	(3)
4-Bromofluorobenzene	**80 - 120**	(3)
D4-1,2-Dichlorobenzene	**80** - 120	(3)

(1) Control Limits calculated using all data generated 1/1/08 through 4/15/09.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard[4] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances require corrective action.
(3) Marginal Exceedances not allowed for surrogate standards.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) are adjusted from the calculated values as follows:
a) ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
b) Control limits for analyzes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
LCS Spike Recovery [8]				
Phenol [3]	50 - **100**	43 - 103	16 - **100**	6 - **100**
Bis-(2-chloroethyl) ether	52 - **100**	45 - 105	41 - 112	29 - 124
2-Chlorophenol	56 - **100**	49 - 103	43 - 111	32 - 122
1,3-Dichlorobenzene	23 - **100**	15 - **100**	32 - **100**	22 - 103
1,4-Dichlorobenzene	25 - **100**	17 - **100**	32 - **100**	22 - 103
Benzyl Alcohol	19 - 100	**10** - 114	22 - 100	9 - 113
1,2-Dichlorobenzene	30 - **100**	22 - **100**	34 - **100**	24 - 104
2-Methylphenol	52 - **100**	44 - 106	36 - 110	24 - 122
2,2'-oxybis(1-chloropropane)	32 - 111	19 - 124	29 - 118	14 - 133
4-Methylphenol	53 - 102	45 - 110	38 - 104	27 - 115
N-Nitroso-di-n-propylamine	43 - 104	33 - 114	38 - 115	25 - 128
Hexachloroethane	12 - **100**	**10** - **100**	24 - **100**	13 - 100
Nitrobenzene	33 - 125	18 - 140	45 - 106	35 - 116
Isophorone	57 - 115	47 - 125	55 - 119	44 - 130
2-Nitrophenol	56 - 102	48 - 110	46 - 118	34 - 130
2,4-Dimethyphenol	29 - **100**	20 - **100**	28 - 105	15 - 118
Bis-(2-chloroethoxy) methane	54 - 101	46 - 109	44 - 118	32 - 130
Benzoic Acid [3]	**10** - 131	**10** - 151	11 - **100**	**10** - **100**
2,4-Dichlorophenol	56 - 104	48 - 112	43 - 121	30 - 134
1,2,4-Trichlorobenzene	27 - **100**	18 - **100**	35 - **100**	25 - 107
Naphthalene	45 - **100**	38 - **100**	36 - 111	24 - 124
4-Chloroaniline [3]	**10** - 139	**10** - 161	10 - 174	**10** - 201
2-Chloronaphthalene	45 - **100**	37 - 105	39 - 118	26 - 131
Hexachlorobutadiene	**10** - **100**	**10** - **100**	24 - **100**	12 - 108
4-Chloro-3-methylphenol	53 - 109	44 - 118	45 - 122	32 - 135
2-Methylnaphthalene	46 - **100**	38 - 100	45 - 103	35 - 113
Hexachlorocyclopentadiene	**10** - **100**	**10** - **100**	23 - 108	**10** - 122
2,4,6-Trichlorophenol	58 - 108	50 - 116	48 - 122	36 - 134
2,4,5-Trichlorophenol	58 - 107	50 - 115	48 - 122	36 - 134
2-Nitroaniline	50 - 107	41 - 117	48 - 118	36 - 130
Dimethylphthalate	58 - 107	50 - 115	50 - 120	38 - 132
Acenaphthylene	57 - 100	50 - 107	50 - 119	39 - 131
2,6-Dinitrotoluene	58 - 112	49 - 121	48 - 133	34 - 147
3-Nitroaniline [3]	21 - 150	**10** - 172	54 - 140	40 - 154
Acenaphthene	51 - **100**	43 - 106	41 - 120	28 - 133
2,4-Dinitrophenol	12 - 169	**10** - 195	23 - 176	**10** - 202

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME [1,2]	Separatory Funnel [1]	Separatory Funnel - ME [1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibenzofuran	57 - 100	50 - 107	51 - 114	41 - 125
4-Nitrophenol [3]	35 - 119	21 - 133	13 - **100**	**10** - **100**
2,4-Dinitrotoluene	58 - 117	48 - 127	51 - 134	37 - 148
Fluorene	56 - 104	48 - 112	50 - 120	38 - 132
Diethylphthlalate	52 - 111	42 - 121	48 - 122	36 - 134
4-Chlorophenyl-phenyl ether	55 - 104	47 - 112	50 - 118	39 - 129
4-Nitroaniline	49 - 112	39 - 123	42 - 136	26 - 152
4,6-Dinitro-2-Methylphenol	13 - 139	**10** - 160	32 - 121	17 - 136
N-Nitrosodiphenylamine	60 - 136	47 - 149	58 - 141	44 - 155
4-Bromophenyl-phenyl ether	55 - 103	47 - 111	50 - 122	38 - 134
Hexachlorobenzene	54 - 106	45 - 115	47 - 125	34 - 138
Pentachlorophenol	46 - 114	35 - 125	35 - 130	19 - 146
Phenanthrene	56 - 102	48 - 110	49 - 120	37 - 132
Anthracene	56 - 101	49 - 109	53 - 116	43 - 127
Carbazole	60 - 108	52 - 116	57 - 122	46 - 133
Di-n-butylphthalate	56 - 112	47 - 121	57 - 121	46 - 132
Fluoranthene	57 - 110	48 - 119	56 - 119	46 - 130
Pyrene	48 - 119	36 - 131	37 - 143	19 - 161
Butylbenzylphthalate	51 - 114	41 - 125	34 - 152	14 - 172
Benzo(a)Anthracene	55 - 105	47 - 113	49 - 129	36 - 142
3,3'-Dichlorbenzidine [3]	**10** - 128	**10** - 148	50 - 128	37 - 141
Chrysene	55 - 104	47 - 112	45 - 128	31 - 142
bis(2-Ethylhexyl) phthalate	28 - 164	**10** - 187	57 - 133	44 - 146
Di-n-octylphthalate	57 - 107	49 - 115	52 - 120	41 - 131
Benzo(b)Fluoranthene	53 - 112	43 - 122	50 - 126	37 - 139
Benzo(k)Fluoranthene	50 - 116	39 - 127	49 - 126	36 - 139
Benzo(a)Pyrene	45 - 103	35 - 113	46 - 109	36 - 120
Indeno(1,2,3-cd)Pyrene	35 - 118	21 - 132	34 - 136	17 - 153
Dibenz(a,h)anthracene	42 - 119	29 - 132	41 - 134	26 - 150
Benzo(g,h,i)Perylene	39 - 123	25 - 137	41 - 133	26 - 148
Aniline [3]	**10** - **100**	**10** - **100**	28 - 126	12 - 142
1,2-Diphenylhydrazine /Azobenzene	57 - 109	48 - 118	55 - 119	44 - 130
N-Nitrosodimethylamine	49 - **100**	41 - 104	31 - **100**	21 - 105
1-Methylnaphthalene	46 - **100**	37 - 107	43 - 115	31 - 127
1,4-Dioxane	40 - **100**	30 - 108	30 - 160 [4]	30 - 160 [4]
Pyridine	-	-	25 - **100**	15 - **100**
Tributyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibutyl Phenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butyl Diphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Triphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butylated Hydroxytoluene (BHT)	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
MB / LCS Surrogate Recovery				
d4-2-Chlorophenol	53 - 100	(5)	49 - 101	(5)
d4-1,2-Dichlorobenzene	38 - **100**	(5)	40 - **100**	(5)
2,4,6-Tribromophenol	52 - 123	(5)	51 - 122	(5)
2-Fluorophenol	46 - **100**	(5)	31 - **100**	(5)
d5-Phenol [3]	50 - 100	52 - 108	19 - **100**	12 - **100**
d5-Nitrobenzene	46 - 100	(5)	46 - 101	(5)
2-Fluorobiphenyl	49 - **100**	(5)	49 - 103	(5)
d14-p-Terphenyl	53 - 119	(5)	49 - 130	(5)
d8-1,4-Dioxane	45 - **100**	(5)	30 - 160 [4]	(5)
Sample Surrogate Recovery				
d4-2-Chlorophenol	44 - **100**	(5)	23 - 104	(5)
d4-1,2-Dichlorobenzene	32 - **100**	(5)	22 - **100**	(5)
2,4,6-Tribromophenol	48 - 118	(5)	22 - 125	(5)
2-Fluorophenol	38 - **100**	(5)	18 - **100**	(5)
d5-Phenol	41 - **100**	32 - 104	**10** - **100**	17 - **100**
d5-Nitrobenzene	39 - **100**	(5)	21 - 106	(5)
2-Fluorobiphenyl	42 - **100**	(5)	26 - 104	(5)
d14-p-Terphenyl	26 - 114	(5)	11 - 132	(5)
d8-1,4-Dioxane	32 - **100**	(5)	30 - 160 [4]	(5)

(1) Control Limits calculated using all data generated 1/1/07 through 12/1/07.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [6] as beyond the CL but still within the ME limits. ARI defines ME limits as between 3 and 4 standard deviations around the mean with upper limit ≥ 100%. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances in an analysis require corrective action.
(3) These are "**poor performers**" defined in the DoD QSM[7] as compounds that "produce low mean recoveries and high standard deviations, resulting in wide LCS control limits with particularly low lower control limits (sometimes-negative values). ARI does not control batch acceptance based on these compounds since there is a high level of uncertainty in their recovery."
(4) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(5) Marginal Exceedances not allowed for surrogate unless it is a "poor performer".
(6) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(7) Page 182 of: **Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 Final, March 2005** Prepared By Environmental Data Quality Workgroup, Department of Navy, Lead Service (Based On National Environmental Laboratory Accreditation Conference (NELAC) Chapter 5 (Quality Systems) NELAC Voted Version – 5 June 2003
(8) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(9) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified Low Level Aqueous Samples[1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Volume / Final Volume	500 mL to 0.5 mL	
	Control Limits	ME Limits [2]
LCS Spike Recovery [6]		
Napthalene	41 - 101	31 - 111
2-Methylnapthalene	47 - **100**	39 - 103
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	35 - **100**	25 - 104
Acenapthene	43 - 104	33 - 114
Dibenzofuran	37 - **100**	27 - 108
Fluorene	51 - 103	42 - 112
Phenanthrene	55 - 109	46 - 118
Anthracene	30 - 101	18 - 113
Fluoranthene	49 - 123	37 - 135
Pyrene	48 - 120	36 - 132
Benz(a)anthracene	43 - 113	31 - 125
Chrysene	59 - 112	50 - 121
Benzo(b)fluoranthene	44 - 121	31 - 134
Benzo(k)fluoranthene	50 - 117	39 - 128
Benzo(a)pyrene	**10** - **100**	**10** - 109
Indeno(1,2,3-cd)pyrene	43 - 112	32 - 124
Dibenzo(a,h)anthracene	42 - 114	30 - 126
Benzo(g,h,i)perylene	31 - 118	17 - 133
MB / LCS Surrogate Recovery		
d10-2-Methylnaphthalene	42 - **100**	(4)
d14-Dibenzo(a,h)anthracene	40 - 125	(4)
Sample Surrogate Recovery		
d10-2-Methylnaphthalene	31 - 109	(4)
d14-Dibenzo(a,h)anthracene	**10** - 133	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/1/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6)Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

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Spike Recovery Control Limits Analysis of PCB / Aroclors in Aqueous Samples - EPA SW-846 Methods 8081 & 8082 [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Analytical Method:	Standard Analysis	MTCA Analysis	Low Level Analysis	Manchester Extraction
Sample Weight / Final Volume:	500 / 5 mL	500 / 1 mL	1000 / 0.5 mL	3000 / 1 mL
LCS Spike Recovery [4]				
Aroclor 1016	45 - 121	36 - **100**	44 - 117	30 - 160[3]
Aroclor 1260	54 - 129	41 - 113	46 - 131	30 - 160[3]
Method Blank/LCS Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	40 - 118	29 - **100**	31 - **100**	30 - 160[3]
Decachlorobiphenyl	41 - 111	35 - 116	32 - 108	30 - 160[3]
Sample Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	38 - 118	25 - **100**	21 - **100**	30 - 160[3]
Decachlorobiphenyl	29 - 118	**10** - 128	19 - 111	30 - 160[3]

(1) Control Limits calculated using all data generated 1/1/08 through 12/1/08.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

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Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QL13, QL14

prepared
by

Analytical Resources, Inc.

VOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-MH108-022310-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QL13A
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized: VTS
Reported: 02/27/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

Instrument/Analyst: NT10/AAR
Date Analyzed: 02/25/10 14:09

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**1.2**	
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	**Chloroform**	**0.2**	**0.4**	
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**19**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-MH108-022310-W**
Page 2 of 2 **SAMPLE**

Lab Sample ID: QL13A
LIMS ID: 10-4524
Matrix: Water
Date Analyzed: 02/25/10 14:09

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

CAS Number	Analyte	RL	Result	Q
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	100%
d8-Toluene	102%
Bromofluorobenzene	99.6%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-LS431-022310-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QL13B
LIMS ID: 10-4525
Matrix: Water
Data Release Authorized: VTS
Reported: 02/27/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

Instrument/Analyst: NT10/AAR
Date Analyzed: 02/25/10 14:39

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**1.2**	
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**21**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-LS431-022310-W**
 SAMPLE

Lab Sample ID: QL13B
LIMS ID: 10-4525
Matrix: Water
Date Analyzed: 02/25/10 14:39

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

CAS Number	Analyte	RL	Result	Q
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1;2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	102%
Bromofluorobenzene	103%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QL13-Science App. International Cor
Project: NBF/GTSP Stormwater Sampling

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-022510	Method Blank	10	99.5%	100%	99.3%	102%	0
LCS-022510	Lab Control	10	105%	102%	105%	99.0%	0
LCSD-022510	Lab Control Dup	10	105%	102%	105%	99.2%	0
QL13A	NBF-MH108-022310-W	10	100%	102%	99.6%	102%	0
QL13B	NBF-LS431-022310-W	10	102%	102%	103%	102%	0

	LCS/MB LIMITS	QC LIMITS
SW8260C		
(DCE) = d4-1,2-Dichloroethane	70-132	80-143
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 10-4524 to 10-4525

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-022510**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-022510
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized: VTB
Reported: 02/27/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT10/AAR
LCSD: NT10/AAR
Date Analyzed LCS: 02/25/10 11:08
LCSD: 02/25/10 11:39

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
Bromomethane	10.6	10.0	106%	10.3	10.0	103%	2.9%
Vinyl Chloride	12.0	10.0	120%	11.3	10.0	113%	6.0%
Chloroethane	11.6	10.0	116%	11.2	10.0	112%	3.5%
Methylene Chloride	11.2	10.0	112%	10.6	10.0	106%	5.5%
Acetone	51.2	50.0	102%	48.1	50.0	96.2%	6.2%
Carbon Disulfide	11.5	10.0	115%	11.4	10.0	114%	0.9%
1,1-Dichloroethene	11.3	10.0	113%	10.9	10.0	109%	3.6%
1,1-Dichloroethane	10.8	10.0	108%	10.4	10.0	104%	3.8%
trans-1,2-Dichloroethene	10.9	10.0	109%	10.6	10.0	106%	2.8%
cis-1,2-Dichloroethene	10.4	10.0	104%	9.8	10.0	98.0%	5.9%
Chloroform	10.5	10.0	105%	10.3	10.0	103%	1.9%
1,2-Dichloroethane	10.4	10.0	104%	9.9	10.0	99.0%	4.9%
2-Butanone	53.4	50.0	107%	50.8	50.0	102%	5.0%
1,1,1-Trichloroethane	11.1	10.0	111%	10.7	10.0	107%	3.7%
Carbon Tetrachloride	11.0	10.0	110%	10.6	10.0	106%	3.7%
Vinyl Acetate	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
Bromodichloromethane	10.6	10.0	106%	10.3	10.0	103%	2.9%
1,2-Dichloropropane	10.6	10.0	106%	10.0	10.0	100%	5.8%
cis-1,3-Dichloropropene	10.7	10.0	107%	10.3	10.0	103%	3.8%
Trichloroethene	11.3	10.0	113%	10.9	10.0	109%	3.6%
Dibromochloromethane	10.6	10.0	106%	10.2	10.0	102%	3.8%
1,1,2-Trichloroethane	10.5	10.0	105%	10.0	10.0	100%	4.9%
Benzene	10.7	10.0	107%	10.1	10.0	101%	5.8%
trans-1,3-Dichloropropene	10.9	10.0	109%	10.4	10.0	104%	4.7%
2-Chloroethylvinylether	9.7	10.0	97.0%	9.2	10.0	92.0%	5.3%
Bromoform	9.4	10.0	94.0%	8.9	10.0	89.0%	5.5%
4-Methyl-2-Pentanone (MIBK)	51.5	50.0	103%	48.8	50.0	97.6%	5.4%
2-Hexanone	50.7	50.0	101%	48.6	50.0	97.2%	4.2%
Tetrachloroethene	10.6	10.0	106%	10.2	10.0	102%	3.8%
1,1,2,2-Tetrachloroethane	9.6	10.0	96.0%	9.0	10.0	90.0%	6.5%
Toluene	10.6	10.0	106%	10.2	10.0	102%	3.8%
Chlorobenzene	10.7	10.0	107%	10.2	10.0	102%	4.8%
Ethylbenzene	10.9	10.0	109%	10.5	10.0	105%	3.7%
Styrene	10.9	10.0	109%	10.5	10.0	105%	3.7%
Trichlorofluoromethane	12.0	10.0	120%	11.2	10.0	112%	6.9%
1,1,2-Trichloro-1,2,2-trifluoroetha	11.8	10.0	118%	11.2	10.0	112%	5.2%
m,p-Xylene	21.7	20.0	108%	20.7	20.0	104%	4.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-022510**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-022510 QC Report No: QL13-Science App. International Corp
LIMS ID: 10-4524 Project: NBF/GTSP Stormwater Sampling
Matrix: Water

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
o-Xylene	10.9	10.0	109%	10.4	10.0	104%	4.7%
1,2-Dichlorobenzene	10.3	10.0	103%	9.8	10.0	98.0%	5.0%
1,3-Dichlorobenzene	10.5	10.0	105%	10.0	10.0	100%	4.9%
1,4-Dichlorobenzene	10.5	10.0	105%	9.9	10.0	99.0%	5.9%
Acrolein	49.0	50.0	98.0%	47.0	50.0	94.0%	4.2%
Methyl Iodide	9.5	10.0	95.0%	9.8	10.0	98.0%	3.1%
Bromoethane	10.9	10.0	109%	10.6	10.0	106%	2.8%
Acrylonitrile	10.6	10.0	106%	9.9	10.0	99.0%	6.8%
1,1-Dichloropropene	10.9	10.0	109%	10.5	10.0	105%	3.7%
Dibromomethane	10.7	10.0	107%	10.1	10.0	101%	5.8%
1,1,1,2-Tetrachloroethane	10.7	10.0	107%	10.2	10.0	102%	4.8%
1,2-Dibromo-3-chloropropane	9.3	10.0	93.0%	9.0	10.0	90.0%	3.3%
1,2,3-Trichloropropane	9.8	10.0	98.0%	9.1	10.0	91.0%	7.4%
trans-1,4-Dichloro-2-butene	10.1	10.0	101%	9.7	10.0	97.0%	4.0%
1,3,5-Trimethylbenzene	10.2	10.0	102%	9.6	10.0	96.0%	6.1%
1,2,4-Trimethylbenzene	10.4	10.0	104%	9.9	10.0	99.0%	4.9%
Hexachlorobutadiene	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
Ethylene Dibromide	10.7	10.0	107%	10.3	10.0	103%	3.8%
Bromochloromethane	10.5	10.0	105%	10.3	10.0	103%	1.9%
2,2-Dichloropropane	11.2	10.0	112%	10.5	10.0	105%	6.5%
1,3-Dichloropropane	10.5	10.0	105%	10.0	10.0	100%	4.9%
Isopropylbenzene	9.6	10.0	96.0%	9.0	10.0	90.0%	6.5%
n-Propylbenzene	10.0	10.0	100%	9.4	10.0	94.0%	6.2%
Bromobenzene	9.5	10.0	95.0%	8.9	10.0	89.0%	6.5%
2-Chlorotoluene	9.7	10.0	97.0%	9.1	10.0	91.0%	6.4%
4-Chlorotoluene	9.8	10.0	98.0%	9.3	10.0	93.0%	5.2%
tert-Butylbenzene	10.0	10.0	100%	9.4	10.0	94.0%	6.2%
sec-Butylbenzene	10.4	10.0	104%	10.0	10.0	100%	3.9%
4-Isopropyltoluene	11.0	10.0	110%	10.4	10.0	104%	5.6%
n-Butylbenzene	11.5	10.0	115%	11.0	10.0	110%	4.4%
1,2,4-Trichlorobenzene	9.3	10.0	93.0%	8.9	10.0	89.0%	4.4%
Naphthalene	9.0	10.0	90.0%	8.6	10.0	86.0%	4.5%
1,2,3-Trichlorobenzene	9.6	10.0	96.0%	9.2	10.0	92.0%	4.3%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	105%	105%
d8-Toluene	102%	102%
Bromofluorobenzene	105%	105%
d4-1,2-Dichlorobenzene	99.0%	99.2%

4A

VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0225

Lab Name: ANALYTICAL RESOURCES, INC

Client: SAIC

ARI Job No: QL13

Project: NBF/GTSP STORMWATER SAM

Lab File ID: MB0225

Lab Sample ID: MB0225

Date Analyzed: 02/25/10

Time Analyzed: 1209

Instrument ID: NT10

Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0225	LCS0225	LCS0225	1108
02	LCS0225	LCS0225	LCS0225A	1139
03	NBF-MH108-02	QL13A	QL13A	1409
04	NBF-LS431-02	QL13B	QL13B	1439
05				
06				
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-022510**
Page 1 of 2 **METHOD BLANK**

Lab Sample ID: MB-022510 QC Report No: QL13-Science App. International Corp
LIMS ID: 10-4524 Project: NBF/GTSP Stormwater Sampling
Matrix: Water
Data Release Authorized: VTS Date Sampled: NA
Reported: 02/27/10 Date Received: NA

Instrument/Analyst: NT10/AAR Sample Amount: 10.0 mL
Date Analyzed: 02/25/10 12:09 Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.5	< 0.5	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-022510**
 METHOD BLANK

Lab Sample ID: MB-022510 QC Report No: QL13-Science App. International Corp
LIMS ID: 10-4524 Project: NBF/GTSP Stormwater Sampling
Matrix: Water
Date Analyzed: 02/25/10 12:09

CAS Number	Analyte	RL	Result	Q
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	99.5%
d8-Toluene	100%
Bromofluorobenzene	99.3%
d4-1,2-Dichlorobenzene	102%

SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH108-022310-W
SAMPLE

Lab Sample ID: QL13A
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
NA
Date Sampled: 02/23/10
Date Received: 02/23/10

Date Extracted: 02/24/10
Date Analyzed: 03/03/10 21:49
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	76.8%	2-Fluorobiphenyl	80.8%
d14-p-Terphenyl	84.0%	d4-1,2-Dichlorobenzene	67.2%
d5-Phenol	85.3%	2-Fluorophenol	69.6%
2,4,6-Tribromophenol	82.9%	d4-2-Chlorophenol	74.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-LS431-022310-W
SAMPLE

Lab Sample ID: QL13B
LIMS ID: 10-4525
Matrix: Water
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
NA
Date Sampled: 02/23/10
Date Received: 02/23/10

Date Extracted: 02/24/10
Date Analyzed: 03/03/10 22:20
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	75.6%	2-Fluorobiphenyl	78.8%
d14-p-Terphenyl	84.8%	d4-1,2-Dichlorobenzene	65.2%
d5-Phenol	88.5%	2-Fluorophenol	74.9%
2,4,6-Tribromophenol	83.5%	d4-2-Chlorophenol	74.4%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MB-022410	76.0%	80.0%	90.0%	62.8%	83.7%	72.5%	82.1%	73.9%	0
LCS-022410	81.2%	81.2%	94.4%	69.2%	92.5%	79.7%	89.1%	77.6%	0
LCSD-022410	85.2%	84.0%	98.0%	70.8%	92.0%	80.5%	92.3%	81.1%	0
NBF-MH108-022310-W	76.8%	80.8%	84.0%	67.2%	85.3%	69.6%	82.9%	74.1%	0
NBF-LS431-022310-W	75.6%	78.8%	84.8%	65.2%	88.5%	74.9%	83.5%	74.4%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 10-4524 to 10-4525

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: LCS-022410
LCS/LCSD

Lab Sample ID: LCS-022410
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

Date Extracted LCS/LCSD: 02/24/10

Sample Amount LCS: 500 mL
LCSD: 500 mL

Date Analyzed LCS: 03/03/10 20:45
LCSD: 03/03/10 21:17

Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL

Instrument/Analyst LCS: NT6/JZ
LCSD: NT6/JZ

Dilution Factor LCS: 1.00
LCSD: 1.00

GPC Cleanup: NO

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	16.6	25.0	66.4%	17.9	25.0	71.6%	7.5%
1,4-Dichlorobenzene	11.9	25.0	47.6%	14.6	25.0	58.4%	20.4%
Benzyl Alcohol	35.6	50.0	71.2%	35.4	50.0	70.8%	0.6%
1,2-Dichlorobenzene	12.7	25.0	50.8%	15.4	25.0	61.6%	19.2%
2-Methylphenol	17.5	25.0	70.0%	18.8	25.0	75.2%	7.2%
4-Methylphenol	36.0	50.0	72.0%	38.1	50.0	76.2%	5.7%
2,4-Dimethylphenol	15.0	25.0	60.0%	15.9	25.0	63.6%	5.8%
Benzoic Acid	43.2 Q	75.0	57.6%	53.0 Q	75.0	70.7%	20.4%
1,2,4-Trichlorobenzene	12.6	25.0	50.4%	15.5	25.0	62.0%	20.6%
Naphthalene	17.4	25.0	69.6%	19.6	25.0	78.4%	11.9%
Hexachlorobutadiene	9.5	25.0	38.0%	13.6	25.0	54.4%	35.8%
2-Methylnaphthalene	16.5	25.0	66.0%	19.0	25.0	76.0%	14.1%
Dimethylphthalate	20.0	25.0	80.0%	21.2	25.0	84.8%	5.8%
Acenaphthylene	18.3	25.0	73.2%	20.6	25.0	82.4%	11.8%
Acenaphthene	17.2	25.0	68.8%	19.7	25.0	78.8%	13.6%
Dibenzofuran	17.6	25.0	70.4%	20.3	25.0	81.2%	14.2%
Diethylphthalate	19.9	25.0	79.6%	21.3	25.0	85.2%	6.8%
Fluorene	18.4	25.0	73.6%	21.4	25.0	85.6%	15.1%
N-Nitrosodiphenylamine	18.7	25.0	74.8%	20.9	25.0	83.6%	11.1%
Hexachlorobenzene	17.4	25.0	69.6%	21.7	25.0	86.8%	22.0%
Pentachlorophenol	7.5 Q	25.0	30.0%	8.4 Q	25.0	33.6%	11.4%
Phenanthrene	18.6	25.0	74.4%	22.4	25.0	89.6%	18.5%
Anthracene	18.3	25.0	73.2%	22.2	25.0	88.8%	19.3%
Di-n-Butylphthalate	19.6	25.0	78.4%	23.4	25.0	93.6%	17.7%
Fluoranthene	18.6	25.0	74.4%	22.7	25.0	90.8%	19.9%
Pyrene	19.2	25.0	76.8%	23.0	25.0	92.0%	18.0%
Butylbenzylphthalate	18.6	25.0	74.4%	22.9	25.0	91.6%	20.7%
Benzo(a)anthracene	19.3	25.0	77.2%	23.8	25.0	95.2%	20.9%
bis(2-Ethylhexyl)phthalate	19.1	25.0	76.4%	23.8	25.0	95.2%	21.9%
Chrysene	19.4	25.0	77.6%	24.0	25.0	96.0%	21.2%
Di-n-Octyl phthalate	18.6	25.0	74.4%	22.9	25.0	91.6%	20.7%
Benzo(b)fluoranthene	18.2	25.0	72.8%	21.5	25.0	86.0%	16.6%
Benzo(k)fluoranthene	16.9	25.0	67.6%	23.3	25.0	93.2%	31.8%
Benzo(a)pyrene	18.2	25.0	72.8%	22.4	25.0	89.6%	20.7%
Indeno(1,2,3-cd)pyrene	18.7	25.0	74.8%	23.0	25.0	92.0%	20.6%
Dibenz(a,h)anthracene	19.6	25.0	78.4%	24.1	25.0	96.4%	20.6%
Benzo(g,h,i)perylene	17.9	25.0	71.6%	22.0	25.0	88.0%	20.6%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	81.2%	85.2%
2-Fluorobiphenyl	81.2%	84.0%
d14-p-Terphenyl	94.4%	98.0%

FORM III

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-022410
LCS/LCSD

Lab Sample ID: LCS-022410
LIMS ID: 10-4524
Matrix: Water
Date Analyzed LCS: 03/03/10 20:45
LCSD: 03/03/10 21:17

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d4-1,2-Dichlorobenzene			69.2%	70.8%			
d5-Phenol			92.5%	92.0%			
2-Fluorophenol			79.7%	80.5%			
2,4,6-Tribromophenol			89.1%	92.3%			
d4-2-Chlorophenol			77.6%	81.1%			

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QL13MBW1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: QL13 Project: NBF/GTSP STORMWATER

Lab File ID: 03031014 Date Extracted: 02/24/10

Instrument ID: NT6 Date Analyzed: 03/03/10

Matrix: LIQUID Time Analyzed: 2013

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QL13LCSW1	QL13LCSW1	03031015	03/03/10
02	QL13LCSDW1	QL13LCSDW1	03031016	03/03/10
03	NBF-MH108-022310	QL13A	03031017	03/03/10
04	NBF-LS431-022310	QL13B	03031018	03/03/10
05				
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08				
09				
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COMMENTS:

FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MB-022410
METHOD BLANK

Lab Sample ID: MB-022410
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
NA
Date Sampled: NA
Date Received: NA

Date Extracted: 02/24/10
Date Analyzed: 03/03/10 20:13
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	76.0%	2-Fluorobiphenyl	80.0%
d14-p-Terphenyl	90.0%	d4-1,2-Dichlorobenzene	62.8%
d5-Phenol	83.7%	2-Fluorophenol	72.5%
2,4,6-Tribromophenol	82.1%	d4-2-Chlorophenol	73.9%

SIM SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-MH108-022310-W
SAMPLE

Lab Sample ID: QL13A
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 02/23/10
Date Received: 02/23/10

Date Extracted: 02/24/10
Date Analyzed: 03/04/10 13:14
Instrument/Analyst: NT2/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.024**
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	**Acenaphthene**	**0.010**	**0.011**
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	57.3%
d14-Dibenzo(a,h)anthracene	69.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-LS431-022310-W
SAMPLE

Lab Sample ID: QL13B
LIMS ID: 10-4525
Matrix: Water
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 02/23/10
Date Received: 02/23/10

Date Extracted: 02/24/10
Date Analyzed: 03/04/10 13:38
Instrument/Analyst: NT2/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.035**
91-57-6	**2-Methylnaphthalene**	**0.010**	**0.011**
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	**Acenaphthene**	**0.010**	**0.078**
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	**Phenanthrene**	**0.010**	**0.027**
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	**Fluoranthene**	**0.010**	**0.053**
129-00-0	**Pyrene**	**0.010**	**0.041**
56-55-3	**Benzo(a)anthracene**	**0.010**	**0.015**
218-01-9	**Chrysene**	**0.010**	**0.032**
205-99-2	**Benzo(b)fluoranthene**	**0.010**	**0.025**
207-08-9	**Benzo(k)fluoranthene**	**0.010**	**0.026**
50-32-8	**Benzo(a)pyrene**	**0.010**	**0.020**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.010**	**0.014**
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	**Benzo(g,h,i)perylene**	**0.010**	**0.018**
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	69.3%
d14-Dibenzo(a,h)anthracene	77.3%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	MNP	DBA	TOT OUT
MB-022410	71.0%	69.3%	0
LCS-022410	69.7%	77.0%	0
LCSD-022410	67.0%	81.7%	0
NBF-MH108-022310-W	57.3%	69.3%	0
NBF-LS431-022310-W	69.3%	77.3%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(42-100)	(31-109)
(DBA) = d14-Dibenzo(a,h)anthracene	(40-125)	(10-133)

Prep Method: SW3520C
Log Number Range: 10-4524 to 10-4525

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
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Sample ID: LCS-022410
LAB CONTROL SAMPLE

Lab Sample ID: LCS-022410
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 02/24/10

Date Analyzed LCS: 03/04/10 12:25
LCSD: 03/04/10 12:49
Instrument/Analyst LCS: NT2/PK
LCSD: NT2/PK

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	0.176	0.300	58.7%	0.180	0.300	60.0%	2.2%
2-Methylnaphthalene	0.187	0.300	62.3%	0.188	0.300	62.7%	0.5%
1-Methylnaphthalene	0.184	0.300	61.3%	0.179	0.300	59.7%	2.8%
Acenaphthylene	0.173	0.300	57.7%	0.174	0.300	58.0%	0.6%
Acenaphthene	0.210	0.300	70.0%	0.210	0.300	70.0%	0.0%
Fluorene	0.222	0.300	74.0%	0.228	0.300	76.0%	2.7%
Phenanthrene	0.244	0.300	81.3%	0.271	0.300	90.3%	10.5%
Anthracene	0.165	0.300	55.0%	0.193	0.300	64.3%	15.6%
Fluoranthene	0.252	0.300	84.0%	0.265	0.300	88.3%	5.0%
Pyrene	0.236	0.300	78.7%	0.255	0.300	85.0%	7.7%
Benzo(a)anthracene	0.217	0.300	72.3%	0.224	0.300	74.7%	3.2%
Chrysene	0.270	0.300	90.0%	0.285	0.300	95.0%	5.4%
Benzo(b)fluoranthene	0.229	0.300	76.3%	0.237	0.300	79.0%	3.4%
Benzo(k)fluoranthene	0.280	0.300	93.3%	0.292	0.300	97.3%	4.2%
Benzo(a)pyrene	0.154	0.300	51.3%	0.190	0.300	63.3%	20.9%
Indeno(1,2,3-cd)pyrene	0.215	0.300	71.7%	0.228	0.300	76.0%	5.9%
Dibenz(a,h)anthracene	0.231	0.300	77.0%	0.243	0.300	81.0%	5.1%
Benzo(g,h,i)perylene	0.208	0.300	69.3%	0.223	0.300	74.3%	7.0%
Dibenzofuran	0.251	0.300	83.7%	0.255	0.300	85.0%	1.6%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	69.7%	67.0%
d14-Dibenzo(a,h)anthracene	77.0%	81.7%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QL13MBW1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: QL13 Project: NBF/GTSP STORMWATER

Lab File ID: 030401 Date Extracted: 02/24/10

Instrument ID: NT2 Date Analyzed: 03/04/10

Matrix: LIQUID Time Analyzed: 1200

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QL13LCSW1	QL13LCSW1	030402	03/04/10
02	QL13LCSDW1	QL13LCSDW1	030403	03/04/10
03	NBF-MH108-022310	QL13A	030404	03/04/10
04	NBF-LS431-022310	QL13B	030405	03/04/10
05				
06				
07				
08				
09				
10				
11				
12				
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COMMENTS:

FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: MB-022410
METHOD BLANK

Lab Sample ID: MB-022410
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 02/24/10
Date Analyzed: 03/04/10 12:00
Instrument/Analyst: NT2/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	71.0%
d14-Dibenzo(a,h)anthracene	69.3%

PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108-022310-W
SAMPLE

Lab Sample ID: QL13A
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/02/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

Date Extracted: 02/24/10
Date Analyzed: 02/26/10 15:37
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	**Aroclor 1242**	**0.010**	**0.14**
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	**Aroclor 1254**	**0.010**	**0.080**
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	70.5%
Tetrachlorometaxylene	61.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-LS431-022310-W
SAMPLE

Lab Sample ID: QL13B
LIMS ID: 10-4525
Matrix: Water
Data Release Authorized:
Reported: 03/02/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

Date Extracted: 02/24/10
Date Analyzed: 02/26/10 15:59
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	**Aroclor 1242**	**0.010**	**0.014**
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	75.8%
Tetrachlorometaxylene	55.0%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-022410	71.8%	32-108	52.0%	31-100	0
LCS-022410	77.2%	32-108	57.0%	31-100	0
LCSD-022410	74.0%	32-108	53.5%	31-100	0
NBF-MH108-022310-W	70.5%	19-111	61.2%	21-100	0
NBF-LS431-022310-W	75.8%	19-111	55.0%	21-100	0

Prep Method: SW3510C
Log Number Range: 10-4524 to 10-4525

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-022410
LCS/LCSD

Lab Sample ID: LCS-022410
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/02/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 02/24/10

Date Analyzed LCS: 02/26/10 14:54
LCSD: 02/26/10 15:16
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1000 mL
LCSD: 1000 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.044	0.050	88.0%	0.042	0.050	84.0%	4.7%
Aroclor 1260	0.039	0.050	78.0%	0.038	0.050	76.0%	2.6%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	77.2%	74.0%
Tetrachlorometaxylene	57.0%	53.5%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QL13MBW1

Lab Name: ANALYTICAL RESOURCES, INC — Client: SAIC

ARI Job No.: QL13 — Project: NBF/GTSP STORMWATER

Lab Sample ID: QL13MBW1 — Lab File ID: 0226B007

Date Extracted: 02/24/10 — Matrix: LIQUID

Date Analyzed: 02/26/10 — Instrument ID: ECD5

Time Analyzed: 1433 — GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QL13LCSW1	QL13LCSW1	02/26/10
02	QL13LCSDW1	QL13LCSDW1	02/26/10
03	NBF-MH108-022310-W	QL13A	02/26/10
04	NBF-LS431-022310-W	QL13B	02/26/10

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-022410
METHOD BLANK

Lab Sample ID: MB-022410
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/02/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 02/24/10
Date Analyzed: 02/26/10 14:33
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	71.8%
Tetrachlorometaxylene	52.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108A-022310-S
SAMPLE

Lab Sample ID: QL13E
LIMS ID: 10-4528
Matrix: Filter
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

Date Extracted: 02/26/10
Date Analyzed: 03/04/10 08:52
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 250
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	25	< 25 U
53469-21-9	**Aroclor 1242**	**25**	**550**
12672-29-6	Aroclor 1248	25	< 25 U
11097-69-1	**Aroclor 1254**	**25**	**420**
11096-82-5	Aroclor 1260	50	< 50 Y
11104-28-2	Aroclor 1221	25	< 25 U
11141-16-5	Aroclor 1232	25	< 25 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Filter

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	DCBP	TCMX	TOT OUT
MB-022610	66.0%	59.5%	0
LCS-022610	64.8%	68.8%	0
LCSD-022610	67.5%	66.0%	0
NBF-MH108A-022310-S	D	D	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A
Log Number Range: 10-4528 to 10-4528

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: LCS-022610
LCS/LCSD

Lab Sample ID: LCS-022610
LIMS ID: 10-4528
Matrix: Filter
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

Date Extracted LCS/LCSD: 02/26/10

Date Analyzed LCS: 03/03/10 18:14
LCSD: 03/03/10 18:35
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1.00 Filter
LCSD: 1.00 Filter
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	2.4	2.5	96.0%	2.5	2.5	100%	4.1%
Aroclor 1260	1.8	2.5	72.0%	1.8	2.5	72.0%	0.0%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	64.8%	67.5%
Tetrachlorometaxylene	68.8%	66.0%

Reported in Total µg
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QL13MB1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QL13
Project: NBF/GTSP STORMWATER

Lab Sample ID: QL13MB1
Lab File ID: 0302B095

Date Extracted: 02/26/10
Matrix: SOLID

Date Analyzed: 03/03/10
Instrument ID: ECD5

Time Analyzed: 1753
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QL13LCS1	QL13LCS1	03/03/10
02	QL13LCSD1	QL13LCSD1	03/03/10
03	NBF-MH108A-022310-S	QL13E	03/04/10

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-022610
METHOD BLANK

Lab Sample ID: MB-022610
LIMS ID: 10-4528
Matrix: Filter
Data Release Authorized:
Reported: 03/05/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 02/26/10
Date Analyzed: 03/03/10 17:53
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.1	< 0.1 U
53469-21-9	Aroclor 1242	0.1	< 0.1 U
12672-29-6	Aroclor 1248	0.1	< 0.1 U
11097-69-1	Aroclor 1254	0.1	< 0.1 U
11096-82-5	Aroclor 1260	0.1	< 0.1 U
11104-28-2	Aroclor 1221	0.1	< 0.1 U
11141-16-5	Aroclor 1232	0.1	< 0.1 U

Reported in Total µg

PCB Surrogate Recovery	
Decachlorobiphenyl	66.0%
Tetrachlorometaxylene	59.5%

METALS ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH108-022310-W
SAMPLE

Lab Sample ID: QL13A
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/12/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
7470A	02/24/10	7470A	03/02/10	7439-97-6	Mercury	0.0001	0.0001	U

Calculated Hardness (mg-CaCO3/L): 130

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-LS431-022310-W
SAMPLE

Lab Sample ID: QL13B
LIMS ID: 10-4525
Matrix: Water
Data Release Authorized:
Reported: 03/12/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
7470A	02/24/10	7470A	03/02/10	7439-97-6	Mercury	0.0001	0.0001	U

Calculated Hardness (mg-CaCO3/L): 110

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-022310-W
MATRIX SPIKE

Lab Sample ID: QL13A
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/12/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7470A	0.0001 U	0.0010	0.0010	100%	

Reported in mg/L

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-022310-W
DUPLICATE

Lab Sample ID: QL13A
LIMS ID: 10-4524
Matrix: Water
Data Release Authorized:
Reported: 03/12/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7470A	0.0001 U	0.0001 U	0.0%	+/- 0.0001	L

Reported in mg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QL13LCS
LIMS ID: 10-4525
Matrix: Water
Data Release Authorized:
Reported: 03/12/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	0.0020	0.0020	100%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: QL13MB
LIMS ID: 10-4525
Matrix: Water
Data Release Authorized:
Reported: 03/12/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
7470A	02/24/10	7470A	03/02/10	7439-97-6	Mercury	0.0001	0.0001	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH108A-022310-S
SAMPLE

Lab Sample ID: QL13F
LIMS ID: 10-4529
Matrix: Sediment
Data Release Authorized:
Reported: 03/12/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

Percent Total Solids: 19.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/25/10	6010B	03/10/10	7440-38-2	Arsenic	120	120	U
3050B	02/25/10	6010B	03/10/10	7440-43-9	Cadmium	5	5	U
3050B	02/25/10	6010B	03/10/10	**7440-47-3**	**Chromium**	10	**30**	
3050B	02/25/10	6010B	03/10/10	**7440-50-8**	**Copper**	5	**165**	
3050B	02/25/10	6010B	03/10/10	7439-92-1	Lead	50	50	U
CLP	02/25/10	7471A	02/26/10	**7439-97-6**	**Mercury**	0.09	**2.29**	
3050B	02/25/10	6010B	03/10/10	7440-22-4	Silver	7	7	U
3050B	02/25/10	6010B	03/10/10	**7440-66-6**	**Zinc**	20	**310**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QL13LCS
LIMS ID: 10-4529
Matrix: Sediment
Data Release Authorized:
Reported: 03/12/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	193	200	96.5%	
Cadmium	6010B	48.2	50.0	96.4%	
Chromium	6010B	47.5	50.0	95.0%	
Copper	6010B	47.9	50.0	95.8%	
Lead	6010B	191	200	95.5%	
Mercury	7471A	0.50	0.50	100%	
Silver	6010B	47.3	50.0	94.6%	
Zinc	6010B	49	50	98.0%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: QL13MB
LIMS ID: 10-4529
Matrix: Sediment
Data Release Authorized:
Reported: 03/12/10

QC Report No: QL13-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	02/25/10	6010B	03/10/10	7440-38-2	Arsenic	5	5	U
3050B	02/25/10	6010B	03/10/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	02/25/10	6010B	03/10/10	7440-47-3	Chromium	0.5	0.5	U
3050B	02/25/10	6010B	03/10/10	7440-50-8	Copper	0.2	0.2	U
3050B	02/25/10	6010B	03/10/10	7439-92-1	Lead	2	2	U
CLP	02/25/10	7471A	02/26/10	7439-97-6	Mercury	0.02	0.02	U
3050B	02/25/10	6010B	03/10/10	7440-22-4	Silver	0.3	0.3	U
3050B	02/25/10	6010B	03/10/10	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

MERCURY ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
Dissolved Mercury by Method SW7470A

Data Release Authorized:
Reported: 03/02/10
Date Received: 02/23/10
Page 1 of 1

QC Report No: QL14-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
NBF-MH108-022310-W QL14A 10-4531	02/23/10	Water	02/24/10 03/01/10	20.0	20.0 U
NBF-LS431-022310-W QL14B 10-4532	02/23/10	Water	02/24/10 03/01/10	20.0	20.0 U
MB-022410 Method Blank	NA	Water	02/24/10 03/01/10	20.0	20.0 U

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-022310-W
MATRIX SPIKE

Lab Sample ID: QL14A
LIMS ID: 10-4531
Matrix: Water
Data Release Authorized:
Reported: 03/02/10

QC Report No: QL14-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7470A	20.0 U	101	100	101%	

Reported in ng/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: NBF-MH108-022310-W DUPLICATE

Lab Sample ID: QL14A
LIMS ID: 10-4531
Matrix: Water
Data Release Authorized:
Reported: 03/02/10

QC Report No: QL14-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 02/23/10
Date Received: 02/23/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7470A	20.0 U	20.0 U	0.0%	+/- 20.0	L

Reported in ng/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: LAB CONTROL

Lab Sample ID: QL14LCS
LIMS ID: 10-4532
Matrix: Water
Data Release Authorized:
Reported: 03/02/10

QC Report No: QL14-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	190	200	95.0%	

Reported in ng/L

N-Control limit not met
Control Limits: 80-120%

GENERAL CHEMISTRY ANALYSIS

SAMPLE RESULTS-CONVENTIONALS
QL13-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized
Reported: 03/01/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 02/23/10
Date Received: 02/23/10

Client ID: NBF-MH108-022310-W
ARI ID: 10-4524 QL13A

Analyte	Date Batch	Method	Units	RL	Sample
pH	02/23/10 022310#1	EPA 150.1	std units	0.01	7.15
Alkalinity	02/25/10 022510#1	SM 2320	mg/L CaCO3	1.0	133
Carbonate	02/25/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	02/25/10	SM 2320	mg/L CaCO3	1.0	133
Hydroxide	02/25/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	02/24/10 022410#1	EPA 160.2	mg/L	1.4	7.6
Chloride	02/24/10 022410#1	EPA 300.0	mg/L	2.0	6.5
N-Nitrate	02/24/10 022410#1	EPA 300.0	mg-N/L	0.1	1.1
Sulfate	02/24/10 022410#1	EPA 300.0	mg/L	2.0	24.9
Total Organic Carbon	02/24/10 022410#1	EPA 415.1	mg/L	1.50	4.34

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QL13-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/01/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 02/23/10
Date Received: 02/23/10

Client ID: NBF-LS431-022310-W
ARI ID: 10-4525 QL13B

Analyte	Date Batch	Method	Units	RL	Sample
pH	02/23/10 022310#1	EPA 150.1	std units	0.01	7.43
Alkalinity	02/25/10 022510#1	SM 2320	mg/L CaCO3	1.0	172
Carbonate	02/25/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	02/25/10	SM 2320	mg/L CaCO3	1.0	172
Hydroxide	02/25/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	02/24/10 022410#1	EPA 160.2	mg/L	2.5	27.8
Chloride	02/24/10 022410#1	EPA 300.0	mg/L	1.0	34.3
N-Nitrate	02/24/10 022410#1	EPA 300.0	mg-N/L	0.1	0.3
Sulfate	02/24/10 022410#1	EPA 300.0	mg/L	1.0	6.5
Total Organic Carbon	02/24/10 022410#1	EPA 415.1	mg/L	1.50	6.50

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QL13-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/01/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 02/23/10
Date Received: 02/23/10

Client ID: NBF-MH108-022310-W
ARI ID: 10-4526 QL13C

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	02/24/10 022410#1	EPA 415.1	mg/L	1.50	3.74

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QL13-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/01/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 02/23/10
Date Received: 02/23/10

Client ID: NBF-LS431-022310-W
ARI ID: 10-4527 QL13D

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	02/24/10 022410#1	EPA 415.1	mg/L	1.50	5.29

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
QL13-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/01/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 02/23/10
Date Received: 02/23/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: QL13A Client ID: NBF-MH108-022310-W							
Chloride	EPA 300.0	02/24/10	mg/L	6.5	59.6	50.0	106.2%
N-Nitrate	EPA 300.0	02/24/10	mg-N/L	1.1	3.4	2.0	115.0%
Sulfate	EPA 300.0	02/24/10	mg/L	24.9	79.8	50.0	109.8%
Total Organic Carbon	EPA 415.1	02/24/10	mg/L	4.34	24.8	20.0	102.3%
ARI ID: QL13C Client ID: NBF-MH108-022310-W							
Dissolved Organic Carbon	EPA 415.1	02/24/10	mg/L	3.74	24.5	20.0	103.8%

REPLICATE RESULTS-CONVENTIONALS
QL13-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/01/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 02/23/10
Date Received: 02/23/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: QL13A Client ID: NBF-MH108-022310-W						
pH	EPA 150.1	02/23/10	std units	7.15	7.16	0.01
Alkalinity	SM 2320	02/25/10	mg/L CaCO3	133	133	0.0%
Carbonate	SM 2320	02/25/10	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	02/25/10	mg/L CaCO3	133	133	0.0%
Hydroxide	SM 2320	02/25/10	mg/L CaCO3	< 1.0	< 1.0	NA
Chloride	EPA 300.0	02/24/10	mg/L	6.5	6.5	0.0%
N-Nitrate	EPA 300.0	02/24/10	mg-N/L	1.1	1.1	0.0%
Sulfate	EPA 300.0	02/24/10	mg/L	24.9	24.4	2.0%
Total Organic Carbon	EPA 415.1	02/24/10	mg/L	4.34	4.33	0.2%
ARI ID: QL13B Client ID: NBF-LS431-022310-W						
Total Suspended Solids	EPA 160.2	02/24/10	mg/L	27.8	33.0	17.1%
ARI ID: QL13C Client ID: NBF-MH108-022310-W						
Dissolved Organic Carbo	EPA 415.1	02/24/10	mg/L	3.74	3.79	1.3%

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

LAB CONTROL RESULTS-CONVENTIONALS
QL13-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/01/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH EPA 150.1	ICVL	02/23/10	std units	7.02	7.00	0.02
Total Suspended Solids EPA 160.2	ICVL	02/24/10	mg/L	49.3	50.0	98.6%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

METHOD BLANK RESULTS-CONVENTIONALS
QL13-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/01/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Total Suspended Solids	EPA 160.2	02/24/10	mg/L	< 1.0 U	
Chloride	EPA 300.0	02/24/10	mg/L	< 0.1 U	
N-Nitrate	EPA 300.0	02/24/10	mg-N/L	< 0.1 U	
Sulfate	EPA 300.0	02/24/10	mg/L	< 0.1 U	
Total Organic Carbon	EPA 415.1	02/24/10	mg/L	< 1.50 U	
Dissolved Organic Carbon	EPA 415.1	02/24/10	mg/L	< 1.50 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
QL13-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 03/01/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	02/25/10	mg/L CaCO3	73.2	49.2	148.8%
Chloride ERA #230109	EPA 300.0	02/24/10	mg/L	3.1	3.0	103.3%
N-Nitrate ERA #09127	EPA 300.0	02/24/10	mg-N/L	3.0	3.0	100.0%
Sulfate ERA #220109	EPA 300.0	02/24/10	mg/L	3.2	3.0	106.7%
Total Organic Carbon ERA 0506-09-01	EPA 415.1	02/24/10	mg/L	20.9	20.0	104.5%
Dissolved Organic Carbon ERA 0506-09-01	EPA 415.1	02/24/10	mg/L	20.9	20.0	104.5%

GEOTECHNICAL ANALYSIS

Science App. International Corp
NBF/GTSP Stormwater Sampling

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
NBF-MH108A-022310-S	100.0	100.0	100.0	99.9	99.9	99.9	99.9	99.9	99.6	99.4	99.1	98.3	98.5	97.6

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Science App. International Corp
NBF/GTSP Stormwater Sampling

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
NBF-MH108A-022310-S	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.2	0.3	0.8	-0.2	0.9	97.6	99.9

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

SUBCONTRACTED ANALYSIS

Fremont Analytical

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Analysis of Total Metals in Water by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QL13
Lab Project #: CHM100309-12

EPA 200.8 (µg/L)	MRL	Method Blank	LCS	NBF-MH108-022310-W	Duplicate NBF-MH108-022310-W	RPD %
Date Extracted		3/10/10	3/10/10	3/10/10	3/10/10	
Date Analyzed		3/10/10	3/10/10	3/10/10	3/10/10	
Matrix				Water	Water	
Arsenic (As)	0.95	nd	94%	**3.10**	**2.60**	18%
Cadmium (Cd)	0.20	nd	112%	**14.9**	**14.8**	1%
Calcium (Ca)	100	nd	90%	**42,600**	**42,800**	0%
Chromium (Cr)	0.60	nd	106%	**2.10**	**1.85**	13%
Copper (Cu)	0.40	nd	101%	**2.55**	**2.80**	9%
Lead (Pb)	0.20	nd	109%	**1.85**	**1.65**	11%
Magnesium (Mg)	100	nd	94%	**10,900**	**11,000**	1%
Nickel (Ni)	0.40	nd	101%	**2.15**	**2.25**	5%
Selenium (Se)	1.0	nd	114%	**4.80**	**5.85**	20%
Silver (Ag)	0.04	nd	111%	nd	nd	
Zinc (Zn)	1.5	nd	90%	**13.1**	**48.3**	115%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:
- LCS: 85% to 115%
- MS/MSD/PDS: 70% to 130%

MS/MSD Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 1000 µg/L

PDS Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 2500 µg/L

LCS Concentration:
- As, Cr, Cu, Zn, Ni = 100 µg/L
- Ca = 1000 µg/L
- Pb = 50 µg/L
- Cd, Ag = 5 µg/L
- Se = 10 µg/L
- Mg = 700 µg/L

Fremont Analytical

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Analysis of Total Metals in Water by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QL13
Lab Project #: CHM100309-12

EPA 200.8 (µg/L)	MRL	NBF-LS431-022310W
Date Extracted		3/10/10
Date Analyzed		3/10/10
Matrix		Water
Arsenic (As)	0.95	**2.40**
Cadmium (Cd)	0.20	**16.5**
Calcium (Ca)	100	**27,400**
Chromium (Cr)	0.60	**3.95**
Copper (Cu)	0.40	**0.850**
Lead (Pb)	0.20	**3.05**
Magnesium (Mg)	100	**14,800**
Nickel (Ni)	0.40	**1.40**
Selenium (Se)	1.0	**5.80**
Silver (Ag)	0.04	nd
Zinc (Zn)	1.5	**16.5**

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:
- LCS: 85% to 115%
- MS/MSD/PDS: 70% to 130%

MS/MSD Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 1000 µg/L

PDS Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 2500 µg/L

LCS Concentration:
- As, Cr, Cu, Zn, Ni = 100 µg/L
- Ca = 1000 µg/L
- Pb = 50 µg/L
- Cd, Ag = 5 µg/L
- Se = 10 µg/L
- Mg = 700 µg/L

Fremont Analytical

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email: info@fremontanalytical.com

Analysis of Total Metals in Water by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QL13
Lab Project #: CHM100309-12

EPA 200.8 (µg/L)	MRL	MS Sample+Spike	MS Recovery	MSD Sample+Spike	MSD Recovery	RPD
		100309-11-3		*100309-11-3*		%
Date Extracted		3/10/10		3/10/10		
Date Analyzed		3/10/10		3/10/10		
Matrix		Water		Water		
Arsenic (As)	0.95	*489*	98%	*454*	91%	7%
Cadmium (Cd)	0.20	*29.8*	92%	*27.7*	84%	10%
Calcium (Ca)	100	*18,000*	76%	*17,040*	38%	68%
Chromium (Cr)	0.60	*539*	107%	*504*	100%	7%
Copper (Cu)	0.40	*506*	100%	*473*	94%	7%
Lead (Pb)	0.20	*274*	107%	*263*	102%	4%
Magnesium (Mg)	100	*7730*	90%	*7305*	48%	62%
Nickel (Ni)	0.40	*509*	101%	*473*	95%	7%
Selenium (Se)	1.0	*56.3*	113%	*51.8*	104%	8%
Silver (Ag)	0.04	*27.9*	112%	*26.2*	105%	6%
Zinc (Zn)	1.5	*498*	92%	*466*	93%	1%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:
- LCS: 85% to 115%
- MS/MSD/PDS: 70% to 130%

MS/MSD Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 1000 µg/L

PDS Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 2500 µg/L

LCS Concentration:
- As, Cr, Cu, Zn, Ni = 100 µg/L
- Ca = 1000 µg/L
- Pb = 50 µg/L
- Cd, Ag = 5 µg/L
- Se = 10 µg/L
- Mg = 700 µg/L

Fremont Analytical

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Analysis of Total Metals in Water by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QL13
Lab Project #: CHM100309-12

EPA 200.8 (µg/L)	MRL	PDS Sample+Spike LS431-022310-W	PDS Recovery
Date Extracted		3/10/10	
Date Analyzed		3/10/10	
Matrix		Water	
Arsenic (As)	0.95	*426*	85%
Cadmium (Cd)	0.20	*38.2*	87%
Calcium (Ca)	100	*29,600*	88%
Chromium (Cr)	0.60	*473*	94%
Copper (Cu)	0.40	*441*	88%
Lead (Pb)	0.20	*254*	100%
Magnesium (Mg)	100	*16,800*	80%
Nickel (Ni)	0.40	*443*	88%
Selenium (Se)	1.0	*43.1*	75%
Silver (Ag)	0.04	*24.9*	99%
Zinc (Zn)	1.5	*413*	79%

"nd" Indicates no detection at the listed reporting limits
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"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:
- LCS: 85% to 115%
- MS/MSD/PDS: 70% to 130%

MS/MSD Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 1000 µg/L

PDS Spike Concentration:
- As, Cr, Cu, Zn, Ni = 500 µg/L
- Ca = 2500 µg/L
- Pb = 250 µg/L
- Cd, Ag = 25 µg/L
- Se = 50 µg/L
- Mg = 2500 µg/L

LCS Concentration:
- As, Cr, Cu, Zn, Ni = 100 µg/L
- Ca = 1000 µg/L
- Pb = 50 µg/L
- Cd, Ag = 5 µg/L
- Se = 10 µg/L
- Mg = 700 µg/L

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Analysis of Dissolved Metals by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QL13
Lab Project #: CHM100309-12

EPA 200.8 (µg/L)	MRL	Method Blank	LCS	NBF-MH108-022310-W	Duplicate NBF-MH108-022310-W	RPD %
Date Extracted		3/10/10	3/10/10	3/10/10	3/10/10	
Date Analyzed		3/10/10	3/10/10	3/10/10	3/10/10	
Matrix				Water	Water	
Arsenic (As)	0.95	nd	107%	nd	nd	
Cadmium (Cd)	0.20	nd	109%	nd	nd	
Chromium (Cr)	0.60	nd	109%	**1.10**	**1.1**	5%
Copper (Cu)	0.40	nd	112%	**8.90**	**9.1**	2%
Lead (Pb)	0.20	nd	107%	nd	nd	
Nickel (Ni)	0.40	nd	111%	**2.0**	**2.0**	0%
Selenium (Se)	1.0	nd	98%	nd	nd	
Silver (Ag)	0.04	nd	108%	nd	nd	
Zinc (Zn)	1.5	nd	103%	**18.7**	**19.6**	5%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%

Acceptable Recovery Limits:

LCS, LCSD, MS, MSD: 65% to 135%

Spike Concentration:

As, Cr = 500 µg/L
Cu, Zn, Ni = 500 µg/L
Pb = 250 µg/L
Cd, Ag =25 µg/L
Se = 50 µg/L

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Analysis of Dissolved Metals by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QL13
Lab Project #: CHM100309-12

EPA 200.8 (µg/L)	MRL	NBF-LS431-022310W
Date Extracted		3/10/10
Date Analyzed		3/10/10
Matrix		Water
Arsenic (As)	0.95	nd
Cadmium (Cd)	0.20	nd
Chromium (Cr)	0.60	**1.6**
Copper (Cu)	0.40	**11.3**
Lead (Pb)	0.20	nd
Nickel (Ni)	0.40	**1.5**
Selenium (Se)	1.0	nd
Silver (Ag)	0.04	nd
Zinc (Zn)	1.5	**24.4**

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentration:
As, Cr = 500 µg/L
Cu, Zn, Ni = 500 µg/L
Pb = 250 µg/L
Cd, Ag =25 µg/L
Se = 50 µg/L

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Analysis of Dissolved Metals by EPA Method 200.8

Project: NBF/GTSP
Client: ARI
Client Project #: QL13
Lab Project #: CHM100309-12

		MS		MSD		
		Sample+Spike	*Recovery*	*Sample+Spike*	*Recovery*	
EPA 200.8 (µg/L)	**MRL**	*100309-10-4*		*100309-10-4*		**RPD %**
Date Extracted		3/10/10		3/10/10		
Date Analyzed		3/10/10		3/10/10		
Matrix		Water		Water		
Arsenic (As)	0.95	*526*	105%	*503*	101%	4%
Cadmium (Cd)	0.20	*26.6*	106%	*25.0*	100%	6%
Chromium (Cr)	0.60	*534*	106%	*514*	102%	4%
Copper (Cu)	0.40	*523*	105%	*502*	100%	4%
Lead (Pb)	0.20	*252*	101%	*252*	101%	0.2%
Nickel (Ni)	0.40	*530*	106%	*507*	101%	5%
Selenium (Se)	1.0	*41.5*	83%	*36.4*	73%	13%
Silver (Ag)	0.04	*26.1*	104%	*25.2*	101%	3%
Zinc (Zn)	1.5	*520*	101%	*503*	98%	3%

"nd" Indicates no detection at the listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"PDS" Indicates Post Digestion Spike
"RPD" Indicates Relative Percent Difference

Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
LCS, LCSD, MS, MSD: 65% to 135%
Spike Concentration:
As, Cr = 500 µg/L
Cu, Zn, Ni = 500 µg/L
Pb = 250 µg/L
Cd, Ag =25 µg/L
Se = 50 µg/L

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Total Hardness by EPA Method 200.8 / SM 2340B

Project: NBF/GTSP
Client: ARI
Client Project #: QL13
Lab Project #: CHM100309-12

			Duplicate	
EPA Method 200.8/SM 2340B (mg equivalent $CaCO_3$/L)	**MRL**	**NBF-MH108-022310-W**	**NBF-MH108-022310-W**	**RPD %**
Date Analyzed		3/10/10	3/10/10	
Matrix		Water	Water	
Hardness	0.8	**151**	**152**	1%

"MRL" Indicates Method Reporting Limit
"RPD" Indicates Relative Percent Difference

Acceptable RPD % is determined to be less than 30%

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Total Hardness by EPA Method 200.8 / SM 2340B

Project: NBF/GTSP
Client: ARI
Client Project #: QL13
Lab Project #: CHM100309-12

EPA Method 200.8/SM 2340B (mg equivalent $CaCO_3$/L)	MRL	NBF-LS431-022310W
Date Analyzed		3/10/10
Matrix		Water
Hardness	0.8	**129**

"MRL" Indicates Method Reporting Limit
"RPD" Indicates Relative Percent Difference

Acceptable RPD % is determined to be less than 30%

TOTAL SOLIDS

Solids Data Entry Report Checked by: MH Date: 2/26/10
Date: 02/26/10 Data Analyst: KM

Solids Determination performed on 02/25/10 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
QL13	F	NBF-MH108A-022310-S	0.981	5.515	1.878	19.78

Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 9, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater
ARI Job No: QP21

Dear Glen:

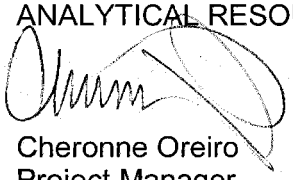
Please find enclosed the Chain-of-Custody (COC) record, sample receipt documentation, and the final data package for samples from the project referenced above.

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.



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

Enclosures

cc: eFile QP21

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QP21

prepared
by

Analytical Resources, Inc.

(QP21

SAIC
From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: _____ Project Mgr: Glen Vedera
Project Name: NBF/GTSP Stormwater Sampling
Project Location: NBF
Sample Collectors: J Nuwer, Glen Vedera
Client Name: Ecology

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors	Metals & Mercury	Grain Size							Comments
NBF-LSA3A-032010	0-5	S	3/20/10	1925	1 BAG	X	X	X							
NBF-LSA3B-032010	0-5	S	3/20/10	1925	1 BAG										ARCHIVE

Analyses / Tests

Shipping Information

Number of Shipping Containers:

Date Shipped:

Carrier:

Waybill No.:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 3/22/10	Date/Time: 3/22/10 1345	Date/Time:	Date/Time:
Affiliation:	Affiliation: ARI	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

QP21 : 9999

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC

Project Name: NBF/GTSP Stormwater Sampling

COC No(s): _____ (NA)

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

Assigned ARI Job No: QP21

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)		16.1

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID#: 90877952

Cooler Accepted by: _____ Date: 3/22/10 Time: 1425

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

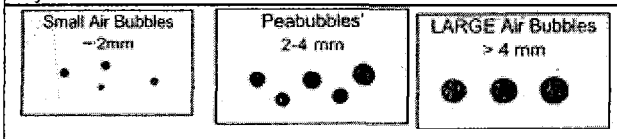
Samples Logged by: AV Date: 3/22/10 Time: 1450

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Case Narrative

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QP21

prepared
by

Analytical Resources, Inc.

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater
ARI Job No.: QP21

Sample Receipt

Two filter-bags were received on March 22, 2010, under ARI job QP21. The cooler temperature measured by IR thermometer following ARI SOP was 16.1°C and samples were received within a short time of collection. One filter-bag was archived upon receipt. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Filter-bag Aroclor PCBs by SW8082

The sample was extracted and analyzed within recommended holding times, using internal standard methods. Please note that the plastic ring was removed before extracting the filter-bag samples.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Total Metals and Mercury

Approximately ten grams of solid material was removed from the filter-bag to be analyzed for metals and mercury. The sample was digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recoveries of copper, lead, and zinc were outside the control limits high for sample **NBF-LS431A-032010-S**. Post digestion spikes were performed and the recoveries were within control limits. All relevant data have been flagged with an "N" qualifier on the appropriate Form V. No further corrective action was required.

The duplicate RPDs of chromium, copper, lead, and zinc were outside the control limit high for sample **NBF-LS431A-032010-S**. All relevant data have been flagged with a "*" qualifier on the appropriate Form VI. No further corrective action was required.

Geotechnical Parameters

A laboratory-specific case narrative follows. Approximately twenty grams of solid material was removed from the filter-bag to be analyzed by the geotechnical laboratory. A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science App. International Corp. **ARI Project No.:** QP21

Client Project: NBF/GTSP Stormwater Sampling

Case Narrative

1. One sample was received on March 22, 2010.
2. The sample was submitted for grain size analysis by means of X-ray diffraction using a Sedigraph 5120. The values are calculated using Stokes' Law of sedimentation and Beer's law of extinction. The sample was submitted with limited sample volume, and there was not enough sample to split a triplicate.
3. The standard operating procedure calls for the sample to be measured on the #4 (4750 µm) sieve, down to the 0.1 µm particle size with the Sedigraph 5120. If there were no particles measured at these extremes, the data is not included in the report.
4. The sample contained a percentage of organic material. Organic material does not absorb X-rays, and is not included in the fine portion of the analysis.
5. The data is provided in summary tables and plot.
6. There were no other noted anomalies in the samples or methods on this project.

Approved by: _____ Date: March 30, 2010
Lead Technician

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

SURR SOLUTIONS

4/3/2010

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1706-2	ABN	100/150	MEOH	07/30/10
B	1633-3	SIM PNA	15/75	MEOH	08/12/10
C	1705-4	SIM ABN	25/37.5	MEOH	03/08/11
D	1689-2	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1634-1	LOW S. PNA	1.5	MEOH	08/12/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1699-1	TPH	450	MECL2	07/02/10
P	1707-4	HCID	2250	MECL2	07/02/10
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					
#project specific					
Y					
Z					

LCS SOLUTIONS

4/3/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#	1472-3	BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1667-1	LOW PEST	0.2/0.4/2	ACETONE	06/26/10
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1705-1	ABN	100	ACETONE	07/01/10
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1642-2	TPHD	15000	ACETONE	09/07/10
12	1698-1	ABN BASE	200	MEOH	07/24/10
13	1613-1	LOW PCB	2	ACETONE	06/08/10
14*	1547-1	LOW ABN ACID	10/20	MEOH	04/10/10
15	1716-2	SIM PNA	15/75	MEOH	03/30/11
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18*	1591-4	LOW SIM PNA	1.5	ACETONE	08/28/10
19	1685-3	AK103	7500	ACETONE	09/03/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1593-3	SKY/BHT	100	MEOH	03/31/10
22	1702-4	HERB	12.5/12500	MEOH	04/17/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#	1481-1	DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#	1684-1	ADD. PEST	4	ACETONE	03/25/10
29#	1496-3	DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

4/3/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Summary of Laboratory Control Limits

Default limits of 30-160% recovery and 30% RPD apply for all organic analytes when laboratory generated control limits are not available on ARI's web site. Default limits for all inorganic analytes are 75-125% recovery and 25% RPD.

ARI's laboratory generated Quality Control Limits may be superseded by project specific data quality objectives (DQO) provided by ARI's clients. The use of project specific DQO must be approved by ARI's Laboratory and QA Program Managers.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QP21

prepared
by

Analytical Resources, Inc.

PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431A-032010-S
SAMPLE

Lab Sample ID: QP21A
LIMS ID: 10-7395
Matrix: Filter Bag
Data Release Authorized:
Reported: 04/02/10

QC Report No: QP21-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/20/10
Date Received: 03/22/10

Date Extracted: 03/26/10
Date Analyzed: 03/31/10 15:05
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	**Aroclor 1242**	**1.0**	**12**
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	**Aroclor 1254**	**1.0**	**16**
11096-82-5	**Aroclor 1260**	**1.0**	**7.6**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	98.0%
Tetrachlorometaxylene	103%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Filter Bag

QC Report No: QP21-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	DCBP	TCMX	TOT OUT
MB-032610	81.2%	73.5%	0
LCS-032610	77.5%	77.8%	0
LCSD-032610	82.2%	74.0%	0
NBF-LS431A-032010-S	98.0%	103%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A
Log Number Range: 10-7395 to 10-7395

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-032610
LCS/LCSD

Lab Sample ID: LCS-032610
LIMS ID: 10-7395
Matrix: Filter Bag
Data Release Authorized: [signature]
Reported: 04/02/10

QC Report No: QP21-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/20/10
Date Received: 03/22/10

Date Extracted LCS/LCSD: 03/26/10

Date Analyzed LCS: 03/31/10 14:23
LCSD: 03/31/10 14:44
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1.00 Filter Bag
LCSD: 1.00 Filter Bag
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	2.8	2.5	112%	2.8	2.5	112%	0.0%
Aroclor 1260	2.3	2.5	92.0%	2.3	2.5	92.0%	0.0%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	77.5%	82.2%
Tetrachlorometaxylene	77.8%	74.0%

Reported in Total µg
RPD calculated using sample concentrations per SW846.

FORM III

PCB METHOD BLANK SUMMARY

BLANK NO.

QP21MB1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QP21
Project: NBF/GTSP STORMWATER

Lab Sample ID: QP21MB1
Lab File ID: 0331A005

Date Extracted: 03/26/10
Matrix: SOLID

Date Analyzed: 03/31/10
Instrument ID: ECD5

Time Analyzed: 1402
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QP21LCS1	QP21LCS1	03/31/10
02	QP21LCSD1	QP21LCSD1	03/31/10
03	NBF-LS431A-032010-S	QP21A	03/31/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-032610
METHOD BLANK

Lab Sample ID: MB-032610
LIMS ID: 10-7395
Matrix: Filter Bag
Data Release Authorized:
Reported: 04/02/10

QC Report No: QP21-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 03/26/10
Date Analyzed: 03/31/10 14:02
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.1	< 0.1 U
53469-21-9	Aroclor 1242	0.1	< 0.1 U
12672-29-6	Aroclor 1248	0.1	< 0.1 U
11097-69-1	Aroclor 1254	0.1	< 0.1 U
11096-82-5	Aroclor 1260	0.1	< 0.1 U
11104-28-2	Aroclor 1221	0.1	< 0.1 U
11141-16-5	Aroclor 1232	0.1	< 0.1 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	81.2%
Tetrachlorometaxylene	73.5%

METALS ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431A-032010-S
SAMPLE

Lab Sample ID: QP21B
LIMS ID: 10-7396
Matrix: Soil
Data Release Authorized:
Reported: 04/07/10

QC Report No: QP21-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/20/10
Date Received: 03/22/10

Percent Total Solids: 54.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	03/25/10	6010B	04/06/10	7440-38-2	Arsenic	20	20	U
3050B	03/25/10	6010B	04/06/10	**7440-43-9**	**Cadmium**	0.9	**4.9**	
3050B	03/25/10	6010B	04/06/10	**7440-47-3**	**Chromium**	2	**61**	
3050B	03/25/10	6010B	04/06/10	**7440-50-8**	**Copper**	0.9	**50.9**	
3050B	03/25/10	6010B	04/06/10	**7439-92-1**	**Lead**	9	**293**	
CLP	03/25/10	7471A	03/25/10	**7439-97-6**	**Mercury**	0.04	**0.06**	
3050B	03/25/10	6010B	04/06/10	7440-22-4	Silver	1	1	U
3050B	03/25/10	6010B	04/06/10	**7440-66-6**	**Zinc**	4	**245**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431A-032010-S
MATRIX SPIKE

Lab Sample ID: QP21B
LIMS ID: 10-7396
Matrix: Soil
Data Release Authorized:
Reported: 04/07/10

QC Report No: QP21-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/20/10
Date Received: 03/22/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	20 U	370	358	103%	
Cadmium	6010B	4.9	99.3	89.4	106%	
Chromium	6010B	61	164	89.4	115%	
Copper	6010B	50.9	165	89.4	128%	N
Lead	6010B	293	944	358	182%	N
Mercury	7471A	0.06	0.48	0.384	109%	
Silver	6010B	1 U	87	89.4	97.3%	
Zinc	6010B	245	448	89.4	227%	N

Reported in mg/kg-dry

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431A-032010-S DUPLICATE

Lab Sample ID: QP21B
LIMS ID: 10-7396
Matrix: Soil
Data Release Authorized:
Reported: 04/07/10

QC Report No: QP21-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/20/10
Date Received: 03/22/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	20 U	20 U	0.0%	+/- 20	L
Cadmium	6010B	4.9	5.1	4.0%	+/- 20%	
Chromium	6010B	61	25	83.7%	+/- 20%	*
Copper	6010B	50.9	34.2	39.2%	+/- 20%	*
Lead	6010B	293	57	135%	+/- 20%	*
Mercury	7471A	0.06	0.07	15.4%	+/- 0.04	L
Silver	6010B	1 U	1 U	0.0%	+/- 1	L
Zinc	6010B	245	352	35.8%	+/- 20%	*

Reported in mg/kg-dry

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QP21LCS
LIMS ID: 10-7396
Matrix: Soil
Data Release Authorized:
Reported: 04/07/10

QC Report No: QP21-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	201	200	100%	
Cadmium	6010B	50.1	50.0	100%	
Chromium	6010B	50.9	50.0	102%	
Copper	6010B	47.7	50.0	95.4%	
Lead	6010B	197	200	98.5%	
Mercury	7471A	0.54	0.50	108%	
Silver	6010B	50.1	50.0	100%	
Zinc	6010B	49	50	98.0%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: QP21MB
LIMS ID: 10-7396
Matrix: Soil
Data Release Authorized:
Reported: 04/07/10

QC Report No: QP21-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	03/25/10	6010B	04/06/10	7440-38-2	Arsenic	5	5	U
3050B	03/25/10	6010B	04/06/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	03/25/10	6010B	04/06/10	7440-47-3	Chromium	0.5	0.5	U
3050B	03/25/10	6010B	04/06/10	7440-50-8	Copper	0.2	0.2	U
3050B	03/25/10	6010B	04/06/10	7439-92-1	Lead	2	2	U
CLP	03/25/10	7471A	03/25/10	7439-97-6	Mercury	0.02	0.02	U
3050B	03/25/10	6010B	04/06/10	7440-22-4	Silver	0.3	0.3	U
3050B	03/25/10	6010B	04/06/10	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

GEOTECHNICAL ANALYSIS

Science App. International Corp
NBF/GTSP Stormwater Sampling

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
NBF-LS431A-032010-S	100.0	100.0	99.9	99.7	98.5	95.1	93.0	92.4	91.2	87.6	85.0	81.9	76.8	67.4

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Science App. International Corp
NBF/GTSP Stormwater Sampling

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
NBF-LS431A-032010-S	0.1	0.2	1.2	3.4	2.1	0.6	1.2	3.6	2.6	3.1	5.1	9.4	67.4	92.4

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

TOTAL SOLIDS

Solids Data Entry Report Checked by: DM Date: 3/26/10
Date: 03/26/10 Data Analyst: MH

Solids Determination performed on 03/25/10 by MH

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
QP21	B	NBF-LS431A-032010-S	0.986	3.521	2.372	54.67

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory
Analyst Notes

ARI Job No.: QP21 Client ID: Science App. International Corp

Parameter: PCB Client Project: NBF/GTSP Stormwater Sampling

SOP Number(s): No Anomalies:

List problems, concerns, corrective actions and any other pertinent information
Prep Time (Before Drying) — 20mins WC 3/24/10 Prep Time (After Drying) - 20mins WC 3/26/10
Sample Wet Weight. A = 395.65g
Metals split. A = 10.84g
Geotech split. A = 20.20g WC 3/24/10
Sample dry weight w/ Plastic Ring. A = 85.92g
Plastic Ring Weight (Removed). A = 16.27g
Sample dry weight without plastic Ring. A = 69.65g
GC analyst, Sample 'A' was surrogated at 5X normal level to leave room for possible dilutions. ~~SH~~ 3/26/10
Analyst Initials: Date:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 20, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: QQ37 & QQ41

Dear Glen:

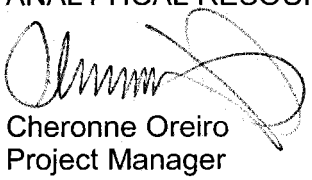
Please find enclosed the Chain-of-Custody (COC) records, sample receipt documentation, and the final data package for samples from the project referenced above.

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.



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

Enclosures

cc: eFile QQ37/QQ41

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QQ37, QQ41

prepared
by

Analytical Resources, Inc.

0037

SAIC®
From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.:
Project Mgr: Glen Vedera
Project Name: NBF - ~~STSO~~ Stormwater Sampling
Project Location: NBF
Sample Collectors: JW, WH
Client Name: Ecology

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors	Metals + Mercury	Grain Size	Low level PCB Aroclors	SVOC/SIM SVOC	VOCs	Metals + Hg total/diss	hardness, pH, alk	anions, TOC, DOC, TSS	Comments
NBF-LS431A-032910-S		Sediment ~~Water~~	3/29/10	1515	1 filter	X	X	X							
NBF-LS431B-032910-S		Sediment ~~Water~~	3/29/10	1515	1 filter										ARCHIVE
NBF-LS431V-032910		Sediment ~~Water~~	3/29/10	1545	4 filters										ARCHIVE Do not Freeze
NBF-LS431-032910-W		water	3/29/10	1515	1 carboy				X	X	X	X	X	X	
NBF-MH108A-032910-S ~~NBF-MH108-032910-S~~		Sediment	3/29/10	1630	1 filter	X	X	X							
NBF-MH108B-032910-S		Sediment	3/29/10	1630	1 filter										ARCHIVE
NBF-MH108-032910-W		water	3/29/10	1630	1 carboy				X	X	X	X	X	X	
NBF-LS431-032910-R		water	3/29/10	–	4 1/2 gallons										Forming LS431 sample

(signature) 3/29/10

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: (signature)	Signature: J Peterson	Signature:	Signature:
Date/Time: 3/29/10 1715	Date/Time: 3/29/10 1715	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ACI	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC | Project Name: NBF-GTSP Stormwater Sampling

COC No(s): NA | Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: QQ37 | 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

If cooler temperature is out of compliance fill out form 00070F | Temp Gun ID#: 90941619

Cooler Accepted by: JP Date: 3/29/10 Time: 1715

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI: ~~NA~~ YES Date/Time: 3/29/10 1715 Equipment: PDA Split by: JP/AV

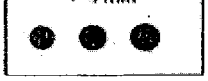
Samples Logged by: JP AV Date: 3/29/10 3/30/10 Time: ~~1517~~ 1021 1715

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 03/30/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: QQ37

PC: Cheronne
VTSR: 03/29/10

Inquiry Number: NONE
Analysis Requested: 03/30/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #:
Project: NBF/GTSP Stormwater Sampling
Sample Site: NBF
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-8102 QQ37A	NBF-LS431-032910-W						TOT pass				NP	pass										
10-8103 QQ37B	NBF-MH108-032910-W						TOT															
10-8104 QQ37C	NBF-LS431-032910-W						DIS NP					NP				N	Y	DOC				3/30/10 AK
10-8105 QQ37D	NBF-MH108-032910-W						DIS									N	Y					

NP= Not preserved, Diss met & DOC not filtered

Checked By AV Date 3/30/10

PRESERVATION VERIFICATION 03/30/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QQ37**

Inquiry Number: NONE
Analysis Requested: 03/30/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Cheronne
VTSR: 03/29/10

Project #:
Project: NBF/GTSP Stormwater Sampling
Sample Site: NBF
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-8102 **QQ37A**	NBF-LS431-032910-W						TOT PASS				NP	PASS										
10-8103 **QQ37B**	NBF-MH108-032910-W						TOT															
10-8104 **QQ37C**	NBF-LS431-032910-W						DIS NP					NP				N						
10-8105 **QQ37D**	NBF-MH108-032910-W						DIS									N						

NP= Not preserved, Diss met & DOC not filtered

QQ37 : 99999

Checked By AV Date 3/30/10

0041

SAIC
From Science to Solutions
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: _____ Project Mgr: Glen Vedera
Project Name: NBF - STSD stormwater sampling
Project Location: NBF
Sample Collectors: JLO, WOH
Client Name: Ecology

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors	Metals + Mercury	Grain Size	Low Level PAH Aroclors	SVOC/SIM SVOC	VOCs	Metals: Hg total/diss Hardness, pH, alk	Anions: TOC, DOC, TSS	Comments
NBF-LS431A-032910-S		sediment water	3/29/10	1515	1 filter	X	X	X						
NBF-LS431B-032910-S		sediment water	3/29/10	1515	1 filter									ARCHIVE
NBF-LS431V-032910		sediment water	3/29/10	1545	4 filters									ARCHIVE Do not Sweep
NBF-LS431-032910-W		water	3/29/10	1515	1 carboy				X	X	X	X	X	X	X	
NBF-MH108A-032910-S		sediment	3/29/10	1630	1 filter	X	X	X						
NBF-MH108B-032910-S		sediment	3/29/10	1630	1 filter									ARCHIVE
NBF-MH108-032910-W		water	3/29/10	1630	1 carboy				X	X	X	X	X	X	X	
NBF-LS431-032910-R		water	3/29/10	—	4 1/2 gallons											Forensics LS431 sample

Shipping Information
Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

RELINQUISHED BY:
Signature: _____
Date/Time: 3/29/10 1715
Affiliation: SAIC

RECEIVED BY:
Signature: J Peterson
Date/Time: 3/29/10 1715
Affiliation: ACL

RELINQUISHED BY:
Signature: _____
Date/Time: _____
Affiliation: _____

RECEIVED BY:
Signature: _____
Date/Time: _____
Affiliation: _____

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC

Project Name: NBF-GTSP Stormwater Sampling

COC No(s): _____ (NA)

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

Assigned ARI Job No: CVG41

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

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90941619

Cooler Accepted by: JP Date: 3/29/10 Time: 1715

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : ~~NA~~ (YES) Date/Time: 3/29/10 1715 Equipment: PDA Split by: JP/AV

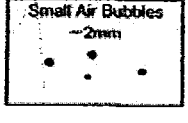
Samples Logged by: ~~JP~~ AV Date: ~~3/29/10~~ 3/30/10 AV Time: ~~1517~~ 1033 1715 AV

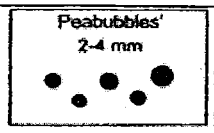
***** Notify Project Manager of discrepancies or concerns *****

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:





Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 03/30/10

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QQ41**

Inquiry Number: NONE
Analysis Requested: 03/30/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: Yes
Deliverables:

PC: Cheronne
VTSR: 03/29/10

Project #:
Project: NBF/GTSP Stormwater Sampling
Sample Site: NBF
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-8114 **QQ41A**	NBF-LS431-032910-W						DIS NP									N						
10-8115 **QQ41B**	NBF-MH108-032910-W						DIS									N						

NP= Not preserved or filtered

Checked By AV Date 3/30/10

Case Narrative

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QQ37, QQ41

prepared
by

Analytical Resources, Inc.

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job No.: QQ37 & QQ41

Sample Receipt

Five filter-bag samples and three water samples were received on March 29, 2010, under ARI jobs QQ37 and QQ41 (Low-Level Mercury). The cooler temperature measured by IR thermometer following ARI SOP was 4.6°C. Select samples were archived upon receipt. Two water samples were submitted in five gallon carboys. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The carboy water samples were homogenized using fourteen liter churn-splitters and then poured in to individual sample containers for analysis.

Volatile by SW8260C

The samples were analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

Semivolatiles by SW8270D

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS and LCSD percent recoveries of Pentachlorophenol fell outside the control limits low for **LCS-033110**. The outliers were accepted as marginal exceedances. No corrective action was required.

Low-Level Semivolatiles by SW8270D-SIM

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit.

The LCS percent recovery of Anthracene fell outside the control limits low for **LCS-033110**. The LCSD percent recovery was within control limits. No corrective action was required.

Aroclor Low Level PCBs by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

The undetected results for Aroclor 1248 were raised and "Y"-flagged due to interference from the matrix.

Aroclor PCBs in Filter-bags by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods. Please note that the plastic ring was removed before extracting the filter-bag sample.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recovery of Tetrachlorometaxylene was outside the control limits high for sample **NBF-MH108A-032910-S**. All other surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

The undetected result for Aroclor 1248 was raised and "Y"-flagged due to interference from the matrix.

Total/Dissolved Metals and Total Mercury

Approximately ten grams of solid material was removed from the filter-bag to be analyzed for metals and mercury. All samples were digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery of mercury fell outside the control limits low for sample **NBF-LS431A-032910-S**. All relevant data have been flagged with an "N" qualifier on the appropriate Form V. No further corrective action was required.

The matrix spike percent recovery of zinc fell outside the control limits low for sample **NBF-LS431A-032910-S**. The sample concentration exceeded the spike concentration by a factor of four or more. No corrective action was required.

The duplicate percent recovery of mercury was outside the control limit high for sample **NBF-LS431A-032910-S**. All relevant data have been flagged with an "*" qualifier on the appropriate Form VI. No further corrective action was required.

Dissolved Low-Level Mercury

The samples were digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery and duplicate RPD were within control limits.

General Chemistry

The samples were prepared and analyzed within method recommended holding times, using internal standards.

The method blanks were clean at the reporting limits.

The LCS percent recovery of Alkalinity was outside the control limits high. All other quality control parameters were within control limits for Alkalinity. No corrective action was required.

The SRM percent recoveries were within limits.

The matrix spike percent recoveries were within control limits.

The duplicate RPD of TSS was outside the control limit high for sample **NBF-LS431-032910-W**. All other quality control parameters were within control limits for TSS. No corrective action was required.

Geotechnical Parameters

A laboratory-specific case narrative follows. Approximately twenty grams of solid material was removed from each filter-bag to be analyzed by the geotechnical laboratory. A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science App. International Corp. **ARI Project No.:** QQ37

Client Project: NBF/GTSP Stormwater Sampling

Case Narrative

1. Two samples were received on March 29, 2010.
2. The samples were submitted for grain size analysis by means of X-ray diffraction using a Sedigraph 5120. The values are calculated using Stokes' Law of sedimentation and Beer's law of extinction. The samples were submitted with limited sample volume, and there was not enough material to split a triplicate.
3. The standard operating procedure calls for the sample to be measured on the #4 (4750 µm) sieve, down to the 0.1 µm particle size with the Sedigraph 5120. If there were no particles measured at these extremes, the data is not included in the report.
4. The samples contained a percentage of organic material. Organic material does not absorb X-rays, and is not included in the fine portion of the analysis.
5. The data is provided in summary tables and plots.
6. There were no other noted anomalies in the samples or methods on this project.

Approved by: _____ Date: April 6, 2010
Lead Technician

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

SURR SOLUTIONS

4/3/2010

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1706-2	ABN	100/150	MEOH	07/30/10
B	1633-3	SIM PNA	15/75	MEOH	08/12/10
C	1705-4	SIM ABN	25/37.5	MEOH	03/08/11
D	1689-2	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1634-1	LOW S. PNA	1.5	MEOH	08/12/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1699-1	TPH	450	MECL2	07/02/10
P	1707-4	HCID	2250	MECL2	07/02/10
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					
#project specific					
Y					
Z					

LCS SOLUTIONS

4/3/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#	1472-3	BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1667-1	LOW PEST	0.2/0.4/2	ACETONE	06/26/10
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1705-1	ABN	100	ACETONE	07/01/10
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1642-2	TPHD	15000	ACETONE	09/07/10
12	1698-1	ABN BASE	200	MEOH	07/24/10
13	1613-1	LOW PCB	2	ACETONE	06/08/10
14*	1547-1	LOW ABN ACID	10/20	MEOH	04/10/10
15	1716-2	SIM PNA	15/75	MEOH	03/30/11
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18*	1591-4	LOW SIM PNA	1.5	ACETONE	08/28/10
19	1685-3	AK103	7500	ACETONE	09/03/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1593-3	SKY/BHT	100	MEOH	03/31/10
22	1702-4	HERB	12.5/12500	MEOH	04/17/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#	1481-1	DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#	1684-1	ADD. PEST	4	ACETONE	03/25/10
29#	1496-3	DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

4/3/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
	*=REVERIFIED SOLUTION				

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Aqueous Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 10 mL Purge Volume [1,7]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI Control Limits	ARI ME Control Limits[2]
LCS Spike Recovery [6]		
tert-Butanol	49 - 150	32 - 167
Metyl-*tert*-butylether	47 - 154	29 - 172
Di-*iso*-propylether	43 - 149	25 - 167
Ethyl-*tert*-butylether	45 - 155	27 - 173
tert-Amyl methylether	52 - 151	35 - 168
Dichlorodifluoromethane	59 - 129	47 - 141
Chloromethane	66 - 123	57 - 133
Vinyl Chloride	68 - 121	59 - 130
Bromomethane	55 - 148	40 - 164
Chloroethane	47 - 155	29 - 173
1,1,2-Trichloro-1,2,2-trifluoroethane	70 - 129	60 - 139
Acrolein	24 170	**10** - 194
Trichlorotrifluoroethane	74 - 127	65 - 136
Acetone	70 - 130	60 - 140
1,1-Dichloroethene	72 - **120**	64 - 127
Bromoethane	73 - 131	63 - 141
Methyl Iodide	34 - 183	**10** - 208
Methylene Chloride	70 - 124	61 - 133
Acrylonitrile	71 - 135	60 - 146
Methyl tert-Butyl Ether	78 - **120**	72 - 122
Carbon Disulfide	66 - 129	56 - 140
trans-1,2-Dichloroethene	76 - **120**	70 - 120
Vinyl Acetate	49 - 134	35 - 148
1,1-Dichloroethane	75 - **120**	68 - 124
2-Butanone	78 - 131	69 - 140
2,2-Dichloropropane	68 - 121	59 - 130
cis-1,2-Dichloroethene	80 - **120**	75 - **120**
Chloroform	78 - **120**	72 - 121
Bromodichloromethane	79 - **120**	73 - **120**
1,1,1-Trichloroethane	76 - **120**	69 - 123
1,1-Dichloropropene	78 - **120**	72 - 120
Carbon Tetrachloride	70 - 126	61 - 135
1,2-Dichloroethane	78 - **120**	72 - **120**
Benzene	79 - **120**	73 - **120**
Trichloroethene	78 - **120**	72 - 122
1,2-Dichloropropane	80 - **120**	75 - **120**
Bromochloromethane	78 - **120**	72 - 124

Dibromomethane	80 - **120**	75 - **120**
2-Chloroethylvinylether	68 - 134	57 - 145
4-Methyl-2-Pentanone	73 - 131	63 - 141
cis-1,3-Dichloropropene	78 - **120**	72 - 121
Toluene	79 - **120**	74 - **120**
trans-1,3-Dichloropropene	75 - **120**	68 - 124
2-Hexanone	75 - 130	66 - 139
1,1,2-Trichloroethane	79 - **120**	74 - **120**
1,3-Dichloropropane	78 - **120**	72 - 120
Tetrachloroethene	72 - **120**	65 - 125
Dibromochloromethane	78 - **120**	71 - 125
Ethylene Dibromide	75 - **120**	68 - 125
Chlorobenzene	79 - **120**	73 - **120**
Ethylbenzene	78 - 121	71 - 128
1,1,2,2-Tetrachloroethane	72 - **120**	64 - 127
m,p-Xylene	65 - 129	54 - 140
o-Xylene	76 - 120	69 - 127
Styrene	74 - 121	66 - 129
Isopropylbenzene	74 - 120	66 - 128
Bromoform	71 - 120	63 - 128
1,1,1,2-Tetrachloroethane	75 - **120**	68 - 126
1,2,3-Trichloropropane	73 - 120	65 - 128
trans-1,4-Dichloro-2-butene	65 - 135	53 - 147
n-Propylbenzene	76 - 121	69 - 129
Bromobenzene	72 - **120**	64 - 126
1,3,5-Trimethylbenzene	74 - 123	66 - 131
2-Chlorotoluene	74 - **120**	67 - 127
4-Chlorotoluene	75 - **120**	68 - 125
tert-Butylbenzene	73 - 121	65 - 129
1,2,4-Trimethylbenzene	73 - 124	65 - 133
sec-Butylbenzene	75 - 123	67 - 131
4-Isopropyltoluene	71 - 125	62 - 134
1,3-Dichlorobenzene	72 - **120**	64 - 127
1,4-Dichlorobenzene	76 - **120**	69 - 123
n-Butylbenzene	72 - 124	63 - 133
1,2-Dichlorobenzene	75 - **120**	68 - 124
1,2-Dibromo-3-chloropropane	67 - 121	58 - 130
1,2,4-Trichlorobenzene	71 - 120	63 - 128
Hexachloro-1,3-butadiene	67 - 124	58 - 134
Naphthalene	71 - 125	62 - 134
1,2,3-Trichlorobenzene	61 - 134	49 - 146
MB/LCS Surrogate Recovery		
Dibromofluoromethane	64 - 133	(3)
d4-1,2-Dichloroethane	70 - 132	(3)
d8-Toluene	**80 - 120**	(3)

4-Bromofluorobenzene	**80 - 120**	(3)
d4-1,2-Dichlorobenzene	**80 - 120**	(3)
Sample Surrogate Recovery		
Dibromofluoromethane	30 - 160 [5]	(3)
d4-1,2-Dichloroethane	**80** - 143	(3)
d8-Toluene	**80 - 120**	(3)
4-Bromofluorobenzene	**80 - 120**	(3)
D4-1,2-Dichlorobenzene	**80** - 120	(3)

(1) Control Limits calculated using all data generated 1/1/08 through 4/15/09.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard[4] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances require corrective action.
(3) Marginal Exceedances not allowed for surrogate standards.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) are adjusted from the calculated values as follows:
a) ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
b) Control limits for analyzes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
LCS Spike Recovery [8]				
Phenol [3]	50 - **100**	43 - 103	16 - **100**	6 - **100**
Bis-(2-chloroethyl) ether	52 - **100**	45 - 105	41 - 112	29 - 124
2-Chlorophenol	56 - **100**	49 - 103	43 - 111	32 - 122
1,3-Dichlorobenzene	23 - **100**	15 - **100**	32 - **100**	22 - 103
1,4-Dichlorobenzene	25 - **100**	17 - **100**	32 - **100**	22 - 103
Benzyl Alcohol	19 - 100	**10** - 114	22 - 100	9 - 113
1,2-Dichlorobenzene	30 - **100**	22 - **100**	34 - **100**	24 - 104
2-Methylphenol	52 - **100**	44 - 106	36 - 110	24 - 122
2,2'-oxybis(1-chloropropane)	32 - 111	19 - 124	29 - 118	14 - 133
4-Methylphenol	53 - 102	45 - 110	38 - 104	27 - 115
N-Nitroso-di-n-propylamine	43 - 104	33 - 114	38 - 115	25 - 128
Hexachloroethane	12 - **100**	**10** - **100**	24 - **100**	13 - 100
Nitrobenzene	33 - 125	18 - 140	45 - 106	35 - 116
Isophorone	57 - 115	47 - 125	55 - 119	44 - 130
2-Nitrophenol	56 - 102	48 - 110	46 - 118	34 - 130
2,4-Dimethyphenol	29 - **100**	20 - **100**	28 - 105	15 - 118
Bis-(2-chloroethoxy) methane	54 - 101	46 - 109	44 - 118	32 - 130
Benzoic Acid [3]	**10** - 131	**10** - 151	11 - **100**	**10** - **100**
2,4-Dichlorophenol	56 - 104	48 - 112	43 - 121	30 - 134
1,2,4-Trichlorobenzene	27 - **100**	18 - **100**	35 - **100**	25 - 107
Naphthalene	45 - **100**	38 - **100**	36 - 111	24 - 124
4-Chloroaniline [3]	**10** - 139	**10** - 161	10 - 174	**10** - 201
2-Chloronaphthalene	45 - **100**	37 - 105	39 - 118	26 - 131
Hexachlorobutadiene	**10** - **100**	**10** - **100**	24 - **100**	12 - 108
4-Chloro-3-methylphenol	53 - 109	44 - 118	45 - 122	32 - 135
2-Methylnaphthalene	46 - **100**	38 - 100	45 - 103	35 - 113
Hexachlorocyclopentadiene	**10** - **100**	**10** - **100**	23 - 108	**10** - 122
2,4,6-Trichlorophenol	58 - 108	50 - 116	48 - 122	36 - 134
2,4,5-Trichlorophenol	58 - 107	50 - 115	48 - 122	36 - 134
2-Nitroaniline	50 - 107	41 - 117	48 - 118	36 - 130
Dimethylphthalate	58 - 107	50 - 115	50 - 120	38 - 132
Acenaphthylene	57 - 100	50 - 107	50 - 119	39 - 131
2,6-Dinitrotoluene	58 - 112	49 - 121	48 - 133	34 - 147
3-Nitroaniline [3]	21 - 150	**10** - 172	54 - 140	40 - 154
Acenaphthene	51 - **100**	43 - 106	41 - 120	28 - 133
2,4-Dinitrophenol	12 - 169	**10** - 195	23 - 176	**10** - 202

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibenzofuran	57 - 100	50 - 107	51 - 114	41 - 125
4-Nitrophenol [3]	35 - 119	21 - 133	13 - **100**	**10** - **100**
2,4-Dinitrotoluene	58 - 117	48 - 127	51 - 134	37 - 148
Fluorene	56 - 104	48 - 112	50 - 120	38 - 132
Diethylphthlalate	52 - 111	42 - 121	48 - 122	36 - 134
4-Chlorophenyl-phenyl ether	55 - 104	47 - 112	50 - 118	39 - 129
4-Nitroaniline	49 - 112	39 - 123	42 - 136	26 - 152
4,6-Dinitro-2-Methylphenol	13 - 139	**10** - 160	32 - 121	17 - 136
N-Nitrosodiphenylamine	60 - 136	47 - 149	58 - 141	44 - 155
4-Bromophenyl-phenyl ether	55 - 103	47 - 111	50 - 122	38 - 134
Hexachlorobenzene	54 - 106	45 - 115	47 - 125	34 - 138
Pentachlorophenol	46 - 114	35 - 125	35 - 130	19 - 146
Phenanthrene	56 - 102	48 - 110	49 - 120	37 - 132
Anthracene	56 - 101	49 - 109	53 - 116	43 - 127
Carbazole	60 - 108	52 - 116	57 - 122	46 - 133
Di-n-butylphthalate	56 - 112	47 - 121	57 - 121	46 - 132
Fluoranthene	57 - 110	48 - 119	56 - 119	46 - 130
Pyrene	48 - 119	36 - 131	37 - 143	19 - 161
Butylbenzylphthalate	51 - 114	41 - 125	34 - 152	14 - 172
Benzo(a)Anthracene	55 - 105	47 - 113	49 - 129	36 - 142
3,3'-Dichlorbenzidine [3]	**10** - 128	**10** - 148	50 - 128	37 - 141
Chrysene	55 - 104	47 - 112	45 - 128	31 - 142
bis(2-Ethylhexyl) phthalate	28 - 164	**10** - 187	57 - 133	44 - 146
Di-n-octylphthalate	57 - 107	49 - 115	52 - 120	41 - 131
Benzo(b)Fluoranthene	53 - 112	43 - 122	50 - 126	37 - 139
Benzo(k)Fluoranthene	50 - 116	39 - 127	49 - 126	36 - 139
Benzo(a)Pyrene	45 - 103	35 - 113	46 - 109	36 - 120
Indeno(1,2,3-cd)Pyrene	35 - 118	21 - 132	34 - 136	17 - 153
Dibenz(a,h)anthracene	42 - 119	29 - 132	41 - 134	26 - 150
Benzo(g,h,i)Perylene	39 - 123	25 - 137	41 - 133	26 - 148
Aniline [3]	**10** - **100**	**10** - **100**	28 - 126	12 - 142
1,2-Diphenylhydrazine /Azobenzene	57 - 109	48 - 118	55 - 119	44 - 130
N-Nitrosodimethylamine	49 - **100**	41 - 104	31 - **100**	21 - 105
1-Methylnaphthalene	46 - **100**	37 - 107	43 - 115	31 - 127
1,4-Dioxane	40 - **100**	30 - 108	30 - 160 [4]	30 - 160 [4]
Pyridine	-	-	25 - **100**	15 - **100**
Tributyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibutyl Phenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butyl Diphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Triphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butylated Hydroxytoluene (BHT)	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
MB / LCS Surrogate Recovery				
d4-2-Chlorophenol	53 - 100	(5)	49 - 101	(5)
d4-1,2-Dichlorobenzene	38 - **100**	(5)	40 - **100**	(5)
2,4,6-Tribromophenol	52 - 123	(5)	51 - 122	(5)
2-Fluorophenol	46 - **100**	(5)	31 - **100**	(5)
d5-Phenol [3]	50 - 100	52 - 108	19 - **100**	12 - **100**
d5-Nitrobenzene	46 - 100	(5)	46 - 101	(5)
2-Fluorobiphenyl	49 - **100**	(5)	49 - 103	(5)
d14-p-Terphenyl	53 - 119	(5)	49 - 130	(5)
d8-1,4-Dioxane	45 - **100**	(5)	30 - 160 [4]	(5)
Sample Surrogate Recovery				
d4-2-Chlorophenol	44 - **100**	(5)	23 - 104	(5)
d4-1,2-Dichlorobenzene	32 - **100**	(5)	22 - **100**	(5)
2,4,6-Tribromophenol	48 - 118	(5)	22 - 125	(5)
2-Fluorophenol	38 - **100**	(5)	18 - **100**	(5)
d5-Phenol	41 - **100**	32 - 104	**10** - **100**	17 - **100**
d5-Nitrobenzene	39 - **100**	(5)	21 - 106	(5)
2-Fluorobiphenyl	42 - **100**	(5)	26 - 104	(5)
d14-p-Terphenyl	26 - 114	(5)	11 - 132	(5)
d8-1,4-Dioxane	32 - **100**	(5)	30 - 160 [4]	(5)

(1) Control Limits calculated using all data generated 1/1/07 through 12/1/07.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [6] as beyond the CL but still within the ME limits. ARI defines ME limits as between 3 and 4 standard deviations around the mean with upper limit ≥ 100%. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances in an analysis require corrective action.
(3) These are "**poor performers**" defined in the DoD QSM[7] as compounds that "produce low mean recoveries and high standard deviations, resulting in wide LCS control limits with particularly low lower control limits (sometimes-negative values). ARI does not control batch acceptance based on these compounds since there is a high level of uncertainty in their recovery."
(4) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(5) Marginal Exceedances not allowed for surrogate unless it is a "poor performer".
(6) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(7) Page 182 of: **Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 Final, March 2005** Prepared By Environmental Data Quality Workgroup, Department of Navy, Lead Service (Based On National Environmental Laboratory Accreditation Conference (NELAC) Chapter 5 (Quality Systems) NELAC Voted Version – 5 June 2003
(8) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(9) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

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Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified Low Level Aqueous Samples[1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Volume / Final Volume	500 mL to 0.5 mL	
	Control Limits	ME Limits [2]
LCS Spike Recovery [6]		
Napthalene	41 - 101	31 - 111
2-Methylnapthalene	47 - **100**	39 - 103
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	35 - **100**	25 - 104
Acenapthene	43 - 104	33 - 114
Dibenzofuran	37 - **100**	27 - 108
Fluorene	51 - 103	42 - 112
Phenanthrene	55 - 109	46 - 118
Anthracene	30 - 101	18 - 113
Fluoranthene	49 - 123	37 - 135
Pyrene	48 - 120	36 - 132
Benz(a)anthracene	43 - 113	31 - 125
Chrysene	59 - 112	50 - 121
Benzo(b)fluoranthene	44 - 121	31 - 134
Benzo(k)fluoranthene	50 - 117	39 - 128
Benzo(a)pyrene	**10** - **100**	**10** - 109
Indeno(1,2,3-cd)pyrene	43 - 112	32 - 124
Dibenzo(a,h)anthracene	42 - 114	30 - 126
Benzo(g,h,i)perylene	31 - 118	17 - 133
MB / LCS Surrogate Recovery		
d10-2-Methylnaphthalene	42 - **100**	(4)
d14-Dibenzo(a,h)anthracene	40 - 125	(4)
Sample Surrogate Recovery		
d10-2-Methylnaphthalene	31 - 109	(4)
d14-Dibenzo(a,h)anthracene	**10** - 133	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/1/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6)Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

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Spike Recovery Control Limits Analysis of PCB / Aroclors in Aqueous Samples - EPA SW-846 Methods 8081 & 8082 [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Analytical Method:	Standard Analysis	MTCA Analysis	Low Level Analysis	Manchester Extraction
Sample Weight / Final Volume:	500 / 5 mL	500 / 1 mL	1000 / 0.5 mL	3000 / 1 mL
LCS Spike Recovery [4]				
Aroclor 1016	45 - 121	36 - **100**	44 - 117	30 - 160[3]
Aroclor 1260	54 - 129	41 - 113	46 - 131	30 - 160[3]
Method Blank/LCS Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	40 - 118	29 - **100**	31 - **100**	30 - 160[3]
Decachlorobiphenyl	41 - 111	35 - 116	32 - 108	30 - 160[3]
Sample Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	38 - 118	25 - **100**	21 - **100**	30 - 160[3]
Decachlorobiphenyl	29 - 118	**10** - 128	19 - 111	30 - 160[3]

(1) Control Limits calculated using all data generated 1/1/08 through 12/1/08.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

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Summary of Laboratory Control Limits

Default limits of 30-160% recovery and 30% RPD apply for all organic analytes when laboratory generated control limits are not available on ARI's web site. Default limits for all inorganic analytes are 75-125% recovery and 25% RPD.

ARI's laboratory generated Quality Control Limits may be superseded by project specific data quality objectives (DQO) provided by ARI's clients. The use of project specific DQO must be approved by ARI's Laboratory and QA Program Managers.

Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QQ37, QQ41

prepared
by

Analytical Resources, Inc.

VOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-LS431-032910-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QQ37A
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized: VTS
Reported: 04/09/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 04/08/10 18:49

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**1.2**	
67-64-1	**Acetone**	**5.0**	**7.1**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**20**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U

Lab Sample ID: QQ37A
LIMS ID: 10-8102
Matrix: Water
Date Analyzed: 04/08/10 18:49

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

CAS Number	Analyte	RL	Result	Q
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	97.3%
Bromofluorobenzene	96.8%
d4-1,2-Dichlorobenzene	100%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-MH108-032910-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QQ37B
LIMS ID: 10-8103
Matrix: Water
Data Release Authorized: VTS
Reported: 04/09/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Date Sampled: 03/29/10
Date Received: 03/29/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 04/08/10 19:14

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.5	< 0.5	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**35**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U

Lab Sample ID: QQ37B
LIMS ID: 10-8103
Matrix: Water
Date Analyzed: 04/08/10 19:14

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

CAS Number	Analyte	RL	Result	Q
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	98.8%
Bromofluorobenzene	97.6%
d4-1,2-Dichlorobenzene	101%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QQ37-Science App. International Cor
Project: NBF/GTSP Stormwater Sampling

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-040810	Method Blank	10	106%	102%	96.1%	99.9%	0
LCS-040810	Lab Control	10	101%	100%	101%	95.7%	0
LCSD-040810	Lab Control Dup	10	102%	101%	101%	97.1%	0
QQ37A	NBF-LS431-032910-W	10	106%	97.3%	96.8%	100%	0
QQ37B	NBF-MH108-032910-W	10	105%	98.8%	97.6%	101%	0

	LCS/MB LIMITS	QC LIMITS
SW8260C		
(DCE) = d4-1,2-Dichloroethane	70-132	80-143
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 10-8102 to 10-8103

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-040810**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-040810 QC Report No: QQ37-Science App. International Corp
LIMS ID: 10-8102 Project: NBF/GTSP Stormwater Sampling
Matrix: Water
Data Release Authorized: VTS Date Sampled: NA
Reported: 04/09/10 Date Received: NA

Instrument/Analyst LCS: NT5/PKC Sample Amount LCS: 10.0 mL
LCSD: NT5/PKC LCSD: 10.0 mL
Date Analyzed LCS: 04/08/10 10:06 Purge Volume LCS: 10.0 mL
LCSD: 04/08/10 10:31 LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	9.4	10.0	94.0%	9.2	10.0	92.0%	2.2%
Bromomethane	9.0	10.0	90.0%	8.8	10.0	88.0%	2.2%
Vinyl Chloride	9.6	10.0	96.0%	9.2	10.0	92.0%	4.3%
Chloroethane	9.2	10.0	92.0%	9.0	10.0	90.0%	2.2%
Methylene Chloride	8.9	10.0	89.0%	8.9	10.0	89.0%	0.0%
Acetone	45.5	50.0	91.0%	44.4	50.0	88.8%	2.4%
Carbon Disulfide	9.7	10.0	97.0%	9.3	10.0	93.0%	4.2%
1,1-Dichloroethene	9.3	10.0	93.0%	9.2	10.0	92.0%	1.1%
1,1-Dichloroethane	9.2	10.0	92.0%	9.1	10.0	91.0%	1.1%
trans-1,2-Dichloroethene	9.1	10.0	91.0%	9.1	10.0	91.0%	0.0%
cis-1,2-Dichloroethene	9.3	10.0	93.0%	9.1	10.0	91.0%	2.2%
Chloroform	9.4	10.0	94.0%	9.3	10.0	93.0%	1.1%
1,2-Dichloroethane	9.7	10.0	97.0%	9.3	10.0	93.0%	4.2%
2-Butanone	44.5	50.0	89.0%	43.7	50.0	87.4%	1.8%
1,1,1-Trichloroethane	9.5	10.0	95.0%	9.4	10.0	94.0%	1.1%
Carbon Tetrachloride	11.2	10.0	112%	11.1	10.0	111%	0.9%
Vinyl Acetate	8.4	10.0	84.0%	8.6	10.0	86.0%	2.4%
Bromodichloromethane	9.3	10.0	93.0%	9.2	10.0	92.0%	1.1%
1,2-Dichloropropane	9.2	10.0	92.0%	9.1	10.0	91.0%	1.1%
cis-1,3-Dichloropropene	9.5	10.0	95.0%	9.2	10.0	92.0%	3.2%
Trichloroethene	9.6	10.0	96.0%	9.4	10.0	94.0%	2.1%
Dibromochloromethane	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
1,1,2-Trichloroethane	9.2	10.0	92.0%	9.1	10.0	91.0%	1.1%
Benzene	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
trans-1,3-Dichloropropene	9.5	10.0	95.0%	9.5	10.0	95.0%	0.0%
2-Chloroethylvinylether	8.7	10.0	87.0%	8.6	10.0	86.0%	1.2%
Bromoform	9.8	10.0	98.0%	9.3	10.0	93.0%	5.2%
4-Methyl-2-Pentanone (MIBK)	47.2	50.0	94.4%	46.5	50.0	93.0%	1.5%
2-Hexanone	46.7	50.0	93.4%	46.0	50.0	92.0%	1.5%
Tetrachloroethene	9.6	10.0	96.0%	9.5	10.0	95.0%	1.0%
1,1,2,2-Tetrachloroethane	8.6	10.0	86.0%	8.6	10.0	86.0%	0.0%
Toluene	9.6	10.0	96.0%	9.4	10.0	94.0%	2.1%
Chlorobenzene	9.5	10.0	95.0%	9.4	10.0	94.0%	1.1%
Ethylbenzene	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
Styrene	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
Trichlorofluoromethane	9.6	10.0	96.0%	9.6	10.0	96.0%	0.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	9.6	10.0	96.0%	9.4	10.0	94.0%	2.1%
m,p-Xylene	20.2	20.0	101%	19.8	20.0	99.0%	2.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-040810**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-040810 QC Report No: QQ37-Science App. International Corp
LIMS ID: 10-8102 Project: NBF/GTSP Stormwater Sampling
Matrix: Water

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
o-Xylene	9.6	10.0	96.0%	9.5	10.0	95.0%	1.0%
1,2-Dichlorobenzene	9.4	10.0	94.0%	9.1	10.0	91.0%	3.2%
1,3-Dichlorobenzene	9.5	10.0	95.0%	9.2	10.0	92.0%	3.2%
1,4-Dichlorobenzene	9.5	10.0	95.0%	9.2	10.0	92.0%	3.2%
Acrolein	41.2	50.0	82.4%	41.4	50.0	82.8%	0.5%
Methyl Iodide	10.4	10.0	104%	10.1	10.0	101%	2.9%
Bromoethane	10.4	10.0	104%	10.1	10.0	101%	2.9%
Acrylonitrile	9.2	10.0	92.0%	8.4	10.0	84.0%	9.1%
1,1-Dichloropropene	9.3	10.0	93.0%	9.3	10.0	93.0%	0.0%
Dibromomethane	9.2	10.0	92.0%	9.2	10.0	92.0%	0.0%
1,1,1,2-Tetrachloroethane	9.7	10.0	97.0%	9.6	10.0	96.0%	1.0%
1,2-Dibromo-3-chloropropane	9.5	10.0	95.0%	8.6	10.0	86.0%	9.9%
1,2,3-Trichloropropane	9.2	10.0	92.0%	8.8	10.0	88.0%	4.4%
trans-1,4-Dichloro-2-butene	9.2	10.0	92.0%	9.6	10.0	96.0%	4.3%
1,3,5-Trimethylbenzene	10.1	10.0	101%	9.7	10.0	97.0%	4.0%
1,2,4-Trimethylbenzene	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
Hexachlorobutadiene	9.6	10.0	96.0%	9.3	10.0	93.0%	3.2%
Ethylene Dibromide	9.4	10.0	94.0%	9.3	10.0	93.0%	1.1%
Bromochloromethane	9.7	10.0	97.0%	9.6	10.0	96.0%	1.0%
2,2-Dichloropropane	9.3	10.0	93.0%	9.1	10.0	91.0%	2.2%
1,3-Dichloropropane	9.2	10.0	92.0%	9.2	10.0	92.0%	0.0%
Isopropylbenzene	9.8	10.0	98.0%	9.5	10.0	95.0%	3.1%
n-Propylbenzene	10.0	10.0	100%	9.7	10.0	97.0%	3.0%
Bromobenzene	9.2	10.0	92.0%	9.1	10.0	91.0%	1.1%
2-Chlorotoluene	9.7	10.0	97.0%	9.4	10.0	94.0%	3.1%
4-Chlorotoluene	9.8	10.0	98.0%	9.5	10.0	95.0%	3.1%
tert-Butylbenzene	9.7	10.0	97.0%	9.4	10.0	94.0%	3.1%
sec-Butylbenzene	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
4-Isopropyltoluene	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
n-Butylbenzene	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
1,2,4-Trichlorobenzene	9.1	10.0	91.0%	8.9	10.0	89.0%	2.2%
Naphthalene	8.8	10.0	88.0%	8.5	10.0	85.0%	3.5%
1,2,3-Trichlorobenzene	9.2	10.0	92.0%	8.8	10.0	88.0%	4.4%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	101%	102%
d8-Toluene	100%	101%
Bromofluorobenzene	101%	101%
d4-1,2-Dichlorobenzene	95.7%	97.1%

4A

VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0408

Lab Name: ANALYTICAL RESOURCES, INC

Client: SCIENCE APP. INTERNATION

ARI Job No: QQ37

Project: NBF/GTSP STORMWATER SAM

Lab File ID: 04081005

Lab Sample ID: MB0408

Date Analyzed: 04/08/10

Time Analyzed: 1057

Instrument ID: NT5

Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0408	LCS0408	04081003	1006
02	LCSD0408	LCSD0408	04081004	1031
03	NBF-LS431-03	QQ37A	04081023	1849
04	NBF-MH108-03	QQ37B	04081024	1914
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-040810**
Page 1 of 2 **METHOD BLANK**

Lab Sample ID: MB-040810
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized: VTS
Reported: 04/09/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/PKC
Date Analyzed: 04/08/10 10:57

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.5	< 0.5	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-040810**
 METHOD BLANK

Lab Sample ID: MB-040810 QC Report No: QQ37-Science App. International Corp
LIMS ID: 10-8102 Project: NBF/GTSP Stormwater Sampling
Matrix: Water
Date Analyzed: 04/08/10 10:57

CAS Number	Analyte	RL	Result	Q
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	102%
Bromofluorobenzene	96.1%
d4-1,2-Dichlorobenzene	99.9%

SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: NBF-LS431-032910-W
SAMPLE

Lab Sample ID: QQ37A
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/05/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
NA
Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 03/31/10
Date Analyzed: 04/01/10 22:08
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**1.0**	**1.4**
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	63.6%	2-Fluorobiphenyl	66.4%
d14-p-Terphenyl	72.8%	d4-1,2-Dichlorobenzene	54.0%
d5-Phenol	59.5%	2-Fluorophenol	62.7%
2,4,6-Tribromophenol	84.0%	d4-2-Chlorophenol	65.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: NBF-MH108-032910-W
SAMPLE

Lab Sample ID: QQ37B
LIMS ID: 10-8103
Matrix: Water
Data Release Authorized:
Reported: 04/05/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
NA
Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 03/31/10
Date Analyzed: 04/02/10 14:54
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	**Fluoranthene**	**1.0**	**1.0**
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**1.0**	**4.4**
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	67.2%	2-Fluorobiphenyl	70.0%
d14-p-Terphenyl	87.2%	d4-1,2-Dichlorobenzene	54.4%
d5-Phenol	63.5%	2-Fluorophenol	63.7%
2,4,6-Tribromophenol	94.1%	d4-2-Chlorophenol	66.1%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MB-033110	73.2%	71.6%	84.8%	62.4%	66.4%	72.0%	79.5%	75.2%	0
LCS-033110	80.8%	80.8%	84.0%	74.0%	81.9%	75.5%	90.4%	85.3%	0
LCSD-033110	74.0%	72.0%	79.6%	63.2%	74.1%	70.7%	80.8%	77.9%	0
NBF-LS431-032910-W	63.6%	66.4%	72.8%	54.0%	59.5%	62.7%	84.0%	65.6%	0
NBF-MH108-032910-W	67.2%	70.0%	87.2%	54.4%	63.5%	63.7%	94.1%	66.1%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 10-8102 to 10-8103

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-033110
LCS/LCSD

Lab Sample ID: LCS-033110
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/05/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted LCS/LCSD: 03/31/10

Date Analyzed LCS: 04/01/10 21:04
LCSD: 04/01/10 21:36
Instrument/Analyst LCS: NT6/JZ
LCSD: NT6/JZ
GPC Cleanup: NO

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	17.1	25.0	68.4%	16.1	25.0	64.4%	6.0%
1,4-Dichlorobenzene	15.7	25.0	62.8%	12.9	25.0	51.6%	19.6%
Benzyl Alcohol	42.8	50.0	85.6%	40.2	50.0	80.4%	6.3%
1,2-Dichlorobenzene	16.0	25.0	64.0%	13.4	25.0	53.6%	17.7%
2-Methylphenol	16.8	25.0	67.2%	15.9	25.0	63.6%	5.5%
4-Methylphenol	35.0	50.0	70.0%	32.7	50.0	65.4%	6.8%
2,4-Dimethylphenol	12.8	25.0	51.2%	11.6	25.0	46.4%	9.8%
Benzoic Acid	47.6	75.0	63.5%	46.2	75.0	61.6%	3.0%
1,2,4-Trichlorobenzene	15.8	25.0	63.2%	13.4	25.0	53.6%	16.4%
Naphthalene	18.4	25.0	73.6%	16.7	25.0	66.8%	9.7%
Hexachlorobutadiene	14.8	25.0	59.2%	11.3	25.0	45.2%	26.8%
2-Methylnaphthalene	17.8	25.0	71.2%	16.2	25.0	64.8%	9.4%
Dimethylphthalate	19.6	25.0	78.4%	18.7	25.0	74.8%	4.7%
Acenaphthylene	19.9	25.0	79.6%	18.8	25.0	75.2%	5.7%
Acenaphthene	19.0	25.0	76.0%	17.7	25.0	70.8%	7.1%
Dibenzofuran	18.9	25.0	75.6%	17.8	25.0	71.2%	6.0%
Diethylphthalate	20.0	25.0	80.0%	19.0	25.0	76.0%	5.1%
Fluorene	19.5	25.0	78.0%	18.5	25.0	74.0%	5.3%
N-Nitrosodiphenylamine	16.1	25.0	64.4%	16.8	25.0	67.2%	4.3%
Hexachlorobenzene	18.6	25.0	74.4%	17.9	25.0	71.6%	3.8%
Pentachlorophenol	10.6	25.0	42.4%	10.2	25.0	40.8%	3.8%
Phenanthrene	19.5	25.0	78.0%	18.7	25.0	74.8%	4.2%
Anthracene	18.9	25.0	75.6%	18.9	25.0	75.6%	0.0%
Di-n-Butylphthalate	20.6	25.0	82.4%	20.0	25.0	80.0%	3.0%
Fluoranthene	20.0	25.0	80.0%	19.7	25.0	78.8%	1.5%
Pyrene	20.0	25.0	80.0%	19.5	25.0	78.0%	2.5%
Butylbenzylphthalate	19.6	25.0	78.4%	19.2	25.0	76.8%	2.1%
Benzo(a)anthracene	19.4	25.0	77.6%	19.0	25.0	76.0%	2.1%
bis(2-Ethylhexyl)phthalate	19.7	25.0	78.8%	35.0	25.0	140%	55.9%
Chrysene	20.7	25.0	82.8%	20.3	25.0	81.2%	2.0%
Di-n-Octyl phthalate	18.9	25.0	75.6%	18.5	25.0	74.0%	2.1%
Benzo(b)fluoranthene	21.6	25.0	86.4%	18.4	25.0	73.6%	16.0%
Benzo(k)fluoranthene	18.9	25.0	75.6%	18.6	25.0	74.4%	1.6%
Benzo(a)pyrene	17.2	25.0	68.8%	17.9	25.0	71.6%	4.0%
Indeno(1,2,3-cd)pyrene	18.5	25.0	74.0%	18.0	25.0	72.0%	2.7%
Dibenz(a,h)anthracene	18.9	25.0	75.6%	18.4	25.0	73.6%	2.7%
Benzo(g,h,i)perylene	18.4	25.0	73.6%	18.4	25.0	73.6%	0.0%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	80.8%	74.0%
2-Fluorobiphenyl	80.8%	72.0%
d14-p-Terphenyl	84.0%	79.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-033110
LCS/LCSD

Lab Sample ID: LCS-033110
LIMS ID: 10-8102
Matrix: Water
Date Analyzed LCS: 04/01/10 21:04
LCSD: 04/01/10 21:36

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d4-1,2-Dichlorobenzene			74.0%	63.2%			
d5-Phenol			81.9%	74.1%			
2-Fluorophenol			75.5%	70.7%			
2,4,6-Tribromophenol			90.4%	80.8%			
d4-2-Chlorophenol			85.3%	77.9%			

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QQ37MBW1

Lab Name: ANALYTICAL RESOURCES, INC — Client: SAIC

ARI Job No: QQ37 — Project: NBF/GTSP STORMWATER

Lab File ID: 04011019 — Date Extracted: 03/31/10

Instrument ID: NT6 — Date Analyzed: 04/01/10

Matrix: LIQUID — Time Analyzed: 2033

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QQ37LCSW1	QQ37LCSW1	04011020	04/01/10
02	QQ37LCSDW1	QQ37LCSDW1	04011021	04/01/10
03	NBF-LS431-032910	QQ37A	04011022	04/01/10
04	NBF-MH108-032910	QQ37B	04021007	04/02/10
05				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-033110
METHOD BLANK

Lab Sample ID: MB-033110
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/05/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
NA
Date Sampled: NA
Date Received: NA

Date Extracted: 03/31/10
Date Analyzed: 04/01/10 20:33
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	73.2%	2-Fluorobiphenyl	71.6%
d14-p-Terphenyl	84.8%	d4-1,2-Dichlorobenzene	62.4%
d5-Phenol	66.4%	2-Fluorophenol	72.0%
2,4,6-Tribromophenol	79.5%	d4-2-Chlorophenol	75.2%

SIM SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
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Sample ID: NBF-LS431-032910-W
SAMPLE

Lab Sample ID: QQ37A
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/05/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 03/31/10
Date Analyzed: 04/02/10 22:07
Instrument/Analyst: NT8/YZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	0.010	0.028
91-57-6	**2-Methylnaphthalene**	0.010	0.019
90-12-0	**1-Methylnaphthalene**	0.010	0.014
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	**Acenaphthene**	0.010	0.014
86-73-7	**Fluorene**	0.010	0.010
85-01-8	**Phenanthrene**	0.010	0.18
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	**Fluoranthene**	0.010	0.42
129-00-0	**Pyrene**	0.010	0.26
56-55-3	**Benzo(a)anthracene**	0.010	0.075
218-01-9	**Chrysene**	0.010	0.18 Q
205-99-2	**Benzo(b)fluoranthene**	0.010	0.14
207-08-9	**Benzo(k)fluoranthene**	0.010	0.14
50-32-8	**Benzo(a)pyrene**	0.010	0.11
193-39-5	**Indeno(1,2,3-cd)pyrene**	0.010	0.095
53-70-3	**Dibenz(a,h)anthracene**	0.010	0.034
191-24-2	**Benzo(g,h,i)perylene**	0.010	0.11
132-64-9	**Dibenzofuran**	0.010	0.010

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	68.3%
d14-Dibenzo(a,h)anthracene	49.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
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Sample ID: NBF-MH108-032910-W
SAMPLE

Lab Sample ID: QQ37B
LIMS ID: 10-8103
Matrix: Water
Data Release Authorized:
Reported: 04/05/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 03/31/10
Date Analyzed: 04/02/10 22:31
Instrument/Analyst: NT8/YZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	0.010	0.024
91-57-6	**2-Methylnaphthalene**	0.010	0.016
90-12-0	**1-Methylnaphthalene**	0.010	0.013
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	**Fluorene**	0.010	0.016
85-01-8	**Phenanthrene**	0.010	0.26
120-12-7	**Anthracene**	0.010	0.022
206-44-0	**Fluoranthene**	0.010	0.56
129-00-0	**Pyrene**	0.010	0.40
56-55-3	**Benzo(a)anthracene**	0.010	0.15
218-01-9	**Chrysene**	0.010	0.25 Q
205-99-2	**Benzo(b)fluoranthene**	0.010	0.22
207-08-9	**Benzo(k)fluoranthene**	0.010	0.22
50-32-8	**Benzo(a)pyrene**	0.010	0.20
193-39-5	**Indeno(1,2,3-cd)pyrene**	0.010	0.16
53-70-3	**Dibenz(a,h)anthracene**	0.010	0.062
191-24-2	**Benzo(g,h,i)perylene**	0.010	0.20
132-64-9	**Dibenzofuran**	0.010	0.016

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	62.7%
d14-Dibenzo(a,h)anthracene	60.3%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	MNP	DBA	TOT OUT
MB-033110	72.3%	59.0%	0
LCS-033110	76.7%	66.0%	0
LCSD-033110	72.0%	58.0%	0
NBF-LS431-032910-W	68.3%	49.3%	0
NBF-MH108-032910-W	62.7%	60.3%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(42-100)	(31-109)
(DBA) = d14-Dibenzo(a,h)anthracene	(40-125)	(10-133)

Prep Method: SW3520C
Log Number Range: 10-8102 to 10-8103

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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
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Sample ID: LCS-033110
LAB CONTROL SAMPLE

Lab Sample ID: LCS-033110
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/05/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 03/31/10

Date Analyzed LCS: 04/02/10 21:20
LCSD: 04/02/10 21:44
Instrument/Analyst LCS: NT8/YZ
LCSD: NT8/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	0.200	0.300	66.7%	0.198	0.300	66.0%	1.0%
2-Methylnaphthalene	0.216	0.300	72.0%	0.217	0.300	72.3%	0.5%
1-Methylnaphthalene	0.210	0.300	70.0%	0.207	0.300	69.0%	1.4%
Acenaphthylene	0.161	0.300	53.7%	0.162	0.300	54.0%	0.6%
Acenaphthene	0.213	0.300	71.0%	0.215	0.300	71.7%	0.9%
Fluorene	0.241	0.300	80.3%	0.255	0.300	85.0%	5.6%
Phenanthrene	0.243	0.300	81.0%	0.258	0.300	86.0%	6.0%
Anthracene	0.138	0.300	46.0%	0.160	0.300	53.3%	14.8%
Fluoranthene	0.268	0.300	89.3%	0.272	0.300	90.7%	1.5%
Pyrene	0.245	0.300	81.7%	0.258	0.300	86.0%	5.2%
Benzo(a)anthracene	0.236	0.300	78.7%	0.241	0.300	80.3%	2.1%
Chrysene	0.203 Q	0.300	67.7%	0.185 Q	0.300	61.7%	9.3%
Benzo(b)fluoranthene	0.215	0.300	71.7%	0.278	0.300	92.7%	25.6%
Benzo(k)fluoranthene	0.228	0.300	76.0%	0.163	0.300	54.3%	33.2%
Benzo(a)pyrene	0.125	0.300	41.7%	0.126	0.300	42.0%	0.8%
Indeno(1,2,3-cd)pyrene	0.175	0.300	58.3%	0.157	0.300	52.3%	10.8%
Dibenz(a,h)anthracene	0.191	0.300	63.7%	0.175	0.300	58.3%	8.7%
Benzo(g,h,i)perylene	0.169	0.300	56.3%	0.146	0.300	48.7%	14.6%
Dibenzofuran	0.233	0.300	77.7%	0.236	0.300	78.7%	1.3%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	76.7%	72.0%
d14-Dibenzo(a,h)anthracene	66.0%	58.0%

4B
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QQ37MBW1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No: QQ37
Project: NBF/GTSP STORMWATER

Lab File ID: QQ37MB
Date Extracted: 03/31/10

Instrument ID: NT8
Date Analyzed: 04/02/10

Matrix: LIQUID
Time Analyzed: 2056

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QQ37LCSW1	QQ37LCSW1	QQ37SB	04/02/10
02	QQ37LCSDW1	QQ37LCSDW1	QQ37SBD	04/02/10
03	NBF-LS431-032910	QQ37A	QQ37A	04/02/10
04	NBF-MH108-032910	QQ37B	QQ37B	04/02/10
05				
06				
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08				
09				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
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Sample ID: MB-033110
METHOD BLANK

Lab Sample ID: MB-033110
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/05/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 03/31/10
Date Analyzed: 04/02/10 20:56
Instrument/Analyst: NT8/YZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	72.3%
d14-Dibenzo(a,h)anthracene	59.0%

LOW LEVEL PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
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Sample ID: NBF-LS431-032910-W
SAMPLE

Lab Sample ID: QQ37A
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/08/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 03/30/10
Date Analyzed: 04/07/10 00:47
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.025	< 0.025 Y
11097-69-1	**Aroclor 1254**	**0.010**	**0.081**
11096-82-5	**Aroclor 1260**	**0.010**	**0.016**
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	100%
Tetrachlorometaxylene	83.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108-032910-W
SAMPLE

Lab Sample ID: QQ37B
LIMS ID: 10-8103
Matrix: Water
Data Release Authorized:
Reported: 04/08/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 03/30/10
Date Analyzed: 04/07/10 01:10
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.10	< 0.10 Y
11097-69-1	**Aroclor 1254**	**0.010**	**0.096**
11096-82-5	**Aroclor 1260**	**0.010**	**0.023**
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	90.8%
Tetrachlorometaxylene	79.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-033010	85.8%	32-108	73.2%	31-100	0
LCS-033010	89.2%	32-108	75.0%	31-100	0
LCSD-033010	86.8%	32-108	70.8%	31-100	0
NBF-LS431-032910-W	100%	19-111	83.5%	21-100	0
NBF-MH108-032910-W	90.8%	19-111	79.2%	21-100	0

Prep Method: SW3510C
Log Number Range: 10-8102 to 10-8103

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-033010
LCS/LCSD

Lab Sample ID: LCS-033010
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/08/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 03/30/10

Date Analyzed LCS: 04/07/10 23:36
LCSD: 04/07/10 00:00
Instrument/Analyst LCS: ECD7/JGR
LCSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1000 mL
LCSD: 1000 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.053	0.050	106%	0.048	0.050	96.0%	9.9%
Aroclor 1260	0.048	0.050	96.0%	0.046	0.050	92.0%	4.3%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	89.2%	86.8%
Tetrachlorometaxylene	75.0%	70.8%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QQ03MBW1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QQ37
Project: NBF/GTSP

Lab Sample ID: QQ03MBW1
Lab File ID: 0406A026

Date Extracted: 03/30/10
Matrix: LIQUID

Date Analyzed: 04/07/10
Instrument ID: ECD7

Time Analyzed: 2313
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QQ03LCSDW1	QQ03LCSDW1	04/07/10
02	NBF-LS431-032910-W	QQ37A	04/07/10
03	NBF-MH108-032910-W	QQ37B	04/07/10
04	QQ03LCSW1	QQ03LCSW1	04/07/10

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-033010
METHOD BLANK

Lab Sample ID: MB-033010
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/08/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 03/30/10
Date Analyzed: 04/07/10 23:13
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	85.8%
Tetrachlorometaxylene	73.2%

PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431A-032910-S
SAMPLE

Lab Sample ID: QQ37E
LIMS ID: 10-8106
Matrix: Filter Bag
Data Release Authorized: VTS
Reported: 04/09/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 04/02/10
Date Analyzed: 04/07/10 20:13
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 50.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	5.0	< 5.0 U
53469-21-9	Aroclor 1242	5.0	< 5.0 U
12672-29-6	Aroclor 1248	25	< 25 Y
11097-69-1	**Aroclor 1254**	**5.0**	**62**
11096-82-5	**Aroclor 1260**	**5.0**	**23**
11104-28-2	Aroclor 1221	5.0	< 5.0 U
11141-16-5	Aroclor 1232	5.0	< 5.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	128%
Tetrachlorometaxylene	149%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-MH108A-032910-S
SAMPLE

Lab Sample ID: QQ37G
LIMS ID: 10-8108
Matrix: Filter Bag
Data Release Authorized: VJB
Reported: 04/09/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 04/02/10
Date Analyzed: 04/07/10 20:37
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 50.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	5.0	< 5.0 U
53469-21-9	Aroclor 1242	5.0	< 5.0 U
12672-29-6	Aroclor 1248	62	< 62 Y
11097-69-1	**Aroclor 1254**	**5.0**	**130**
11096-82-5	**Aroclor 1260**	**5.0**	**27**
11104-28-2	Aroclor 1221	5.0	< 5.0 U
11141-16-5	Aroclor 1232	5.0	< 5.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	132%
Tetrachlorometaxylene	170%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Filter Bag

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	DCBP	TCMX	TOT OUT
MB-040210	77.0%	72.2%	0
LCS-040210	79.5%	74.2%	0
LCSD-040210	75.8%	69.8%	0
NBF-LS431A-032910-S	128%	149%	0
NBF-MH108A-032910-S	132%	170%*	1

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A
Log Number Range: 10-8106 to 10-8108

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-040210
LCS/LCSD

Lab Sample ID: LCS-040210
LIMS ID: 10-8106
Matrix: Filter Bag
Data Release Authorized: VTS
Reported: 04/09/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted LCS/LCSD: 04/02/10

Date Analyzed LCS: 04/07/10 19:26
LCSD: 04/07/10 19:49
Instrument/Analyst LCS: ECD7/JGR
LCSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1.00 Filter Bag
LCSD: 1.00 Filter Bag
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	2.7	2.5	108%	2.5	2.5	100%	7.7%
Aroclor 1260	2.3	2.5	92.0%	2.1	2.5	84.0%	9.1%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	79.5%	75.8%
Tetrachlorometaxylene	74.2%	69.8%

Reported in Total µg
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QQ37MB1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QQ37
Project: NBF/GTSP STORMWATER

Lab Sample ID: QQ37MB1
Lab File ID: 0407A015

Date Extracted: 04/02/10
Matrix: SOLID

Date Analyzed: 04/07/10
Instrument ID: ECD7

Time Analyzed: 1902
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QQ37LCS1	QQ37LCS1	04/07/10
02	QQ37LCSD1	QQ37LCSD1	04/07/10
03	NBF-LS431-03	QQ37E	04/07/10
04	NBF-MH108-03	QQ37G	04/07/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-040210
METHOD BLANK

Lab Sample ID: MB-040210
LIMS ID: 10-8106
Matrix: Filter Bag
Data Release Authorized: VTS
Reported: 04/09/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 04/02/10
Date Analyzed: 04/07/10 19:02
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.1	< 0.1 U
53469-21-9	Aroclor 1242	0.1	< 0.1 U
12672-29-6	Aroclor 1248	0.1	< 0.1 U
11097-69-1	Aroclor 1254	0.1	< 0.1 U
11096-82-5	Aroclor 1260	0.1	< 0.1 U
11104-28-2	Aroclor 1221	0.1	< 0.1 U
11141-16-5	Aroclor 1232	0.1	< 0.1 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	77.0%
Tetrachlorometaxylene	72.2%

METALS ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431-032910-W
SAMPLE

Lab Sample ID: QQ37A
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	03/31/10	200.8	04/16/10	**7440-38-2**	**Arsenic**	0.5	**1.0**	
200.8	03/31/10	200.8	04/16/10	**7440-43-9**	**Cadmium**	0.2	**0.4**	
3010A	03/30/10	6010B	04/12/10	**7440-70-2**	**Calcium**	50	**5,150**	
200.8	03/31/10	200.8	04/16/10	**7440-47-3**	**Chromium**	0.5	**2.0**	
200.8	03/31/10	200.8	04/16/10	**7440-50-8**	**Copper**	0.5	**9.6**	
200.8	03/31/10	200.8	04/16/10	**7439-92-1**	**Lead**	1	**5**	
3010A	03/30/10	6010B	04/12/10	**7439-95-4**	**Magnesium**	50	**1,600**	
7470A	03/30/10	7470A	04/01/10	7439-97-6	Mercury	0.1	0.1	U
200.8	03/31/10	200.8	04/16/10	**7440-02-0**	**Nickel**	0.5	**1.6**	
200.8	03/31/10	200.8	04/16/10	7782-49-2	Selenium	2	2	U
200.8	03/31/10	200.8	04/16/10	7440-22-4	Silver	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	**7440-66-6**	**Zinc**	4	**61**	

Calculated Hardness (mg-CaCO3/L): 19

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431-032910-W
MATRIX SPIKE

Lab Sample ID: QQ37A
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	1.02	25.9	25.0	99.5%	
Cadmium	200.8	0.370	25.7	25.0	101%	
Calcium	6010B	5,150	14,700	10,000	95.5%	
Chromium	200.8	2.04	26.8	25.0	99.0%	
Copper	200.8	9.56	35.7	25.0	105%	
Lead	200.8	5.27	29.4	25.0	96.5%	
Magnesium	6010B	1,600	11,500	10,000	99.0%	
Mercury	7470A	0.100 U	1.11	1.00	111%	
Nickel	200.8	1.62	28.3	25.0	107%	
Selenium	200.8	2.00 U	78.2	80.0	97.8%	
Silver	200.8	0.200 U	24.2	25.0	96.8%	
Zinc	200.8	61.2	132	80.0	88.5%	

Reported in µg/L

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431-032910-W
DUPLICATE

Lab Sample ID: QQ37A
LIMS ID: 10-8102
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	1.0	0.8	22.2%	+/- 0.5	L
Cadmium	200.8	0.4	0.4	0.0%	+/- 0.2	L
Calcium	6010B	5,150	5,170	0.4%	+/- 20%	
Chromium	200.8	2.0	2.2	9.5%	+/- 0.5	L
Copper	200.8	9.6	9.1	5.3%	+/- 20%	
Lead	200.8	5	6	18.2%	+/- 20%	
Magnesium	6010B	1,600	1,590	0.6%	+/- 20%	
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Nickel	200.8	1.6	1.5	6.5%	+/- 0.5	L
Selenium	200.8	2 U	2 U	0.0%	+/- 2	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	61	59	3.3%	+/- 20%	

Reported in µg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-032910-W
SAMPLE

Lab Sample ID: QQ37B
LIMS ID: 10-8103
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	03/31/10	200.8	04/16/10	**7440-38-2**	**Arsenic**	0.2	**1.6**	
200.8	03/31/10	200.8	04/16/10	**7440-43-9**	**Cadmium**	0.2	**0.6**	
3010A	03/30/10	6010B	04/12/10	**7440-70-2**	**Calcium**	50	**6,010**	
200.8	03/31/10	200.8	04/16/10	**7440-47-3**	**Chromium**	0.5	**3.4**	
200.8	03/31/10	200.8	04/16/10	**7440-50-8**	**Copper**	0.5	**33.2**	
200.8	03/31/10	200.8	04/16/10	**7439-92-1**	**Lead**	1	**14**	
3010A	03/30/10	6010B	04/12/10	**7439-95-4**	**Magnesium**	50	**1,460**	
7470A	03/30/10	7470A	04/01/10	7439-97-6	Mercury	0.1	0.1	U
200.8	03/31/10	200.8	04/16/10	**7440-02-0**	**Nickel**	0.5	**5.1**	
200.8	03/31/10	200.8	04/16/10	7782-49-2	Selenium	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7440-22-4	Silver	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	**7440-66-6**	**Zinc**	4	**114**	

Calculated Hardness (mg-CaCO3/L): 21

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: QQ37LCS
LIMS ID: 10-8103
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	25.5	25.0	102%	
Cadmium	200.8	25.5	25.0	102%	
Calcium	6010B	10300	10000	103%	
Chromium	200.8	26.4	25.0	106%	
Copper	200.8	27.4	25.0	110%	
Lead	200.8	25	25	100%	
Magnesium	6010B	10500	10000	105%	
Mercury	7470A	2.1	2.0	105%	
Nickel	200.8	26.9	25.0	108%	
Selenium	200.8	82.2	80.0	103%	
Silver	200.8	24.8	25.0	99.2%	
Zinc	200.8	80	80	100%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: QQ37MB
LIMS ID: 10-8103
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	03/31/10	200.8	04/16/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	7440-43-9	Cadmium	0.2	0.2	U
3010A	03/30/10	6010B	04/12/10	7440-70-2	Calcium	50	50	U
200.8	03/31/10	200.8	04/16/10	7440-47-3	Chromium	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7440-50-8	Copper	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7439-92-1	Lead	1	1	U
3010A	03/30/10	6010B	04/12/10	7439-95-4	Magnesium	50	50	U
7470A	03/30/10	7470A	04/01/10	7439-97-6	Mercury	0.1	0.1	U
200.8	03/31/10	200.8	04/16/10	7440-02-0	Nickel	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7782-49-2	Selenium	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7440-22-4	Silver	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-LS431-032910-W
SAMPLE

Lab Sample ID: QQ37C
LIMS ID: 10-8104
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	03/31/10	200.8	04/16/10	7440-38-2	Arsenic	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	7440-47-3	Chromium	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	**7440-50-8**	**Copper**	0.5	**2.2**	
200.8	03/31/10	200.8	04/16/10	7439-92-1	Lead	1	1	U
200.8	03/31/10	200.8	04/16/10	7440-02-0	Nickel	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7782-49-2	Selenium	2	2	U
200.8	03/31/10	200.8	04/16/10	7440-22-4	Silver	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	**7440-66-6**	**Zinc**	4	**25**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-LS431-032910-W
MATRIX SPIKE

Lab Sample ID: QQ37C
LIMS ID: 10-8104
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	0.500 U	26.1	25.0	104%	
Cadmium	200.8	0.200 U	26.1	25.0	104%	
Chromium	200.8	0.500 U	26.6	25.0	106%	
Copper	200.8	2.15	29.9	25.0	111%	
Lead	200.8	1.00 U	25.4	25.0	102%	
Nickel	200.8	0.500 U	28.1	25.0	112%	
Selenium	200.8	2.00 U	79.5	80.0	99.4%	
Silver	200.8	0.200 U	25.0	25.0	100%	
Zinc	200.8	25.4	98.8	80.0	91.8%	

Reported in µg/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-LS431-032910-W
DUPLICATE

Lab Sample ID: QQ37C
LIMS ID: 10-8104
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Cadmium	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Chromium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	200.8	2.2	2.1	4.7%	+/- 0.5	L
Lead	200.8	1 U	1 U	0.0%	+/- 1	L
Nickel	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Selenium	200.8	2 U	2 U	0.0%	+/- 2	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	25	24	4.1%	+/- 20%	

Reported in µg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-032910-W
SAMPLE

Lab Sample ID: QQ37D
LIMS ID: 10-8105
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	03/31/10	200.8	04/16/10	**7440-38-2**	**Arsenic**	0.2	**0.4**	
200.8	03/31/10	200.8	04/16/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	7440-47-3	Chromium	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	**7440-50-8**	**Copper**	0.5	**3.7**	
200.8	03/31/10	200.8	04/16/10	7439-92-1	Lead	1	1	U
200.8	03/31/10	200.8	04/16/10	**7440-02-0**	**Nickel**	0.5	**0.8**	
200.8	03/31/10	200.8	04/16/10	7782-49-2	Selenium	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7440-22-4	Silver	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	**7440-66-6**	**Zinc**	4	**52**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QQ37LCS
LIMS ID: 10-8105
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	24.8	25.0	99.2%	
Cadmium	200.8	24.9	25.0	99.6%	
Chromium	200.8	25.8	25.0	103%	
Copper	200.8	26.6	25.0	106%	
Lead	200.8	24	25	96.0%	
Nickel	200.8	26.4	25.0	106%	
Selenium	200.8	78.4	80.0	98.0%	
Silver	200.8	24.3	25.0	97.2%	
Zinc	200.8	76	80	95.0%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: QQ37MB
LIMS ID: 10-8105
Matrix: Water
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	03/31/10	200.8	04/16/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	7440-47-3	Chromium	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7440-50-8	Copper	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7439-92-1	Lead	1	1	U
200.8	03/31/10	200.8	04/16/10	7440-02-0	Nickel	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7782-49-2	Selenium	0.5	0.5	U
200.8	03/31/10	200.8	04/16/10	7440-22-4	Silver	0.2	0.2	U
200.8	03/31/10	200.8	04/16/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431A-032910-S
SAMPLE

Lab Sample ID: QQ37F
LIMS ID: 10-8107
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Percent Total Solids: 41.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	03/31/10	6010B	04/12/10	**7440-38-2**	**Arsenic**	10	**10**	
3050B	03/31/10	6010B	04/12/10	**7440-43-9**	**Cadmium**	0.5	**7.0**	
3050B	03/31/10	6010B	04/12/10	**7440-47-3**	**Chromium**	1	**54**	
3050B	03/31/10	6010B	04/12/10	**7440-50-8**	**Copper**	0.5	**151**	
3050B	03/31/10	6010B	04/12/10	**7439-92-1**	**Lead**	5	**134**	
CLP	03/31/10	7471A	04/01/10	**7439-97-6**	**Mercury**	0.05	**0.37**	
3050B	03/31/10	6010B	04/12/10	7440-22-4	Silver	0.7	0.7	U
3050B	03/31/10	6010B	04/12/10	**7440-66-6**	**Zinc**	2	**704**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-LS431A-032910-S
MATRIX SPIKE

Lab Sample ID: QQ37F
LIMS ID: 10-8107
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	10	460	479	93.9%	
Cadmium	6010B	7.0	120	120	94.2%	
Chromium	6010B	54	156	120	85.0%	
Copper	6010B	151	250	120	82.5%	
Lead	6010B	134	569	479	90.8%	
Mercury	7471A	0.37	0.68	0.523	59.3%	N
Silver	6010B	0.7 U	118	120	98.3%	
Zinc	6010B	704	764	120	50.0%	H

Reported in mg/kg-dry

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431A-032910-S DUPLICATE

Lab Sample ID: QQ37F
LIMS ID: 10-8107
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	10	10	0.0%	+/- 10	L
Cadmium	6010B	7.0	7.3	4.2%	+/- 20%	
Chromium	6010B	54	57	5.4%	+/- 20%	
Copper	6010B	151	146	3.4%	+/- 20%	
Lead	6010B	134	130	3.0%	+/- 20%	
Mercury	7471A	0.37	0.18	69.1%	+/- 0.05	L*
Silver	6010B	0.7 U	0.7 U	0.0%	+/- 0.7	L
Zinc	6010B	704	701	0.4%	+/- 20%	

Reported in mg/kg-dry

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108A-032910-S
SAMPLE

Lab Sample ID: QQ37H
LIMS ID: 10-8109
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

Percent Total Solids: 42.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	03/31/10	6010B	04/12/10	**7440-38-2**	**Arsenic**	10	**20**	
3050B	03/31/10	6010B	04/12/10	**7440-43-9**	**Cadmium**	0.5	**6.1**	
3050B	03/31/10	6010B	04/12/10	**7440-47-3**	**Chromium**	1	**65**	
3050B	03/31/10	6010B	04/12/10	**7440-50-8**	**Copper**	0.5	**319**	
3050B	03/31/10	6010B	04/12/10	**7439-92-1**	**Lead**	5	**210**	
CLP	03/31/10	7471A	04/01/10	**7439-97-6**	**Mercury**	0.04	**0.75**	
3050B	03/31/10	6010B	04/12/10	**7440-22-4**	**Silver**	0.7	**1.2**	
3050B	03/31/10	6010B	04/12/10	**7440-66-6**	**Zinc**	2	**921**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QQ37LCS
LIMS ID: 10-8109
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	203	200	102%	
Cadmium	6010B	50.1	50.0	100%	
Chromium	6010B	50.4	50.0	101%	
Copper	6010B	47.8	50.0	95.6%	
Lead	6010B	194	200	97.0%	
Mercury	7471A	0.49	0.50	98.0%	
Silver	6010B	50.7	50.0	101%	
Zinc	6010B	50	50	100%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: QQ37MB
LIMS ID: 10-8109
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QQ37-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	03/31/10	6010B	04/12/10	7440-38-2	Arsenic	5	5	U
3050B	03/31/10	6010B	04/12/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	03/31/10	6010B	04/12/10	7440-47-3	Chromium	0.5	0.5	U
3050B	03/31/10	6010B	04/12/10	7440-50-8	Copper	0.2	0.2	U
3050B	03/31/10	6010B	04/12/10	7439-92-1	Lead	2	2	U
CLP	03/31/10	7471A	04/01/10	7439-97-6	Mercury	0.02	0.02	U
3050B	03/31/10	6010B	04/12/10	7440-22-4	Silver	0.3	0.3	U
3050B	03/31/10	6010B	04/12/10	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

MERCURY ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
Dissolved Mercury by Method SW7470A

Data Release Authorized:
Reported: 04/06/10
Date Received: 03/29/10
Page 1 of 1

QC Report No: QQ41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
NBF-LS431-032910-W QQ41A 10-8114	03/29/10	Water	03/31/10 04/05/10	20.0	20.0 U
NBF-MH108-032910-W QQ41B 10-8115	03/29/10	Water	03/31/10 04/05/10	20.0	20.0 U
MB-033110 Method Blank	NA	Water	03/31/10 04/05/10	20.0	20.0 U

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: NBF-LS431-032910-W
MATRIX SPIKE

Lab Sample ID: QQ41A
LIMS ID: 10-8114
Matrix: Water
Data Release Authorized:
Reported: 04/06/10

QC Report No: QQ41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7470A	20.0 U	91.8	100	91.8%	

Reported in ng/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-LS431-032910-W
DUPLICATE

Lab Sample ID: QQ41A
LIMS ID: 10-8114
Matrix: Water
Data Release Authorized:
Reported: 04/06/10

QC Report No: QQ41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 03/29/10
Date Received: 03/29/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7470A	20.0 U	20.0 U	0.0%	+/- 20.0	L

Reported in ng/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: LAB CONTROL

Lab Sample ID: QQ41LCS
LIMS ID: 10-8115
Matrix: Water
Data Release Authorized:
Reported: 04/06/10

QC Report No: QQ41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	184	200	92.0%	

Reported in ng/L

N-Control limit not met
Control Limits: 80-120%

GENERAL CHEMISTRY ANALYSIS

SAMPLE RESULTS-CONVENTIONALS
QQ37-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 04/08/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 03/29/10
Date Received: 03/29/10

Client ID: NBF-LS431-032910-W
ARI ID: 10-8102 QQ37A

Analyte	Date Batch	Method	Units	RL	Sample
pH	03/29/10 032910#1	EPA 150.1	std units	0.01	6.82
Alkalinity	03/31/10 033110#1	SM 2320	mg/L CaCO3	1.0	24.9
Carbonate	03/31/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	03/31/10	SM 2320	mg/L CaCO3	1.0	24.9
Hydroxide	03/31/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	03/30/10 033010#1	EPA 160.2	mg/L	2.1	62.3
Chloride	04/01/10 040110#1	EPA 300.0	mg/L	0.2	3.4
N-Nitrate	03/30/10 033010#1	EPA 300.0	mg-N/L	0.1	0.1
Sulfate	03/30/10 033010#1	EPA 300.0	mg/L	0.1	1.6
Total Organic Carbon	04/01/10 040110#1	EPA 415.1	mg/L	1.50	4.28

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QQ37-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 04/08/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 03/29/10
Date Received: 03/29/10

Client ID: NBF-MH108-032910-W
ARI ID: 10-8103 QQ37B

Analyte	Date Batch	Method	Units	RL	Sample
pH	03/29/10 032910#1	EPA 150.1	std units	0.01	6.75
Alkalinity	03/31/10 033110#1	SM 2320	mg/L CaCO3	1.0	22.5
Carbonate	03/31/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	03/31/10	SM 2320	mg/L CaCO3	1.0	22.5
Hydroxide	03/31/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	03/30/10 033010#1	EPA 160.2	mg/L	1.3	75.9
Chloride	03/30/10 033010#1	EPA 300.0	mg/L	0.1	1.3
N-Nitrate	03/30/10 033010#1	EPA 300.0	mg-N/L	0.1	0.2
Sulfate	03/30/10 033010#1	EPA 300.0	mg/L	0.1	2.9
Total Organic Carbon	04/01/10 040110#1	EPA 415.1	mg/L	1.50	3.35

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QQ37-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 04/08/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 03/29/10
Date Received: 03/29/10

Client ID: NBF-LS431-032910-W
ARI ID: 10-8104 QQ37C

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	04/01/10 040110#1	EPA 415.1	mg/L	1.50	2.76

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QQ37-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 04/08/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 03/29/10
Date Received: 03/29/10

Client ID: NBF-MH108-032910-W
ARI ID: 10-8105 QQ37D

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	04/01/10 040110#1	EPA 415.1	mg/L	1.50	1.97

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
QQ37-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 04/08/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 03/29/10
Date Received: 03/29/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: QQ37A Client ID: NBF-LS431-032910-W							
Chloride	EPA 300.0	04/01/10	mg/L	3.4	7.6	4.0	105.0%
N-Nitrate	EPA 300.0	03/30/10	mg-N/L	0.1	1.9	2.0	90.0%
Sulfate	EPA 300.0	03/30/10	mg/L	1.6	3.6	2.0	100.0%

REPLICATE RESULTS-CONVENTIONALS
QQ37-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 04/08/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 03/29/10
Date Received: 03/29/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: QQ37A Client ID: NBF-LS431-032910-W						
pH	EPA 150.1	03/29/10	std units	6.82	6.82	0.00
Alkalinity	SM 2320	03/31/10	mg/L CaCO3	24.9	24.7	0.8%
Carbonate	SM 2320	03/31/10	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	03/31/10	mg/L CaCO3	24.9	24.7	0.8%
Hydroxide	SM 2320	03/31/10	mg/L CaCO3	< 1.0	< 1.0	NA
Total Suspended Solids	EPA 160.2	03/30/10	mg/L	62.3	32.3	63.4%
Chloride	EPA 300.0	04/01/10	mg/L	3.4	3.4	0.0%
N-Nitrate	EPA 300.0	03/30/10	mg-N/L	0.1	0.1	0.0%
Sulfate	EPA 300.0	03/30/10	mg/L	1.6	1.6	0.0%

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

LAB CONTROL RESULTS-CONVENTIONALS
QQ37-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 04/08/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH EPA 150.1	ICVL	03/29/10	std units	7.02	7.00	0.02
Total Suspended Solids EPA 160.2	ICVL	03/30/10	mg/L	49.5	50.0	99.0%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

METHOD BLANK RESULTS-CONVENTIONALS
QQ37-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 04/08/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Total Suspended Solids	EPA 160.2	03/30/10	mg/L	< 1.0 U	
Chloride	EPA 300.0	03/30/10	mg/L	< 0.1 U	
		04/01/10		< 0.1 U	
N-Nitrate	EPA 300.0	03/30/10	mg-N/L	< 0.1 U	
Sulfate	EPA 300.0	03/30/10	mg/L	< 0.1 U	
Total Organic Carbon	EPA 415.1	04/01/10	mg/L	< 1.50 U	
Dissolved Organic Carbon	EPA 415.1	04/01/10	mg/L	< 1.50 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
QQ37-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 04/08/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	03/31/10	mg/L CaCO3	34.7	35.0	99.1%
Chloride ERA #230109	EPA 300.0	03/30/10 04/01/10	mg/L	2.9 2.9	3.0 3.0	96.7% 96.7%
N-Nitrate ERA #09127	EPA 300.0	03/30/10	mg-N/L	2.9	3.0	96.7%
Sulfate ERA #220109	EPA 300.0	03/30/10	mg/L	2.9	3.0	96.7%
Total Organic Carbon ERA 0506-09-01	EPA 415.1	04/01/10	mg/L	19.7	20.0	98.5%
Dissolved Organic Carbon ERA 0506-09-01	EPA 415.1	04/01/10	mg/L	19.7	20.0	98.5%

GEOTECHNICAL ANALYSIS

Science App. International Corp
NBF/GTSP Stormwater Sampling

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
NBF-LS431A-032910-S	100.0	100.0	100.0	100.0	99.9	99.7	99.7	99.6	87.0	52.5	43.4	32.3	21.2	12.5
NBF-MH108A-032910-S	100.0	100.0	100.0	100.0	100.0	100.0	99.9	99.9	90.9	69.6	52.6	33.8	17.8	5.9

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Science App. International Corp
NBF/GTSP Stormwater Sampling

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
NBF-LS431A-032910-S	0.0	0.0	0.1	0.2	0.0	0.1	12.6	34.5	9.1	11.1	11.1	8.7	12.5	99.6
NBF-MH108A-032910-S	0.0	0.0	0.0	0.0	0.1	0.0	9.0	21.3	17.0	18.8	16.0	11.9	5.9	99.9

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

TOTAL SOLIDS

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory
Analyst Notes

ARI Job No.: QQ37

Client ID: Science App. International Corp
NBF/GTSP

Parameter: PCB

Client Project: Stormwater Sampling

SOP Number(s):

No Anomalies:

List problems, concerns, corrective actions and any other pertinent information
Prep time: (Before Drying) — 30mins WC 3/30/10 Prep time (After Drying) — 1:05
Sample wet weight "E" — 325.67g WC 3/30/10 Sample dry weight "E" — 103.33
metals split — 10.00g WC 3/30/10 Plastic Ring Weight (Removed) "E" — 14.08g
Geotech split — 20.66g WC 3/30/10 Sample Dry weight w/o plastic ring E - 88.91g
Sample wet weight "6" — 386.36g Sample dry weight "6" — 102.62g
metals split — 10.10g Plastic Ring weight (Removed) - "6" — 14.10g
Geotech split — 20.71g WC 3/30/10 Sample Dry weight w/o plastic ring "6" — 86.26g
Samples were surrogated at 5X normal level, to leave room for possible dilutions. ~~SF~~ 4/2/10
E+G - High volume acid cleaned, centrifuged after Sulfer clean/water wash to break emulsion
color remained, SPE cleaned - WW 4/6/10

Analyst Initials:		Date:	

Solids Data Entry Report Checked by: MH Date: 4/02/10
Date: 04/01/10 Data Analyst: KM

Solids Determination performed on 03/31/10 by MH

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
QQ37	F	NBF-LS431A-032910-S	0.991	5.006	2.638	41.02
QQ37	H	NBF-MH108A-032910-S	0.972	5.117	2.716	42.07

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 07 **Balance ID:** 068755

Samples in Oven: Date: 3/31/10 Time: 1025 Temp: 103°C Analyst: MH

Removed from Oven: Date: 4/01/10 Time: 0910 Temp: 102°C Analyst: MH

Source of Total Solids Data If From A Different Lab: —

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs[1]
QQ37 F	0.991	5.006	2.638	—	✓
" H	0.972	5.117	2.716	—	✓

MH 3/31/10

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104℃ < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

April 20, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: QR70

Dear Glen:

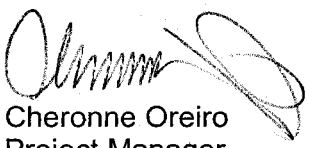
Please find enclosed the Chain-of-Custody (COC) records, sample receipt documentation, and the final data package for samples from the project referenced above.

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.



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

Enclosures

cc: eFile QR70

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QR70

prepared
by

Analytical Resources, Inc.

SAIC
From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.:
Project Mgr: GLEN VEDERA
Project Name: NBF-STSP STORMWATER SAMPLING
Project Location: NBF
Sample Collectors: GV, JW
Client Name: ECOLOGY

Sample ID	Depth	Matrix	Date	Time	# of Containers	Analyses / Tests										Comments
NBF-LS431V-032610-S		S	3/26/10	1450	4											ARCHIVE

Shipping Information

Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: J. Peterson	Signature:	Signature:
Date/Time: 3/26/10 1412	Date/Time: 3/26/10 1412	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ARI	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

QR70 : 00003

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC | Project Name: NBF - STSP SW Sampling

COC No(s): (NA) | Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: QQ31 | 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): 15.1

If cooler temperature is out of compliance fill out form 00070F | Temp Gun ID#: 90877952

Cooler Accepted by: JP | Date: 3/26/16 | Time: 1412

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: Equipment: Split by:

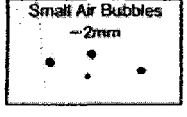
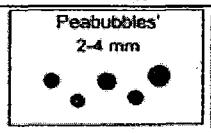
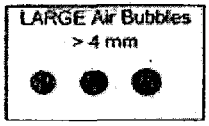
Samples Logged by: JW | Date: 3/29/16 | Time: 1410

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Q037

SAIC From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.:
Project Mgr: Glen Vedera
Project Name: NBF - ~~STSD~~ stormwater sampling
Project Location: NBF
Sample Collectors: ~~JW~~, WH
Client Name: Boeing

Shipping Information

Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors	metal + mercury	Grain Size	Low level PCB Aroclors	SVOC/SIM SVOC	VOCs	Metals +Hg total/diss	hardness, pH, alk	anions, TOC, DOC, TSS		Comments
NBF-LS431A-032910-S		sediment ~~water~~	3/29/10	1515	1 filter	X	X	X								
NBF-LS431B-032910-S		sediment ~~water~~	3/29/10	1515	1 filter											ARCHIVE
NBF-LS431V-032910		sediment ~~water~~	3/29/10	1545	4 filters											ARCHIVE do not sieve
NBF-LS431-032910-W		water	3/29/10	1515	1 carboy				X	X	X	X	X	X	X	
NBF-MH108A-032910-S ~~NBF-MH108-032910-S~~		sediment	3/29/10	1630	1 filter	X	X	X								
NBF-MH108B-032910-S		sediment	3/29/10	1630	1 filter											ARCHIVE
NBF-MH108-032910-W		water	3/29/10	1630	1 carboy				X	X	X	X	X	X	X	
NBF-LS431-032910-R		water	3/29/10	—	4 1/2 gallons											Fo~~...~~ing LS431 sample

[signature] 3/29/10

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: J Peterson	Signature:	Signature:
Date/Time: 3/29/10 1715	Date/Time: 3/29/10 1715	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ACI	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF-GTSP Stormwater Sampling

COC No(s): (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: QX037 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

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941619

Cooler Accepted by: JP Date: 3/29/10 Time: 1715

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) (YES) Date/Time: 3/29/10 1715 Equipment: PDA Split by: JP/AV

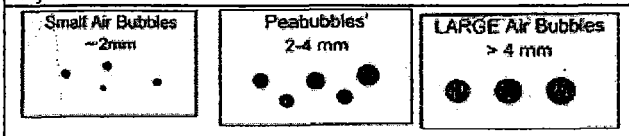
Samples Logged by: JP AV Date: 3/29/10 3/30/10 Time: 1517 1715 1021

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

SAIC®
From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.:
Project Mgr: Glen Vedera
Project Name: NBF GTSP Stormwater
Project Location: NBF
Sample Collectors: JO / MG
Client Name: Ecology

Shipping Information

Number of Shipping Containers: 1
Date Shipped:
Carrier:
Waybill No.:

Sample ID	Depth	Matrix	Date	Time	# of Containers	Analyses / Tests: Archive	Comments
NBF-LS431A-033010-S		sediment	3/30/10	1500	4 Filters	X	Do Not Freeze
NBF-LS431A-033010-S		sediment	3/30/10	1525	1 Filter	X	Do Not Freeze
NBF-LS431B-033010-S		sediment	3/30/10	1525	1 Filter	X	Do Not Freeze

[signature] 3/30/10

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: J. Peterson	Signature:	Signature:
Date/Time: 3/30/10	Date/Time: 3/30/10 1555	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ALI	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

QR70:00007

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC

Project Name: NBF GTSP Stormwatr

COC No(s): (NA)

Delivered by: Fed-Ex UPS Courier (Hand) Delivered Other:

Assigned ARI Job No:

Tracking No: (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)	14.7	
If cooler temperature is out of compliance fill out form 00070F	Temp Gun ID#:	90877952

Cooler Accepted by: JP Date: 3/30/10 Time: 1555

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: Equipment: Split by:

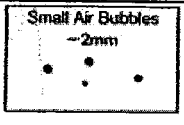
Samples Logged by: JP Date: 3/30/10 Time: 1735

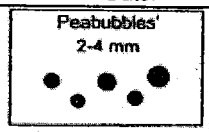
***** Notify Project Manager of discrepancies or concerns *****

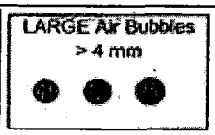
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:







Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QR70	Turn-around Requested:	Page: 1 of 1	
ARI Client Company: SAIC	Phone:	Date: 4/6/10	Ice Present?
Client Contact: Glen Verdena		No/of Coolers:	Cooler Temps:
Client Project Name: NBF/GTSP Stormwater Sampling			
Client Project #:	Samplers: AYS, BR, GS, gbs, ey		

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

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PCBs	Notes/Comments
NBF-LS431-S-<63	4/6/10	8:23	Sed	1	X	Was CREE A, wet sieved into 4 size fractions original client ID = NBF-LS431-S-Compos
NBF-LS431-S-63-250					X	
NBF-LS431-S-250-500					X	
NBF-LS431-S->500					X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
PM= Chromne	Printed Name: Gwenna Smith	Printed Name: J Peterson	Printed Name:	Printed Name:
	Company: ARI	Company: ARI	Company:	Company:
	Date & Time: 4/6/10 11:15	Date & Time: 4/6/10 1115	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Case Narrative

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QR70

prepared
by

Analytical Resources, Inc.

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job No.: QR70

Sample Receipt

Four filter-bags were received as one sample on March 26, 2010 under ARI job QQ31. Four filter-bags were received as one sample and two gallons of site water were received on March 29, 2010 under ARI job QQ37. Four filter-bags were received as one sample on March 30, 2010 under ARI job QQ60. All samples were archived unfrozen upon receipt, as requested. For further details regarding sample receipt, please refer to the Cooler Receipt Forms.

On March 31, 2010, SAIC requested that the three samples (twelve filter-bags total) be removed from archive. The samples were then re-logged under ARI job QQ78. Solid material was scraped from each filter-bag and composited to make one sample. This composite sample and the site water from ARI job QQ37 were re-logged under ARI job QR00.

The composite sample and site water for ARI job QR00 were submitted to the geotechnical laboratory. The composite sample was separated into specified size fractions. The size fractions include >500µm, 500-250µm, 250-63µm, and <63µm. The size fractions of the composite sample were labeled as four samples and logged under ARI job QR70. The size fraction samples were analyzed for PCBs and Metals, as requested.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS percent recoveries were within control limits.

The matrix spike and matrix spike duplicate percent recoveries of Aroclor 1016 were outside the advisory control limits high for sample **NBF-LS431-S-250-500**. No corrective action is required for matrix QC.

The undetected result for Aroclor 1248 was raised and "Y"-flagged due to interference from the matrix.

Total/Dissolved Metals and Total Mercury

All samples were digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery of zinc was outside the control limits low for sample **NBF-LS431-S-<63**. The sample concentration exceeded the spike concentration by a factor of four or more. No corrective action was required.

The duplicate RPDs were within control limits.

Geotechnical Parameters

A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science Applications International Corp. **ARI Project No.:** QR00

Client Project No.: NBF/GTSP Stormwater Sampling

Case Narrative

1. One composite sample was submitted for sample preparation for PCB analysis on April 2, 2010, and was in good condition. The sample preparation was submitted as separation of the composite into client specified size fractions. The fractions include >500µm, 500-250µm, 250-63µm, and <63µm sizes. Site water was provided by the client in two-liter HDPE containers.
2. The sample was separated by wet-washing the sediment over stainless steel sieves of the before-mentioned sizes with site water. Sediment suspended in site water that passed the 63µm sieve was collected by funnel into glass centrifuge bottles. The collected water sample was then centrifuged at 1000 x g for 30 minutes. The site water was decanted to be reused in the washing process. The washed sediment retained at each size fraction was collected and deposited into a clean 32oz glass jar.
3. All equipment used in the size fractionation process was decontaminated prior to use. The decontamination process includes a Citranox detergent wash, a 5% nitric acid soak, three deionized water rinses, air drying, and two methylene chloride rinses. The equipment was allowed to air dry in a fume hood to allow all solvents to evaporate.
4. There were no further anomalies in the samples or test method.

Approved by: _____ Date: 4/16/10
Title: *Geotechnical Laboratory Manager*

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits - Analysis of PCB / Aroclors in Soil & Sediment Samples - EPA SW-846 Method 8082

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	Routine Analysis	PSDDA	Low Level	Low level	Soxhlet Extraction	Medium Level
Typical Reporting Limit (µg/kg):	**33**	**20**	**10**	**4**	**100**	**800**
Nominal Sample Wet Weight (g):	**12**	**25**	**25**	**25**	**10**	**5**
Final Extract Volume (mL):	**4**	**5**	**2.5**	**1**	**10**	**40**
LCS Spike Recovery [1,2]						
Aroclor 1016	48 - 106	52 - 101	53 - **100**	37 - 106	30 - 160[3]	59 - 108
Aroclor 1260	50 - 121	52 - 126	58 - 112	50 - 116	30 - 160[3]	43 - 177
Method Blank / LCS Surrogate Recovery						
Tetrachloro-*meta*-xylene (TCMX)	46 - 111	47 - 110	43 - 108	35 - 100	30 - 160[3]	49 - 110
Decachlorobiphenyl	51 - 112	48 - 119	48 - 118	40 - 109	30 - 160[3]	51 - 127
Sample Surrogate Recovery						
Tetrachloro-*meta*-xylene (TCMX)	50 - 114	46 - 113	35 - 119	38 - 102	30 - 160[3]	28 - 106
Decachlorobiphenyl	42 - 127	40 - 130	33 - 143	34 - 141	30 - 160[3]	22 - 168

(1) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.

Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QR70

prepared
by

Analytical Resources, Inc.

PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431-S-<63
SAMPLE

Lab Sample ID: QR70A
LIMS ID: 10-8918
Matrix: Sediment
Data Release Authorized: MW
Reported: 04/12/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Date Extracted: 04/08/10
Date Analyzed: 04/12/10 10:10
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.3 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 82.7%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	65	< 65 U
53469-21-9	Aroclor 1242	65	< 65 U
12672-29-6	Aroclor 1248	330	< 330 Y
11097-69-1	**Aroclor 1254**	**65**	**1,100**
11096-82-5	**Aroclor 1260**	**65**	**260**
11104-28-2	Aroclor 1221	65	< 65 U
11141-16-5	Aroclor 1232	65	< 65 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	70.5%
Tetrachlorometaxylene	74.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-LS431-S-63-250
SAMPLE

Lab Sample ID: QR70B
LIMS ID: 10-8919
Matrix: Sediment
Data Release Authorized: MW
Reported: 04/12/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Date Extracted: 04/08/10
Date Analyzed: 04/12/10 10:34
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.6 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 40.1%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	64	< 64 U
53469-21-9	Aroclor 1242	64	< 64 U
12672-29-6	Aroclor 1248	160	< 160 Y
11097-69-1	**Aroclor 1254**	**64**	**520**
11096-82-5	**Aroclor 1260**	**64**	**140**
11104-28-2	Aroclor 1221	64	< 64 U
11141-16-5	Aroclor 1232	64	< 64 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	79.2%
Tetrachlorometaxylene	79.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431-S-250-500
SAMPLE

Lab Sample ID: QR70C
LIMS ID: 10-8920
Matrix: Sediment
Data Release Authorized: MW
Reported: 04/12/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Date Extracted: 04/08/10
Date Analyzed: 04/12/10 10:57
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.4 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 28.2%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	64	< 64 U
53469-21-9	Aroclor 1242	64	< 64 U
12672-29-6	Aroclor 1248	97	< 97 Y
11097-69-1	**Aroclor 1254**	**64**	**240**
11096-82-5	**Aroclor 1260**	**64**	**70**
11104-28-2	Aroclor 1221	64	< 64 U
11141-16-5	Aroclor 1232	64	< 64 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	88.8%
Tetrachlorometaxylene	80.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431-S->500
SAMPLE

Lab Sample ID: QR70D
LIMS ID: 10-8921
Matrix: Sediment
Data Release Authorized: MW
Reported: 04/12/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Date Extracted: 04/08/10
Date Analyzed: 04/12/10 12:09
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.5 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 34.3%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	64	< 64 U
53469-21-9	Aroclor 1242	64	< 64 U
12672-29-6	Aroclor 1248	160	< 160 Y
11097-69-1	**Aroclor 1254**	**64**	**610**
11096-82-5	**Aroclor 1260**	**64**	**160**
11104-28-2	Aroclor 1221	64	< 64 U
11141-16-5	Aroclor 1232	64	< 64 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	86.2%
Tetrachlorometaxylene	80.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
NBF-LS431-S-<63	70.5%	42-127	74.2%	50-114	0
NBF-LS431-S-63-250	79.2%	42-127	79.0%	50-114	0
MB-040810	72.0%	51-112	64.0%	46-111	0
LCS-040810	73.5%	51-112	67.5%	46-111	0
NBF-LS431-S-250-500	88.8%	42-127	80.0%	50-114	0
NBF-LS431-S-250-500 MS	83.0%	42-127	74.8%	50-114	0
NBF-LS431-S-250-500 MSD	87.0%	42-127	80.5%	50-114	0
NBF-LS431-S->500	86.2%	42-127	80.0%	50-114	0

Standard Sonication Control Limits
Prep Method: SW3550B
Log Number Range: 10-8918 to 10-8921

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431-S-250-500
MS/MSD

Lab Sample ID: QR70C
LIMS ID: 10-8920
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Date Extracted MS/MSD: 04/08/10

Sample Amount MS: 12.4 g-dry-wt
MSD: 12.6 g-dry-wt

Date Analyzed MS: 04/12/10 11:21
MSD: 04/12/10 11:45

Final Extract Volume MS: 4.0 mL
MSD: 4.0 mL

Instrument/Analyst MS: ECD7/JGR
MSD: ECD7/JGR

Dilution Factor MS: 10.0
MSD: 10.0

GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Silica Gel: Yes

Percent Moisture: 28.2%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 64.4 U	231	161	143%	218	159	137%	5.8%
Aroclor 1260	69.6	245	161	109%	213	159	90.2%	14.0%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-LS431-S-250-500
MATRIX SPIKE

Lab Sample ID: QR70C
LIMS ID: 10-8920
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Date Extracted: 04/08/10
Date Analyzed: 04/12/10 11:21
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.4 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 28.2%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	64	---
53469-21-9	Aroclor 1242	64	< 64 U
12672-29-6	Aroclor 1248	64	< 64 U
11097-69-1	**Aroclor 1254**	**64**	**470**
11096-82-5	Aroclor 1260	64	---
11104-28-2	Aroclor 1221	64	< 64 U
11141-16-5	Aroclor 1232	64	< 64 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	83.0%
Tetrachlorometaxylene	74.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431-S-250-500
MATRIX SPIKE DUP

Lab Sample ID: QR70C
LIMS ID: 10-8920
Matrix: Sediment
Data Release Authorized: MW
Reported: 04/12/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Date Extracted: 04/08/10
Date Analyzed: 04/12/10 11:45
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.6 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 28.2%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	64	---
53469-21-9	Aroclor 1242	64	< 64 U
12672-29-6	Aroclor 1248	64	< 64 U
11097-69-1	**Aroclor 1254**	**64**	**240**
11096-82-5	Aroclor 1260	64	---
11104-28-2	Aroclor 1221	64	< 64 U
11141-16-5	Aroclor 1232	64	< 64 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	87.0%
Tetrachlorometaxylene	80.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: LCS-040810
LAB CONTROL

Lab Sample ID: LCS-040810
LIMS ID: 10-8920
Matrix: Sediment
Data Release Authorized: MW
Reported: 04/12/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 04/08/10
Date Analyzed: 04/12/10 09:46
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.0 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	164	167	98.2%
Aroclor 1260	132	167	79.0%

PCB Surrogate Recovery

Decachlorobiphenyl	73.5%
Tetrachlorometaxylene	67.5%

Results reported in µg/kg (ppb)

PCB METHOD BLANK SUMMARY

BLANK NO.

QR70MBS1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QR70
Project: NBF/GTSP STORMWATER

Lab Sample ID: QR70MBS1
Lab File ID: 0412A005

Date Extracted: 04/08/10
Matrix: SOLID

Date Analyzed: 04/12/10
Instrument ID: ECD7

Time Analyzed: 0923
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QR70LCSS1	QR70LCSS1	04/12/10
02	NBF-LS431-S-<63	QR70A	04/12/10
03	NBF-LS431-S-63-250	QR70B	04/12/10
04	NBF-LS431-S-250-500	QR70C	04/12/10
05	NBF-LS431-S-250 MS	QR70CMS	04/12/10
06	NBF-LS431-S-250 MSD	QR70CMSD	04/12/10
07	NBF-LS431-S->500	QR70D	04/12/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-040810
METHOD BLANK

Lab Sample ID: MB-040810
LIMS ID: 10-8920
Matrix: Sediment
Data Release Authorized: MW
Reported: 04/12/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 04/08/10
Date Analyzed: 04/12/10 09:23
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.0 g
Final Extract Volume: 4.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	6.7	< 6.7 U
53469-21-9	Aroclor 1242	6.7	< 6.7 U
12672-29-6	Aroclor 1248	6.7	< 6.7 U
11097-69-1	Aroclor 1254	6.7	< 6.7 U
11096-82-5	Aroclor 1260	6.7	< 6.7 U
11104-28-2	Aroclor 1221	6.7	< 6.7 U
11141-16-5	Aroclor 1232	6.7	< 6.7 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	72.0%
Tetrachlorometaxylene	64.0%

FORM I

METALS ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-LS431-S-<63
SAMPLE

Lab Sample ID: QR70A
LIMS ID: 10-8918
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Percent Total Solids: 18.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/09/10	6010B	04/16/10	7440-38-2	Arsenic	70	70	U
3050B	04/09/10	6010B	04/16/10	**7440-43-9**	**Cadmium**	3	**11**	
3050B	04/09/10	6010B	04/16/10	**7440-47-3**	**Chromium**	7	**99**	
3050B	04/09/10	6010B	04/16/10	**7440-50-8**	**Copper**	3	**213**	
3050B	04/09/10	6010B	04/16/10	**7439-92-1**	**Lead**	30	**340**	
CLP	04/09/10	7471A	04/12/10	**7439-97-6**	**Mercury**	0.1	**0.3**	
3050B	04/09/10	6010B	04/16/10	7440-22-4	Silver	4	4	U
3050B	04/09/10	6010B	04/16/10	**7440-66-6**	**Zinc**	10	**1,120**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431-S-<63
MATRIX SPIKE

Lab Sample ID: QR70A
LIMS ID: 10-8918
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	70 U	1,110	1,070	104%	
Cadmium	6010B	11	288	268	103%	
Chromium	6010B	99	348	268	92.9%	
Copper	6010B	213	475	268	97.8%	
Lead	6010B	340	1,440	1,070	103%	
Mercury	7471A	0.3	1.6	1.16	112%	
Silver	6010B	4 U	265	268	98.9%	
Zinc	6010B	1,120	1,310	268	70.9%	H

Reported in mg/kg-dry

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431-S-<63
DUPLICATE

Lab Sample ID: QR70A
LIMS ID: 10-8918
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	70 U	70 U	0.0%	+/- 70	L
Cadmium	6010B	11	10	9.5%	+/- 3	L
Chromium	6010B	99	97	2.0%	+/- 20%	
Copper	6010B	213	206	3.3%	+/- 20%	
Lead	6010B	340	340	0.0%	+/- 20%	
Mercury	7471A	0.3	0.3	0.0%	+/- 0.1	L
Silver	6010B	4 U	4 U	0.0%	+/- 4	L
Zinc	6010B	1,120	1,110	0.9%	+/- 20%	

Reported in mg/kg-dry

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431-S-63-250
SAMPLE

Lab Sample ID: QR70B
LIMS ID: 10-8919
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Percent Total Solids: 60.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/09/10	6010B	04/16/10	7440-38-2	Arsenic	8	8	U
3050B	04/09/10	6010B	04/16/10	**7440-43-9**	**Cadmium**	0.3	**2.4**	
3050B	04/09/10	6010B	04/16/10	**7440-47-3**	**Chromium**	0.8	**23.3**	
3050B	04/09/10	6010B	04/16/10	**7440-50-8**	**Copper**	0.3	**40.6**	
3050B	04/09/10	6010B	04/16/10	**7439-92-1**	**Lead**	3	**54**	
CLP	04/09/10	7471A	04/12/10	**7439-97-6**	**Mercury**	0.03	**0.07**	
3050B	04/09/10	6010B	04/16/10	7440-22-4	Silver	0.5	0.5	U
3050B	04/09/10	6010B	04/16/10	**7440-66-6**	**Zinc**	2	**209**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-LS431-S-250-500
SAMPLE

Lab Sample ID: QR70C
LIMS ID: 10-8920
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Percent Total Solids: 71.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/09/10	6010B	04/16/10	7440-38-2	Arsenic	6	6	U
3050B	04/09/10	6010B	04/16/10	**7440-43-9**	**Cadmium**	0.3	**4.8**	
3050B	04/09/10	6010B	04/16/10	**7440-47-3**	**Chromium**	0.6	**16.6**	
3050B	04/09/10	6010B	04/16/10	**7440-50-8**	**Copper**	0.3	**19.9**	
3050B	04/09/10	6010B	04/16/10	**7439-92-1**	**Lead**	3	**28**	
CLP	04/09/10	7471A	04/12/10	**7439-97-6**	**Mercury**	0.03	**0.05**	
3050B	04/09/10	6010B	04/16/10	7440-22-4	Silver	0.4	0.4	U
3050B	04/09/10	6010B	04/16/10	**7440-66-6**	**Zinc**	1	**157**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431-S->500
SAMPLE

Lab Sample ID: QR70D
LIMS ID: 10-8921
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 04/06/10
Date Received: 04/06/10

Percent Total Solids: 68.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/09/10	6010B	04/16/10	7440-38-2	Arsenic	7	7	U
3050B	04/09/10	6010B	04/16/10	**7440-43-9**	**Cadmium**	0.3	**5.9**	
3050B	04/09/10	6010B	04/16/10	**7440-47-3**	**Chromium**	0.7	**29.0**	
3050B	04/09/10	6010B	04/16/10	**7440-50-8**	**Copper**	0.3	**50.2**	
3050B	04/09/10	6010B	04/16/10	**7439-92-1**	**Lead**	3	**105**	
CLP	04/09/10	7471A	04/12/10	**7439-97-6**	**Mercury**	0.03	**0.12**	
3050B	04/09/10	6010B	04/16/10	7440-22-4	Silver	0.4	0.4	U
3050B	04/09/10	6010B	04/16/10	**7440-66-6**	**Zinc**	1	**262**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: QR70LCS
LIMS ID: 10-8919
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	207	200	104%	
Cadmium	6010B	50.9	50.0	102%	
Chromium	6010B	48.8	50.0	97.6%	
Copper	6010B	48.2	50.0	96.4%	
Lead	6010B	204	200	102%	
Mercury	7471A	0.49	0.50	98.0%	
Silver	6010B	51.5	50.0	103%	
Zinc	6010B	49	50	98.0%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: QR70MB
LIMS ID: 10-8919
Matrix: Sediment
Data Release Authorized:
Reported: 04/19/10

QC Report No: QR70-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/09/10	6010B	04/16/10	7440-38-2	Arsenic	5	5	U
3050B	04/09/10	6010B	04/16/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	04/09/10	6010B	04/16/10	7440-47-3	Chromium	0.5	0.5	U
3050B	04/09/10	6010B	04/16/10	7440-50-8	Copper	0.2	0.2	U
3050B	04/09/10	6010B	04/16/10	7439-92-1	Lead	2	2	U
CLP	04/09/10	7471A	04/12/10	7439-97-6	Mercury	0.02	0.02	U
3050B	04/09/10	6010B	04/16/10	7440-22-4	Silver	0.3	0.3	U
3050B	04/09/10	6010B	04/16/10	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

TOTAL SOLIDS

Extractions Total Solids-extts
Data By: Rosie V. Rodriguez
Created: 4/ 7/10

Worklist: 5166
Analyst: RVR
Comments:

Oven ID:_____

Balance ID:_____

Samples In: Date:_____ Time:_____ Temp:_____ Analyst:_____

Samples Out: Date:_____ Time:_____ Temp:_____ Analyst:_____

	ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1.	QR70A 10-8918 NBF-LS431-S-<63	1.13	13.85	3.33	17.3	NR
2.	QR70B 10-8919 NBF-LS431-S-63-250	1.12	13.35	8.44	59.9	NR
3.	QR70C 10-8920 NBF-LS431-S-250-500	1.13	13.18	9.78	71.8	NR
4.	QR70D 10-8921 NBF-LS431-S->500	1.14	13.43	9.22	65.7	NR

Extractions Total Solids-extts
Data By: Rosie V. Rodriguez
Created: 4/ 7/10

Worklist: 5166
Analyst: RVR
Comments:

Oven ID: Ø15

Balance ID: S.4Ø3

Samples In: Date: 4/7/Ø Time: 1:3Ø Temp: 1ØØ Analyst: RR

Samples Out: Date: 4/8/1Ø Time: 4:25 Temp: 95° Analyst: RR

	ARI ID / CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1.	QR70A 10-8918 NBF-LS431-S-<63	1.13	13.85	3.33		NR
2.	QR70B 10-8919 NBF-LS431-S-63-250	1.12	13.35	8.44		NR
3.	QR70C 10-8920 NBF-LS431-S-250-500	1.13	13.18	9.78		NR
4.	QR70D 10-8921 NBF-LS431-S->500	1.14	13.43	9.22		NR

Solids Data Entry Report Checked by: MH Date: 4/12/10
Date: 04/10/10 Data Analyst: DM

Solids Determination performed on 04/09/10 by KM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
QR70	A	NBF-LS431-S-<63	0.977	10.259	2.643	17.95
QR70	B	NBF-LS431-S-63-250	1.023	10.463	6.697	60.11
QR70	C	NBF-LS431-S-250-500	1.012	10.376	7.692	71.34
QR70	D	NBF-LS431-S->500	0.970	10.204	7.256	68.07

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 07 **Balance ID:** 068755

Samples in Oven: Date: 4/09/10 Time: 1450 Temp: 103°C Analyst: KM

Removed from Oven: Date: 4-10-10 Time: 0535 Temp: 101°c Analyst: DM

Source of Total Solids Data If From A Different Lab: —

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs[1]
QR44 A	0.984	10.869	8.156	—	✓
" B	0.976	10.325	7.479	—	✓
" C	0.951	10.429	5.841	-	✓
" D	0.976	10.531	5.371	-	✓
" E	0.992	10.562	8.082	-	✓
QR70 A	0.977	10.259	2.643	—	✓
" B	1.023	10.463	6.697	—	✓
" C	1.012	10.376	7.692	—	✓
" D	0.970	10.204	7.256	—	✓

KM 4/09/10

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104℃ < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

ARI Job No.: QQ78

Client ID: Science App. International Corp

Parameter: Prep

Client Project: NBF/6TSP Stormater sampling

SOP Number(s):

No Anomalies:

List problems, concerns, corrective actions and any other pertinent information

Prep Time: ~~2.5 Hours~~, PM 4-1-10 4=Hours.

Whole Filter bag weights

A_1 = 705.89g A_2 = 625.32g A_3 = 586.95g A_4 = 626.41g

B_1 = 999.02g B_2 = 898.01g B_3 = 1112.56g B_4 = 725.89g

C_1 = 441.24g C_2 = 492.43g C_3 = 447.20g C_4 = 627.79g

Solid Material Weight (Removed from each filter bag)

A_1 = 348.92g A_2 = 293.18g A_3 = 177.73g A_4 = 239.45g

B_1 = 663.56g B_2 = 545.13g B_3 = 726.21g B_4 = 412.72g

C_1 = 155.28g C_2 = 221.32g C_3 = 166.14 C_4 = 341.13g

Composite weight of all solid material = 4290.77

Analyst Initials:	PM	Date:	4-1-10

056F

Revision 006
1/12/07

QR70 : 00043

Analytical Resources, Incorporated
Analytical Chemists and Consultants

May 18, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: QU49, QU59, & QU60

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile QU49/QU59/QU60

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QU49, QU59, QU60

prepared
by

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: QU49	Turn-around Requested: Standard	Page: 1	of 4
ARI Client Company: SAIC	Phone: 206 271 4691	Date: 3/4/27/10	Ice Present?
Client Contact: Glen Vodera		No. of Coolers:	Cooler Temps:
Client Project Name: NBF			
Client Project #:	Samplers: JW/WH/MG/GV		

Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors (1)	TAH HG (2)	6010 Metals (3)	Grain Size (4)	Low level PCB Aroclor	Metals total & dissolved	SVOC & SIM SVOC	hardness, pH, Alkalinity	Anions, TOC, DOC, TSS		Notes/Comments
															Analyze filtered solids in order listed if insufficient material
NBF-MH108A-042710-S	3/27/10	0900	Filter	1	X	X	X	X							
NBF-MH108B-042710-S	3/27/10	0900	Filter	1											Archive frozen
NBF-MH108-042710-W	3/27/10	0900	Water	1					X	X	X	X	X		
NBF-MH434B-042710-S	3/27/10	1130	Filter	1											Archive frozen
NBF-MH434A-042710-S	3/27/10	1130	Filter	1	X	X	X	X							
NBF-LS431V-042710-S	3/27/10	1100	Filter	4											Archive
NBF-LS431A-042710-S	3/27/10	1015	Filter	1	X	X	X	X							
NBF-LS431B-042710-S	3/27/10	1015	Filter	1											Archive frozen
NBF-CB423A-042710-S	3/27/10	1150	Filter	1	X	X	X	X							
NBF-CB423B-042710-S	3/27/10	1150	Filter	1											Archive frozen

Comments/Special Instructions

Relinquished by:	Received by:	Relinquished by:	Received by:
(Signature) [signature]	(Signature) J Peterson	(Signature)	(Signature)
Printed Name: Julie Warter	Printed Name: J Peterson	Printed Name:	Printed Name:
Company: SAIC	Company: ARI	Company:	Company:
Date & Time: 4/27/10 1720	Date & Time: 4/27/10 1720	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

QU49:00003

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QU49	Turn-around Requested: Standard	Page: 2 of 4
ARI Client Company: SATC	Phone: 206 271 4691	Date: 4/27/10 / Ice Present?
Client Contact: Glen Vedera		No. of Coolers: / Cooler Temps:
Client Project Name: NBF		
Client Project #:	Samplers: JW/WH/MB/GV	

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

Analysis Requested: 1 PCB Aroclors; 2 7471 Mercury; 3 6010 Metals; 4 Grain Size

Sample ID	Date	Time	Matrix	No. Containers	1 PCB Aroclors	2 7471 Mercury	3 6010 Metals	4 Grain Size					Notes/Comments
													Analyze in order listed if insufficient material
NBF-MH356A-042710-S	4/27/10	1015	Filter	1	X	X	X	X					
NBF-MH356B-042710-S	4/27/10	1015	Filter	1									Archive frozen
NBF-MH369A-042710-S	04/27/10	1240	Filter	1	X	X	X	X					
NBF-MH369B-042710-S	04/27/10	1240	Filter	1									Archive frozen
NBF-MH226A-042710-S	04/27/10	1250	Filter	1	X	X	X	X					
NBF-MH226B-042710-S	04/27/10	1250	Filter	1									Archive frozen
WH ~~NBF-MH434A-042710-S~~	~~"~~		~~"~~	~~1~~	~~X~~	~~X~~	~~X~~	~~X~~					
WH ~~NBF-MH434B-042710-S~~	~~"~~		~~"~~	~~1~~									~~Archive frozen~~
WH ~~NBF-MH423A-042710-S~~	~~"~~		~~"~~	~~1~~	~~X~~	~~X~~	~~X~~	~~X~~					
WH ~~NBF-MH423B-042710-S~~	~~"~~		~~"~~	~~1~~									~~Archive frozen~~

(Struck rows initialed: JW 4/27/10)

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) Jami Peterson	(Signature)	(Signature)
	Printed Name: Julie Wartena	Printed Name: J. Peterson	Printed Name:	Printed Name:
	Company: SATC	Company: ARI	Company:	Company:
	Date & Time: 4/27/10 1720	Date & Time: 4/27/10 1720	Date & Time:	Date & Time:

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: QU49	Turn-around Requested: Standard
ARI Client Company: SAIC	Phone: 206 271 4691
Client Contact: Glen Vedera	
Client Project Name: NBF	
Client Project #:	Samplers: JW/WH/MG/GU
Page: 3 of 4	
Date:	Ice Present?
No. of Coolers:	Cooler Temps:

Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors ①	7471 Mercury ②	6010 metals ③	Grain size ④	Low Level PCB Aroclor	Metals total & dissolved	SVOC & SIM SVOC	Hardness, pH, Alkalinity	Anions, TOC, DOC, TSS		Notes/Comments: Analyze filtered solids in order listed if insufficient material
NBF LS431-042710-W	4/27/10	1130	Water	1					X	X	X	X	X		
~~NBF-MH133A-042710-S~~	~~4/27/10~~		~~Filter~~	~~1~~	~~X~~	~~X~~	~~X~~	~~X~~							
~~NBF-MH133B-042710-S~~	~~4/27/10~~		~~Filter~~	1											~~Archive frozen~~
~~NBF-MH138A-042710-S~~	~~4/27/10~~		~~Filter~~	1	~~X~~	~~X~~	~~X~~	~~X~~							
~~NBF-MH138B-042710-S~~	~~4/27/10~~		~~Filter~~	1											~~Archive frozen~~
NBF-MH152A-042710-S	4/27/10	1550	Filter	1	X	X	X	X							
NBF-MH152B-042710-S	4/27/10	1550	Filter	1											Archive frozen
NBF-CB165A-042710-S	4/27/10	1605	Filter	1	X	X	X	X							
NBF-CB165B-042710-S	4/27/10	1605	Filter	1											Archive frozen

Julie 4/27/10 (strikeout initials)

Comments/Special Instructions:

	Relinquished by:	Received by:	Relinquished by:	Received by:
(Signature)	Julie W.	J. Peterson		
Printed Name:	Julie Warter	J. Peterson		
Company:	SAIC	ARI		
Date & Time:	4/27/10 1720	4/27/10 1720		

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

QU49 : 00005

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QUM	Turn-around Requested: Standard	Page: 4 of 4	
ARI Client Company: SAIC	Phone: 206 2714691	Date:	Ice Present?
Client Contact: Glen Vedera		No. of Coolers:	Cooler Temps:
Client Project Name: NBF			
Client Project #:	Samplers: JW/WH/MG/GV		

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

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested (1) PCB Aroclors	(2) 7471 Mercury	(3) 6010 metals	(4) Grain size					Notes/Comments
NBF-MH17BA-042710-S	4/27/10	1610	Filter	1	X	X	X	X					
NBF-MH17BB-042710-S	4/27/10	1610	Filter	1									Archive frozen
NBF-CB17BA-042710-S	4/27/10	1625	Filter	1	X	X	X	X					
NBF-CB17BB-042710-S	4/27/10	1625	Filter	1									Archive frozen

4/27/10

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Julie Herstad	Printed Name: J. Peterson	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 4/27/10 1720	Date & Time: 4/27/10 1720	Date & Time:	Date & Time:

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier (Hand) Delivered Other: _____

Assigned ARI Job No: QU49 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)..... 5.9 4.8 4.6 3.9 ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941609

Cooler Accepted by: JP Date: 4/27/10 Time: 1720

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?			(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: 4/ Equipment: Polypropylene Churn Split by: JP

Samples Logged by: JP Date: 4/27/10 Time: 1900

***** 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:

The whole 1st page of the Chain of Custody has the date as 3/27/10, but IDs have 042710 - as part of the ID. I assumed they ment 4/27/10.

By: JP Date: 4/28/10

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 04/28/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QU49**

PC: Cheronne
VTSR: 04/27/10

Inquiry Number: NONE
Analysis Requested: 04/28/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: JP
Sample Set Used: Yes-494
Validatable Package: No
Deliverables:

Project #:
Project: NBF
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-10470 **QU49A**	NBF-MH108-042710-W						TOT PASS					PASS										
10-10471 **QU49B**	NBF-LS431-042710-W						TOT PASS					PASS										
10-10472 **QU49C**	NBF-MH108-042710-W					unpreserved	DIS									N		> DOC	filtered +		preserved	
10-10473 **QU49D**	NBF-LS431-042710-W						DIS									N					4-28-10 W	

Dissolved metals are unpreserved and unfiltered

Checked By JP Date 4/28/10

Subject: RE: 04/27/10 Sample Confirmations
From: "Hafner, William D." <WILLIAM.D.HAFNER@saic.com>
Date: Wed, 28 Apr 2010 18:10:19 -0700
To: "Eric Branson" <eric@arilabs.com>, "Vedera, Glen T." <GLEN.T.VEDERA@saic.com>
Return-Path: <WILLIAM.D.HAFNER@saic.com>
X-Spam-Checker-Version: SpamAssassin 3.2.5 (2008-06-10) on vm1.arilabs.com
X-Spam-Status: No, score=-2.6 required=5.0 tests=BAYES_00 autolearn=ham version=3.2.5
X-Original-To: eric@arilabs.com
Delivered-To: eric@arilabs.com
Received: from cpmx2.mail.saic.com (cpmx2.mail.saic.com [139.121.17.172]) by smtp.arilabs.com (Postfix) with ESMTP id EA15B192257 for <eric@arilabs.com>; Wed, 28 Apr 2010 18:21:25 -0700 (PDT)
Received: from 0599-its-sbg03.saic.com ([139.121.21.144] [139.121.21.144]) by cpmx2.mail.saic.com with ESMTP id BT-MMP-12253984 for eric@arilabs.com; Wed, 28 Apr 2010 18:11:00 -0700
X-AuditID: 8b79132a-b7cceae000005886-8a-4bd8dca48d5f
Received: from 0599-its-exbh01.us.saic.com (cpg-z7-si-srcnat.sw.saic.com [139.121.21.144]) by 0599-its-sbg03.saic.com (Symantec Brightmail Gateway) with SMTP id 1F.6F.22662.4ACD8DB4; Wed, 28 Apr 2010 18:11:00 -0700 (PDT)
Received: from 0461-its-exmb01.us.saic.com ([10.8.67.21]) by 0599-its-exbh01.us.saic.com with Microsoft SMTPSVC(6.0.3790.3959); Wed, 28 Apr 2010 18:11:00 -0700
x-mimeole: Produced By Microsoft Exchange V6.5
Content-class: urn:content-classes:message
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: quoted-printable
Message-ID: <57A1AD24906A994FA0EA6E8F8D769E59066BD143@0461-its-exmb01.us.saic.com>
In-Reply-To: <4BD8D4AE.1070701@arilabs.com>
Thread-Topic: 04/27/10 Sample Confirmations
Thread-Index: AcrnNDHvESZ+2NqhRWmrCOjBrGytmgAANkVg
References: <4BD8D4AE.1070701@arilabs.com>
X-OriginalArrivalTime: 29 Apr 2010 01:11:00.0238 (UTC) FILETIME=[D4793AE0:01CAE738]
X-Brightmail-Tracker: AAAAAA==

Eric,
Please add 8260C VOC analyses to samples:
NBF-LS431-042710-W ARI ID QU49B
NBF-MH108-042710-W ARI ID QU49A

We will also be analyzing all of the frozen filters for PAH. Cheronne had worked out a method for these. If you want, I'm fine waiting until next week to have these pulled and analyzed.

The rest of the receipt looks good. I wrote it on each of the COCs, but if you can't scrape enough material off the filters to analyze for metals and grain size, analyze mercury first, then the other metals, then grain size.

Thanks,
Will

-----Original Message-----
From: Eric Branson [mailto:eric@arilabs.com]
Sent: Wednesday, April 28, 2010 5:37 PM
To: Vedera, Glen T.; Hafner, William D.
Subject: 04/27/10 Sample Confirmations

Hello,

Please find the above referenced confirmations attached, and let me know

if you have any questions or concerns.

Please note that the archived filter bags for sample NBF-LS431V-042710-S

are currently not frozen, while the others are. Please let me know if that is incorrect, or if anything else seems out of place.

Thanks.

-Eric-

--
Eric Branson
Project Manager
Analytical Resources, Inc.
eric@arilabs.com
(206) 695-6213

www.arilabs.com

Subject: SAIC Filter Bags
From: "Jim Hawk" <jimh@arilabs.com>
Date: Fri, 30 Apr 2010 11:04:31 -0700
To: "Guenna Smith" <guennas@arilabs.com>, "Don Moran" <donm@arilabs.com>, "Eric Branson" <eric@arilabs.com>, "Cheronne Oreiro" <cheronneo@arilabs.com>
Return-Path: <jimh@arilabs.com>
X-Spam-Checker-Version: SpamAssassin 3.2.5 (2008-06-10) on vm1.arilabs.com
X-Spam-Status: No, score=-3.9 required=5.0 tests=ALL_TRUSTED,AWL,BAYES_00, STOX_REPLY_TYPE autolearn=ham version=3.2.5
X-Original-To: eric@arilabs.com
Delivered-To: eric@arilabs.com
Received: from extractsup (unknown [192.168.1.48]) by smtp.arilabs.com (Postfix) with SMTP id 95942192257; Fri, 30 Apr 2010 11:15:09 -0700 (PDT)
Message-ID: <074D1A84DD5145298DBE990A3823DBFF@extractsup>
MIME-Version: 1.0
Content-Type: text/plain; format=flowed; charset="iso-8859-1"; reply-type=original
Content-Transfer-Encoding: 7bit
X-Priority: 3
X-MSMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 6.00.2900.5512
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2900.5579

Good Day All,
   So, we took splits for the filter bags we received (QU49 to be re-logged as QU60) and here is what we got.
   Please cancel metals and Geotech for sample 'H' (no solids).
   Please cancel Geotech for samples F,I,J and K.
   Some of splits we took are limited, so Don and Guenna will need to make the call on those.
       Thanks Much,
--
Jim Hawk
Analytical Resources, Inc.

PRESERVATION VERIFICATION 04/28/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QU59**

PC: Cheronne
VTSR: 04/27/10

Inquiry Number: NONE
Analysis Requested: 04/28/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: JP
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #:
Project: NBF
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-10531 **QU59A**	NBF-MH108-042710-W						DIS PASS									N						
10-10532 **QU59B**	NBF-LS431-042710-W						DIS									N						

Dissolved metals are unpreserved and unfiltered.

SDG 9512

Checked By JP Date 4/28/10

Case Narrative

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QU49, QU59, QU60

prepared
by

Analytical Resources, Inc.

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job No.: QU49, QU59, QU60

Sample Receipt

Twenty-three filter-bag samples and two water samples were received on April 27, 2010 under ARI jobs QU49, QU59, and QU60. The cooler temperatures measured by IR thermometer following ARI SOP were 3.9, 4.6, 4.8, and 5.9°C. Select samples were archived upon receipt. The two water samples were submitted in five gallon carboys. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The carboy water samples were homogenized using fourteen liter churn-splitters and then poured in to individual sample containers for analysis.

Volatile by SW8260C

The samples were analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

Semivolatiles by SW8270D

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The continuing calibration of Pentachlorophenol fell outside the 20% control limit low. All detected results for this compound have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS and LCSD percent recoveries of Pentachlorophenol fell outside the control limits low for **LCS-042910**. No corrective action was taken.

Low-Level Semivolatiles by SW8270D-SIM

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The continuing calibration of 2-Methylnaphthalene was outside the 20% control limit high. All detected results for this compound have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods. Please note the plastic rings were removed before extracting the filter-bag samples.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

The undetected results for several analytes were raised and "Y"-flagged due to interference from the matrix.

Total/Dissolved Metals and Total Mercury

Six to twenty grams of solid material were removed from filter-bag samples to be analyzed for metals and mercury. All samples were digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery of mercury fell outside the control limits low for sample **NBF-MH108A-042710-S**. All relevant data have been flagged with an "N" qualifier on the appropriate Form V. No further corrective action was required.

The matrix spike percent recovery of zinc was outside the control limits high for sample **NBF-MH108A-042710-S**. The sample concentration exceeded the spike concentration by a factor of four or more. No corrective action was required.

The duplicate percent recoveries of chromium, mercury, and zinc were outside the control limit high for sample **MH108A-042710-**S. All relevant data have been flagged with an "*" qualifier on the appropriate Form VI. No further corrective action was required.

Dissolved Low-Level Mercury

The samples were digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery and duplicate RPD were within control limits.

General Chemistry

The samples were prepared and analyzed within method recommended holding times, using internal standards.

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

The SRM percent recoveries were within limits.

The matrix spike percent recoveries were within control limits.

The duplicate RPD of Nitrate was outside the control limit high for sample **NBF-MH108-042710-W**. All other quality control parameters were within control limits for Nitrate. No corrective action was required.

Geotechnical Parameters

Seven to twenty grams of solid material were removed from filter-bags to be analyzed by the geotechnical laboratory. A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science App. International Corp. **ARI Project No.:** QU60

Client Project: NBF

Case Narrative

1. Six samples were received on April 27, 2010.
2. The samples were submitted for grain size analysis by means of X-ray diffraction using a Sedigraph 5120. The values are calculated using Stokes' Law of sedimentation and Beer's law of extinction. The samples were submitted with limited sample volume, and there was not enough sample to split a triplicate.
3. The standard operating procedure calls for the sample to be measured on the #4 (4750 µm) sieve, down to the 0.1 µm particle size with the Sedigraph 5120. If there were no particles measured at these extremes, the data is not included in the report.
4. The sample contained a percentage of organic material. Organic material does not absorb X-rays, and is not included in the fine portion of the analysis.
5. Sample NBF-MH108A-042710-S contained a large amount of fibrous organic material which balled up on each of the sieves during the coarse analysis. In the report, there is a disconnect between the coarse and fine data resulting in a negative number.
6. Due to the apparent high volume of organic material in the sample, some of the fine material data was skewed enough to result in a negative number in the percent retained data for sample NBF-CB173A-042710-S.
7. The data is provided in summary tables and plot.
8. There were no other noted anomalies in the samples or methods on this project.

Approved by: Elizabeth Holle
Technician

Date: May 7, 2010

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

SURR SOLUTIONS

4/3/2010

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1706-2	ABN	100/150	MEOH	07/30/10
B	1633-3	SIM PNA	15/75	MEOH	08/12/10
C	1705-4	SIM ABN	25/37.5	MEOH	03/08/11
D	1689-2	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1634-1	LOW S. PNA	1.5	MEOH	08/12/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1699-1	TPH	450	MECL2	07/02/10
P	1707-4	HCID	2250	MECL2	07/02/10
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					
#project specific					
Y					
Z					

LCS SOLUTIONS

4/3/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#	1472-3	BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1667-1	LOW PEST	0.2/0.4/2	ACETONE	06/26/10
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1705-1	ABN	100	ACETONE	07/01/10
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1642-2	TPHD	15000	ACETONE	09/07/10
12	1698-1	ABN BASE	200	MEOH	07/24/10
13	1613-1	LOW PCB	2	ACETONE	06/08/10
14*	1547-1	LOW ABN ACID	10/20	MEOH	04/10/10
15	1716-2	SIM PNA	15/75	MEOH	03/30/11
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18*	1591-4	LOW SIM PNA	1.5	ACETONE	08/28/10
19	1685-3	AK103	7500	ACETONE	09/03/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1593-3	SKY/BHT	100	MEOH	03/31/10
22	1702-4	HERB	12.5/12500	MEOH	04/17/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#	1481-1	DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#	1684-1	ADD. PEST	4	ACETONE	03/25/10
29#	1496-3	DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

4/3/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Spike Recovery Control Limits for Analysis of Aqueous Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 10 mL Purge Volume [1,7]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI Control Limits	ARI ME Control Limits[2]
LCS Spike Recovery [6]		
tert-Butanol	49 - 150	32 - 167
Metyl-*tert*-butylether	47 - 154	29 - 172
Di-*iso*-propylether	43 - 149	25 - 167
Ethyl-*tert*-butylether	45 - 155	27 - 173
tert-Amyl methylether	52 - 151	35 - 168
Dichlorodifluoromethane	59 - 129	47 - 141
Chloromethane	66 - 123	57 - 133
Vinyl Chloride	68 - 121	59 - 130
Bromomethane	55 - 148	40 - 164
Chloroethane	47 - 155	29 - 173
1,1,2-Trichloro-1,2,2-trifluoroethane	70 - 129	60 - 139
Acrolein	24 170	**10** - 194
Trichlorotrifluoroethane	74 - 127	65 - 136
Acetone	70 - 130	60 - 140
1,1-Dichloroethene	72 - **120**	64 - 127
Bromoethane	73 - 131	63 - 141
Methyl Iodide	34 - 183	**10** - 208
Methylene Chloride	70 - 124	61 - 133
Acrylonitrile	71 - 135	60 - 146
Methyl tert-Butyl Ether	78 - **120**	72 - 122
Carbon Disulfide	66 - 129	56 - 140
trans-1,2-Dichloroethene	76 - **120**	70 - 120
Vinyl Acetate	49 - 134	35 - 148
1,1-Dichloroethane	75 - **120**	68 - 124
2-Butanone	78 - 131	69 - 140
2,2-Dichloropropane	68 - 121	59 - 130
cis-1,2-Dichloroethene	80 - **120**	75 - **120**
Chloroform	78 - **120**	72 - 121
Bromodichloromethane	79 - **120**	73 - **120**
1,1,1-Trichloroethane	76 - **120**	69 - 123
1,1-Dichloropropene	78 - **120**	72 - 120
Carbon Tetrachloride	70 - 126	61 - 135
1,2-Dichloroethane	78 - **120**	72 - **120**
Benzene	79 - **120**	73 - **120**
Trichloroethene	78 - **120**	72 - 122
1,2-Dichloropropane	80 - **120**	75 - **120**
Bromochloromethane	78 - **120**	72 - 124

Dibromomethane	80 - **120**	75 - **120**
2-Chloroethylvinylether	68 - 134	57 - 145
4-Methyl-2-Pentanone	73 - 131	63 - 141
cis-1,3-Dichloropropene	78 - **120**	72 - 121
Toluene	79 - **120**	74 - **120**
trans-1,3-Dichloropropene	75 - **120**	68 - 124
2-Hexanone	75 - 130	66 - 139
1,1,2-Trichloroethane	79 - **120**	74 - **120**
1,3-Dichloropropane	78 - **120**	72 - 120
Tetrachloroethene	72 - **120**	65 - 125
Dibromochloromethane	78 - **120**	71 - 125
Ethylene Dibromide	75 - **120**	68 - 125
Chlorobenzene	79 - **120**	73 - **120**
Ethylbenzene	78 - 121	71 - 128
1,1,2,2-Tetrachloroethane	72 - **120**	64 - 127
m,p-Xylene	65 - 129	54 - 140
o-Xylene	76 - 120	69 - 127
Styrene	74 - 121	66 - 129
Isopropylbenzene	74 - 120	66 - 128
Bromoform	71 - 120	63 - 128
1,1,1,2-Tetrachloroethane	75 - **120**	68 - 126
1,2,3-Trichloropropane	73 - 120	65 - 128
trans-1,4-Dichloro-2-butene	65 - 135	53 - 147
n-Propylbenzene	76 - 121	69 - 129
Bromobenzene	72 - **120**	64 - 126
1,3,5-Trimethylbenzene	74 - 123	66 - 131
2-Chlorotoluene	74 - **120**	67 - 127
4-Chlorotoluene	75 - **120**	68 - 125
tert-Butylbenzene	73 - 121	65 - 129
1,2,4-Trimethylbenzene	73 - 124	65 - 133
sec-Butylbenzene	75 - 123	67 - 131
4-Isopropyltoluene	71 - 125	62 - 134
1,3-Dichlorobenzene	72 - **120**	64 - 127
1,4-Dichlorobenzene	76 - **120**	69 - 123
n-Butylbenzene	72 - 124	63 - 133
1,2-Dichlorobenzene	75 - **120**	68 - 124
1,2-Dibromo-3-chloropropane	67 - 121	58 - 130
1,2,4-Trichlorobenzene	71 - 120	63 - 128
Hexachloro-1,3-butadiene	67 - 124	58 - 134
Naphthalene	71 - 125	62 - 134
1,2,3-Trichlorobenzene	61 - 134	49 - 146
MB/LCS Surrogate Recovery		
Dibromofluoromethane	64 - 133	(3)
d4-1,2-Dichloroethane	70 - 132	(3)
d8-Toluene	**80 - 120**	(3)

4-Bromofluorobenzene	**80 - 120**	(3)
d4-1,2-Dichlorobenzene	**80 - 120**	(3)
Sample Surrogate Recovery		
Dibromofluoromethane	30 - 160 [5]	(3)
d4-1,2-Dichloroethane	**80** - 143	(3)
d8-Toluene	**80 - 120**	(3)
4-Bromofluorobenzene	**80 - 120**	(3)
D4-1,2-Dichlorobenzene	**80** - 120	(3)

(1) Control Limits calculated using all data generated 1/1/08 through 4/15/09.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard[4] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances require corrective action.
(3) Marginal Exceedances not allowed for surrogate standards.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) are adjusted from the calculated values as follows:
a) ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
b) Control limits for analyzes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
LCS Spike Recovery [8]				
Phenol [3]	50 - **100**	43 - 103	16 - **100**	6 - **100**
Bis-(2-chloroethyl) ether	52 - **100**	45 - 105	41 - 112	29 - 124
2-Chlorophenol	56 - **100**	49 - 103	43 - 111	32 - 122
1,3-Dichlorobenzene	23 - **100**	15 - **100**	32 - **100**	22 - 103
1,4-Dichlorobenzene	25 - **100**	17 - **100**	32 - **100**	22 - 103
Benzyl Alcohol	19 - 100	**10** - 114	22 - 100	9 - 113
1,2-Dichlorobenzene	30 - **100**	22 - **100**	34 - **100**	24 - 104
2-Methylphenol	52 - **100**	44 - 106	36 - 110	24 - 122
2,2'-oxybis(1-chloropropane)	32 - 111	19 - 124	29 - 118	14 - 133
4-Methylphenol	53 - 102	45 - 110	38 - 104	27 - 115
N-Nitroso-di-n-propylamine	43 - 104	33 - 114	38 - 115	25 - 128
Hexachloroethane	12 - **100**	**10** - **100**	24 - **100**	13 - 100
Nitrobenzene	33 - 125	18 - 140	45 - 106	35 - 116
Isophorone	57 - 115	47 - 125	55 - 119	44 - 130
2-Nitrophenol	56 - 102	48 - 110	46 - 118	34 - 130
2,4-Dimethyphenol	29 - **100**	20 - **100**	28 - 105	15 - 118
Bis-(2-chloroethoxy) methane	54 - 101	46 - 109	44 - 118	32 - 130
Benzoic Acid [3]	**10** - 131	**10** - 151	11 - **100**	**10** - **100**
2,4-Dichlorophenol	56 - 104	48 - 112	43 - 121	30 - 134
1,2,4-Trichlorobenzene	27 - **100**	18 - **100**	35 - **100**	25 - 107
Naphthalene	45 - **100**	38 - **100**	36 - 111	24 - 124
4-Chloroaniline [3]	**10** - 139	**10** - 161	10 - 174	**10** - 201
2-Chloronaphthalene	45 - **100**	37 - 105	39 - 118	26 - 131
Hexachlorobutadiene	**10** - **100**	**10** - **100**	24 - **100**	12 - 108
4-Chloro-3-methylphenol	53 - 109	44 - 118	45 - 122	32 - 135
2-Methylnaphthalene	46 - **100**	38 - 100	45 - 103	35 - 113
Hexachlorocyclopentadiene	**10** - **100**	**10** - **100**	23 - 108	**10** - 122
2,4,6-Trichlorophenol	58 - 108	50 - 116	48 - 122	36 - 134
2,4,5-Trichlorophenol	58 - 107	50 - 115	48 - 122	36 - 134
2-Nitroaniline	50 - 107	41 - 117	48 - 118	36 - 130
Dimethylphthalate	58 - 107	50 - 115	50 - 120	38 - 132
Acenaphthylene	57 - 100	50 - 107	50 - 119	39 - 131
2,6-Dinitrotoluene	58 - 112	49 - 121	48 - 133	34 - 147
3-Nitroaniline [3]	21 - 150	**10** - 172	54 - 140	40 - 154
Acenaphthene	51 - **100**	43 - 106	41 - 120	28 - 133
2,4-Dinitrophenol	12 - 169	**10** - 195	23 - 176	**10** - 202

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibenzofuran	57 - 100	50 - 107	51 - 114	41 - 125
4-Nitrophenol [3]	35 - 119	21 - 133	13 - **100**	**10** - **100**
2,4-Dinitrotoluene	58 - 117	48 - 127	51 - 134	37 - 148
Fluorene	56 - 104	48 - 112	50 - 120	38 - 132
Diethylphthlalate	52 - 111	42 - 121	48 - 122	36 - 134
4-Chlorophenyl-phenyl ether	55 - 104	47 - 112	50 - 118	39 - 129
4-Nitroaniline	49 - 112	39 - 123	42 - 136	26 - 152
4,6-Dinitro-2-Methylphenol	13 - 139	**10** - 160	32 - 121	17 - 136
N-Nitrosodiphenylamine	60 - 136	47 - 149	58 - 141	44 - 155
4-Bromophenyl-phenyl ether	55 - 103	47 - 111	50 - 122	38 - 134
Hexachlorobenzene	54 - 106	45 - 115	47 - 125	34 - 138
Pentachlorophenol	46 - 114	35 - 125	35 - 130	19 - 146
Phenanthrene	56 - 102	48 - 110	49 - 120	37 - 132
Anthracene	56 - 101	49 - 109	53 - 116	43 - 127
Carbazole	60 - 108	52 - 116	57 - 122	46 - 133
Di-n-butylphthalate	56 - 112	47 - 121	57 - 121	46 - 132
Fluoranthene	57 - 110	48 - 119	56 - 119	46 - 130
Pyrene	48 - 119	36 - 131	37 - 143	19 - 161
Butylbenzylphthalate	51 - 114	41 - 125	34 - 152	14 - 172
Benzo(a)Anthracene	55 - 105	47 - 113	49 - 129	36 - 142
3,3'-Dichlorbenzidine [3]	**10** - 128	**10** - 148	50 - 128	37 - 141
Chrysene	55 - 104	47 - 112	45 - 128	31 - 142
bis(2-Ethylhexyl) phthalate	28 - 164	**10** - 187	57 - 133	44 - 146
Di-n-octylphthalate	57 - 107	49 - 115	52 - 120	41 - 131
Benzo(b)Fluoranthene	53 - 112	43 - 122	50 - 126	37 - 139
Benzo(k)Fluoranthene	50 - 116	39 - 127	49 - 126	36 - 139
Benzo(a)Pyrene	45 - 103	35 - 113	46 - 109	36 - 120
Indeno(1,2,3-cd)Pyrene	35 - 118	21 - 132	34 - 136	17 - 153
Dibenz(a,h)anthracene	42 - 119	29 - 132	41 - 134	26 - 150
Benzo(g,h,i)Perylene	39 - 123	25 - 137	41 - 133	26 - 148
Aniline [3]	**10** - **100**	**10** - **100**	28 - 126	12 - 142
1,2-Diphenylhydrazine /Azobenzene	57 - 109	48 - 118	55 - 119	44 - 130
N-Nitrosodimethylamine	49 - **100**	41 - 104	31 - **100**	21 - 105
1-Methylnaphthalene	46 - **100**	37 - 107	43 - 115	31 - 127
1,4-Dioxane	40 - **100**	30 - 108	30 - 160 [4]	30 - 160 [4]
Pyridine	-	-	25 - **100**	15 - **100**
Tributyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]

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Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibutyl Phenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butyl Diphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Triphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butylated Hydroxytoluene (BHT)	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
MB / LCS Surrogate Recovery				
d4-2-Chlorophenol	53 - 100	(5)	49 - 101	(5)
d4-1,2-Dichlorobenzene	38 - **100**	(5)	40 - **100**	(5)
2,4,6-Tribromophenol	52 - 123	(5)	51 - 122	(5)
2-Fluorophenol	46 - **100**	(5)	31 - **100**	(5)
d5-Phenol [3]	50 - 100	52 - 108	19 - **100**	12 - **100**
d5-Nitrobenzene	46 - 100	(5)	46 - 101	(5)
2-Fluorobiphenyl	49 - **100**	(5)	49 - 103	(5)
d14-p-Terphenyl	53 - 119	(5)	49 - 130	(5)
d8-1,4-Dioxane	45 - **100**	(5)	30 - 160 [4]	(5)
Sample Surrogate Recovery				
d4-2-Chlorophenol	44 - **100**	(5)	23 - 104	(5)
d4-1,2-Dichlorobenzene	32 - **100**	(5)	22 - **100**	(5)
2,4,6-Tribromophenol	48 - 118	(5)	22 - 125	(5)
2-Fluorophenol	38 - **100**	(5)	18 - **100**	(5)
d5-Phenol	41 - **100**	32 - 104	**10** - **100**	17 - **100**
d5-Nitrobenzene	39 - **100**	(5)	21 - 106	(5)
2-Fluorobiphenyl	42 - **100**	(5)	26 - 104	(5)
d14-p-Terphenyl	26 - 114	(5)	11 - 132	(5)
d8-1,4-Dioxane	32 - **100**	(5)	30 - 160 [4]	(5)

(1) Control Limits calculated using all data generated 1/1/07 through 12/1/07.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [6] as beyond the CL but still within the ME limits. ARI defines ME limits as between 3 and 4 standard deviations around the mean with upper limit ≥ 100%. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances in an analysis require corrective action.
(3) These are "**poor performers**" defined in the DoD QSM[7] as compounds that "produce low mean recoveries and high standard deviations, resulting in wide LCS control limits with particularly low lower control limits (sometimes-negative values). ARI does not control batch acceptance based on these compounds since there is a high level of uncertainty in their recovery."
(4) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(5) Marginal Exceedances not allowed for surrogate unless it is a "poor performer".
(6) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(7) Page 182 of: **Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 Final, March 2005** Prepared By Environmental Data Quality Workgroup, Department of Navy, Lead Service (Based On National Environmental Laboratory Accreditation Conference (NELAC) Chapter 5 (Quality Systems) NELAC Voted Version – 5 June 2003
(8) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(9) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

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Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified Low Level Aqueous Samples[1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Volume / Final Volume	500 mL to 0.5 mL	
	Control Limits	**ME Limits [2]**
LCS Spike Recovery [6]		
Napthalene	41 - 101	31 - 111
2-Methylnapthalene	47 - **100**	39 - 103
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	35 - **100**	25 - 104
Acenapthene	43 - 104	33 - 114
Dibenzofuran	37 - **100**	27 - 108
Fluorene	51 - 103	42 - 112
Phenanthrene	55 - 109	46 - 118
Anthracene	30 - 101	18 - 113
Fluoranthene	49 - 123	37 - 135
Pyrene	48 - 120	36 - 132
Benz(a)anthracene	43 - 113	31 - 125
Chrysene	59 - 112	50 - 121
Benzo(b)fluoranthene	44 - 121	31 - 134
Benzo(k)fluoranthene	50 - 117	39 - 128
Benzo(a)pyrene	**10** - **100**	**10** - 109
Indeno(1,2,3-cd)pyrene	43 - 112	32 - 124
Dibenzo(a,h)anthracene	42 - 114	30 - 126
Benzo(g,h,i)perylene	31 - 118	17 - 133
MB / LCS Surrogate Recovery		
d10-2-Methylnaphthalene	42 - **100**	(4)
d14-Dibenzo(a,h)anthracene	40 - 125	(4)
Sample Surrogate Recovery		
d10-2-Methylnaphthalene	31 - 109	(4)
d14-Dibenzo(a,h)anthracene	**10** - 133	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/1/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6)Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

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Spike Recovery Control Limits Analysis of PCB / Aroclors in Aqueous Samples - EPA SW-846 Methods 8081 & 8082 [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Analytical Method:	Standard Analysis	MTCA Analysis	Low Level Analysis	Manchester Extraction
Sample Weight / Final Volume:	500 / 5 mL	500 / 1 mL	1000 / 0.5 mL	3000 / 1 mL
LCS Spike Recovery [4]				
Aroclor 1016	45 - 121	36 - **100**	44 - 117	30 - 160[3]
Aroclor 1260	54 - 129	41 - 113	46 - 131	30 - 160[3]
Method Blank/LCS Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	40 - 118	29 - **100**	31 - **100**	30 - 160[3]
Decachlorobiphenyl	41 - 111	35 - 116	32 - 108	30 - 160[3]
Sample Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	38 - 118	25 - **100**	21 - **100**	30 - 160[3]
Decachlorobiphenyl	29 - 118	**10** - 128	19 - 111	30 - 160[3]

(1) Control Limits calculated using all data generated 1/1/08 through 12/1/08.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Summary of Laboratory Control Limits

Default limits of 30-160% recovery and 30% RPD apply for all organic analytes when laboratory generated control limits are not available on ARI's web site. Default limits for all inorganic analytes are 75-125% recovery and 25% RPD.

ARI's laboratory generated Quality Control Limits may be superseded by project specific data quality objectives (DQO) provided by ARI's clients. The use of project specific DQO must be approved by ARI's Laboratory and QA Program Managers.

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Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QU49, QU59, QU60

prepared
by

Analytical Resources, Inc.

VOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-MH108-042710-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QU49A QC Report No: QU49-Science App. International Corp
LIMS ID: 10-10470 Project: NBF
Matrix: Water
Data Release Authorized: Date Sampled: 04/27/10
Reported: 05/03/10 Date Received: 04/27/10

Instrument/Analyst: NT10/PKC Sample Amount: 10.0 mL
Date Analyzed: 04/29/10 12:30 Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**1.5**	
67-64-1	**Acetone**	**5.0**	**9.0**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**12**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

Lab Sample ID: QU49A QC Report No: QU49-Science App. International Corp
LIMS ID: 10-10470 Project: NBF
Matrix: Water
Date Analyzed: 04/29/10 12:30

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	124%
d8-Toluene	102%
Bromofluorobenzene	106%
d4-1,2-Dichlorobenzene	103%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-LS431-042710-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QU49B QC Report No: QU49-Science App. International Corp
LIMS ID: 10-10471 Project: NBF
Matrix: Water
Data Release Authorized: Date Sampled: 04/27/10
Reported: 05/03/10 Date Received: 04/27/10

Instrument/Analyst: NT10/PKC Sample Amount: 10.0 mL
Date Analyzed: 04/29/10 12:56 Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**1.2**	
67-64-1	**Acetone**	**5.0**	**9.6**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**10**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

Lab Sample ID: QU49B QC Report No: QU49-Science App. International Corp
LIMS ID: 10-10471 Project: NBF
Matrix: Water
Date Analyzed: 04/29/10 12:56

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	128%
d8-Toluene	100%
Bromofluorobenzene	106%
d4-1,2-Dichlorobenzene	104%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QU49-Science App. International Corp
Project: NBF

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-042910	Method Blank	10	127%	102%	107%	104%	0
LCS-042910	Lab Control	10	125%	104%	105%	100%	0
LCSD-042910	Lab Control Dup	10	126%	102%	106%	102%	0
QU49A	NBF-MH108-042710-W	10	124%	102%	106%	103%	0
QU49B	NBF-LS431-042710-W	10	128%	100%	106%	104%	0

	LCS/MB LIMITS	QC LIMITS
SW8260C		
(DCE) = d4-1,2-Dichloroethane	70-132	80-143
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 10-10470 to 10-10471

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-042910**
Page 1 of 2 **LAB CONTROL SAMPLE**

Lab Sample ID: LCS-042910 QC Report No: QU49-Science App. International Corp
LIMS ID: 10-10470 Project: NBF
Matrix: Water
Data Release Authorized:
Reported: 05/03/10 Date Received: NA

Instrument/Analyst LCS: NT10/PKC Sample Amount LCS: 10.0 mL
LCSD: NT10/PKC LCSD: 10.0 mL
Date Analyzed LCS: 04/29/10 10:07 Purge Volume LCS: 10.0 mL
LCSD: 04/29/10 10:33 LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	11.4	10.0	114%	11.3	10.0	113%	0.9%
Bromomethane	11.4	10.0	114%	10.3	10.0	103%	10.1%
Vinyl Chloride	10.5	10.0	105%	10.6	10.0	106%	0.9%
Chloroethane	12.3	10.0	123%	11.4	10.0	114%	7.6%
Methylene Chloride	11.0	10.0	110%	10.7	10.0	107%	2.8%
Acetone	58.6	50.0	117%	58.0	50.0	116%	1.0%
Carbon Disulfide	10.7	10.0	107%	10.5	10.0	105%	1.9%
1,1-Dichloroethene	9.4	10.0	94.0%	9.3	10.0	93.0%	1.1%
1,1-Dichloroethane	11.4	10.0	114%	11.3	10.0	113%	0.9%
trans-1,2-Dichloroethene	10.6	10.0	106%	10.5	10.0	105%	0.9%
cis-1,2-Dichloroethene	10.5	10.0	105%	10.4	10.0	104%	1.0%
Chloroform	11.1	10.0	111%	10.9	10.0	109%	1.8%
1,2-Dichloroethane	10.8	10.0	108%	10.9	10.0	109%	0.9%
2-Butanone	54.4	50.0	109%	55.2	50.0	110%	1.5%
1,1,1-Trichloroethane	11.1	10.0	111%	10.9	10.0	109%	1.8%
Carbon Tetrachloride	10.2	10.0	102%	9.9	10.0	99.0%	3.0%
Vinyl Acetate	11.8	10.0	118%	11.9	10.0	119%	0.8%
Bromodichloromethane	10.2	10.0	102%	10.3	10.0	103%	1.0%
1,2-Dichloropropane	10.8	10.0	108%	10.9	10.0	109%	0.9%
cis-1,3-Dichloropropene	10.5	10.0	105%	10.4	10.0	104%	1.0%
Trichloroethene	10.6	10.0	106%	9.8	10.0	98.0%	7.8%
Dibromochloromethane	9.5	10.0	95.0%	9.7	10.0	97.0%	2.1%
1,1,2-Trichloroethane	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
Benzene	10.3	10.0	103%	10.4	10.0	104%	1.0%
trans-1,3-Dichloropropene	10.8	10.0	108%	10.7	10.0	107%	0.9%
2-Chloroethylvinylether	10.7	10.0	107%	10.6	10.0	106%	0.9%
Bromoform	9.1	10.0	91.0%	9.1	10.0	91.0%	0.0%
4-Methyl-2-Pentanone (MIBK)	56.3	50.0	113%	56.4	50.0	113%	0.2%
2-Hexanone	57.0	50.0	114%	57.6	50.0	115%	1.0%
Tetrachloroethene	9.0	10.0	90.0%	9.1	10.0	91.0%	1.1%
1,1,2,2-Tetrachloroethane	10.4	10.0	104%	10.4	10.0	104%	0.0%
Toluene	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
Chlorobenzene	9.7	10.0	97.0%	9.7	10.0	97.0%	0.0%
Ethylbenzene	10.3	10.0	103%	10.2	10.0	102%	1.0%
Styrene	9.9	10.0	99.0%	9.9	10.0	99.0%	0.0%
Trichlorofluoromethane	10.8	10.0	108%	9.4	10.0	94.0%	13.9%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.4	10.0	104%	10.4	10.0	104%	0.0%
m,p-Xylene	20.1	20.0	100%	20.2	20.0	101%	0.5%
o-Xylene	10.2	10.0	102%	10.3	10.0	103%	1.0%
1,2-Dichlorobenzene	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
1,3-Dichlorobenzene	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
1,4-Dichlorobenzene	9.7	10.0	97.0%	9.7	10.0	97.0%	0.0%
Acrolein	58.3	50.0	117%	57.6	50.0	115%	1.2%
Methyl Iodide	10.0	10.0	100%	9.3	10.0	93.0%	7.3%
Bromoethane	10.8	10.0	108%	9.5	10.0	95.0%	12.8%

FORM III

Lab Sample ID: LCS-042910 QC Report No: QU49-Science App. International Corp
LIMS ID: 10-10470 Project: NBF
Matrix: Water

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Acrylonitrile	11.9	10.0	119%	12.0	10.0	120%	0.8%
1,1-Dichloropropene	10.5	10.0	105%	10.5	10.0	105%	0.0%
Dibromomethane	10.1	10.0	101%	10.2	10.0	102%	1.0%
1,1,1,2-Tetrachloroethane	9.6	10.0	96.0%	9.8	10.0	98.0%	2.1%
1,2-Dibromo-3-chloropropane	11.5	10.0	115%	12.0	10.0	120%	4.3%
1,2,3-Trichloropropane	10.0	10.0	100%	10.1	10.0	101%	1.0%
trans-1,4-Dichloro-2-butene	11.9	10.0	119%	11.8	10.0	118%	0.8%
1,3,5-Trimethylbenzene	10.6	10.0	106%	10.6	10.0	106%	0.0%
1,2,4-Trimethylbenzene	10.8	10.0	108%	10.7	10.0	107%	0.9%
Hexachlorobutadiene	10.4	10.0	104%	10.4	10.0	104%	0.0%
Ethylene Dibromide	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
Bromochloromethane	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
2,2-Dichloropropane	12.0	10.0	120%	11.4	10.0	114%	5.1%
1,3-Dichloropropane	10.4	10.0	104%	10.5	10.0	105%	1.0%
Isopropylbenzene	10.4	10.0	104%	10.3	10.0	103%	1.0%
n-Propylbenzene	10.6	10.0	106%	10.4	10.0	104%	1.9%
Bromobenzene	9.2	10.0	92.0%	9.1	10.0	91.0%	1.1%
2-Chlorotoluene	10.5	10.0	105%	10.4	10.0	104%	1.0%
4-Chlorotoluene	10.4	10.0	104%	10.3	10.0	103%	1.0%
tert-Butylbenzene	10.5	10.0	105%	10.5	10.0	105%	0.0%
sec-Butylbenzene	10.8	10.0	108%	10.9	10.0	109%	0.9%
4-Isopropyltoluene	10.8	10.0	108%	10.7	10.0	107%	0.9%
n-Butylbenzene	11.4	10.0	114%	11.3	10.0	113%	0.9%
1,2,4-Trichlorobenzene	11.1	10.0	111%	11.2	10.0	112%	0.9%
Naphthalene	11.4	10.0	114%	11.8	10.0	118%	3.4%
1,2,3-Trichlorobenzene	11.5	10.0	115%	12.0	10.0	120%	4.3%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	125%	126%
d8-Toluene	104%	102%
Bromofluorobenzene	105%	106%
d4-1,2-Dichlorobenzene	100%	102%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0429

Lab Name: ANALYTICAL RESOURCES, INC | Client: SCIENCE APP. INTERNATION

ARI Job No: QU49 | Project: NBF

Lab File ID: MB0429 | Lab Sample ID: MB0429

Date Analyzed: 04/29/10 | Time Analyzed: 1059

Instrument ID: NT10 | Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0429	LCS0429	LCS0429	1007
02	LCSD0429	LCSD0429	LCSD0429	1033
03	NBF-MH108-04	QU49A	QU49A	1230
04	NBF-LS431-04	QU49B	QU49B	1256
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-042910**
 METHOD BLANK

Lab Sample ID: MB-042910 QC Report No: QU49-Science App. International Corp
LIMS ID: 10-10470 Project: NBF
Matrix: Water
Data Release Authorized: Date Sampled: NA
Reported: 05/03/10 Date Received: NA

Instrument/Analyst: NT10/PKC Sample Amount: 10.0 mL
Date Analyzed: 04/29/10 10:59 Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.5	< 0.5	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-042910**
 METHOD BLANK

Lab Sample ID: MB-042910 QC Report No: QU49-Science App. International Corp
LIMS ID: 10-10470 Project: NBF
Matrix: Water
Date Analyzed: 04/29/10 10:59

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	127%
d8-Toluene	102%
Bromofluorobenzene	107%
d4-1,2-Dichlorobenzene	104%

SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: NBF-MH108-042710-W
SAMPLE

QC Report No: QU49-Science App. International Corp
Project: NBF
NA
Date Sampled: 04/27/10
Date Received: 04/27/10

Lab Sample ID: QU49A
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/04/10

Date Extracted: 04/29/10
Date Analyzed: 05/03/10 19:30
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	5.0	< 5.0 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	5.0	< 5.0 U
87-86-5	Pentachlorophenol	1.0	< 1.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	**1.0**	**1.3**
84-74-2	**Di-n-Butylphthalate**	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: NBF-MH108-042710-W
SAMPLE

Lab Sample ID: QU49A
LIMS ID: 10-10470
Matrix: Water
Date Analyzed: 05/03/10 19:30

QC Report No: QU49-Science App. International Corp
Project: NBF
NA

CAS Number	Analyte	RL	Result
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	65.6%	2-Fluorobiphenyl	62.4%
d14-p-Terphenyl	57.2%	d4-1,2-Dichlorobenzene	52.8%
d5-Phenol	60.8%	2-Fluorophenol	59.7%
2,4,6-Tribromophenol	70.4%	d4-2-Chlorophenol	65.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: NBF-LS431-042710-W
SAMPLE

Lab Sample ID: QU49B
LIMS ID: 10-10471
Matrix: Water
Data Release Authorized:
Reported: 05/04/10

QC Report No: QU49-Science App. International Corp
Project: NBF
NA
Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 04/29/10
Date Analyzed: 05/03/10 20:03
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**1.0**	**1.8**
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: NBF-LS431-042710-W
SAMPLE

QC Report No: QU49-Science App. International Corp
Project: NBF
NA

Lab Sample ID: QU49B
LIMS ID: 10-10471
Matrix: Water
Date Analyzed: 05/03/10 20:03

CAS Number	Analyte	RL	Result
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	70.8%	2-Fluorobiphenyl	66.4%
d14-p-Terphenyl	72.4%	d4-1,2-Dichlorobenzene	55.6%
d5-Phenol	66.7%	2-Fluorophenol	64.5%
2,4,6-Tribromophenol	85.6%	d4-2-Chlorophenol	70.4%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QU49-Science App. International Corp
Project: NBF

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MB-042910	82.0%	77.6%	89.2%	68.4%	79.7%	80.0%	85.1%	83.7%	0
LCS-042910	91.2%	86.4%	83.2%	76.4%	85.1%	85.3%	81.3%	92.3%	0
LCSD-042910	76.8%	79.6%	78.4%	62.4%	76.5%	72.0%	75.2%	75.2%	0
NBF-MH108-042710-W	65.6%	62.4%	57.2%	52.8%	60.8%	59.7%	70.4%	65.9%	0
NBF-LS431-042710-W	70.8%	66.4%	72.4%	55.6%	66.7%	64.5%	85.6%	70.4%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 10-10470 to 10-10471

FORM-II SW8270

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: LCS-042910
LCS/LCSD

Lab Sample ID: LCS-042910
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/04/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted LCS/LCSD: 04/29/10

Date Analyzed LCS: 05/03/10 18:25
LCSD: 05/03/10 18:58
Instrument/Analyst LCS: NT6/JZ
LCSD: NT6/JZ

GPC Cleanup: NO

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	18.4	25.0	73.6%	16.2	25.0	64.8%	12.7%
1,4-Dichlorobenzene	13.6	25.0	54.4%	10.6	25.0	42.4%	24.8%
Benzyl Alcohol	47.4	50.0	94.8%	42.7	50.0	85.4%	10.4%
1,2-Dichlorobenzene	14.2	25.0	56.8%	11.7	25.0	46.8%	19.3%
2-Methylphenol	18.3	25.0	73.2%	16.4	25.0	65.6%	11.0%
4-Methylphenol	37.6	50.0	75.2%	33.8	50.0	67.6%	10.6%
2,4-Dimethylphenol	13.2	25.0	52.8%	12.0	25.0	48.0%	9.5%
Benzoic Acid	53.6	75.0	71.5%	51.0	75.0	68.0%	5.0%
1,2,4-Trichlorobenzene	14.3	25.0	57.2%	11.9	25.0	47.6%	18.3%
Naphthalene	17.8	25.0	71.2%	15.4	25.0	61.6%	14.5%
Hexachlorobutadiene	10.1	25.0	40.4%	8.1	25.0	32.4%	21.5%
2-Methylnaphthalene	15.6	25.0	62.4%	14.0	25.0	56.0%	10.8%
Dimethylphthalate	20.4	25.0	81.6%	20.1	25.0	80.4%	1.5%
Acenaphthylene	19.6	25.0	78.4%	19.0	25.0	76.0%	3.1%
Acenaphthene	18.1	25.0	72.4%	17.6	25.0	70.4%	2.8%
Dibenzofuran	19.4	25.0	77.6%	18.4	25.0	73.6%	5.3%
Diethylphthalate	19.6	25.0	78.4%	19.5	25.0	78.0%	0.5%
Fluorene	18.6	25.0	74.4%	18.3	25.0	73.2%	1.6%
N-Nitrosodiphenylamine	20.8	25.0	83.2%	21.0	25.0	84.0%	1.0%
Hexachlorobenzene	17.7	25.0	70.8%	17.1	25.0	68.4%	3.4%
Pentachlorophenol	8.4 Q	25.0	33.6%	8.2 Q	25.0	32.8%	1.2%
Phenanthrene	21.0	25.0	84.0%	20.5	25.0	82.0%	2.4%
Anthracene	20.1	25.0	80.4%	19.7	25.0	78.8%	2.0%
Di-n-Butylphthalate	22.5	25.0	90.0%	21.6	25.0	86.4%	4.1%
Fluoranthene	21.1	25.0	84.4%	20.3	25.0	81.2%	3.9%
Pyrene	20.3	25.0	81.2%	20.2	25.0	80.8%	0.5%
Butylbenzylphthalate	21.2	25.0	84.8%	21.0	25.0	84.0%	0.9%
Benzo(a)anthracene	21.6	25.0	86.4%	21.1	25.0	84.4%	2.3%
bis(2-Ethylhexyl)phthalate	20.2	25.0	80.8%	20.2	25.0	80.8%	0.0%
Chrysene	20.9	25.0	83.6%	20.8	25.0	83.2%	0.5%
Di-n-Octyl phthalate	20.4	25.0	81.6%	20.2	25.0	80.8%	1.0%
Benzo(b)fluoranthene	21.7	25.0	86.8%	21.4	25.0	85.6%	1.4%
Benzo(k)fluoranthene	21.7	25.0	86.8%	21.4	25.0	85.6%	1.4%
Benzo(a)pyrene	19.2	25.0	76.8%	19.4	25.0	77.6%	1.0%
Indeno(1,2,3-cd)pyrene	20.5	25.0	82.0%	20.3	25.0	81.2%	1.0%
Dibenz(a,h)anthracene	21.1	25.0	84.4%	20.7	25.0	82.8%	1.9%
Benzo(g,h,i)perylene	20.5	25.0	82.0%	20.0	25.0	80.0%	2.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-042910
LCS/LCSD

QC Report No: QU49-Science App. International Corp
Project: NBF

Lab Sample ID: LCS-042910
LIMS ID: 10-10470
Matrix: Water
Date Analyzed LCS: 05/03/10 18:25
LCSD: 05/03/10 18:58

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	91.2%	76.8%
2-Fluorobiphenyl	86.4%	79.6%
d14-p-Terphenyl	83.2%	78.4%
d4-1,2-Dichlorobenzene	76.4%	62.4%
d5-Phenol	85.1%	76.5%
2-Fluorophenol	85.3%	72.0%
2,4,6-Tribromophenol	81.3%	75.2%
d4-2-Chlorophenol	92.3%	75.2%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QU49MBW1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: QU49 Project: NBF

Lab File ID: 05031002 Date Extracted: 04/29/10

Instrument ID: NT6 Date Analyzed: 05/03/10

Matrix: LIQUID Time Analyzed: 1753

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QU49LCSW1	QU49LCSW1	05031003	05/03/10
02	QU49LCSDW1	QU49LCSDW1	05031004	05/03/10
03	NBF-MH108-042710	QU49A	05031005	05/03/10
04	NBF-LS431-042710	QU49B	05031006	05/03/10
05				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-042910
METHOD BLANK

Lab Sample ID: MB-042910
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/04/10

QC Report No: QU49-Science App. International Corp
Project: NBF
NA
Date Sampled: NA
Date Received: NA

Date Extracted: 04/29/10
Date Analyzed: 05/03/10 17:53
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-042910
METHOD BLANK

Lab Sample ID: MB-042910
LIMS ID: 10-10470
Matrix: Water
Date Analyzed: 05/03/10 17:53

QC Report No: QU49-Science App. International Corp
Project: NBF
NA

CAS Number	Analyte	RL	Result
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	82.0%	2-Fluorobiphenyl	77.6%
d14-p-Terphenyl	89.2%	d4-1,2-Dichlorobenzene	68.4%
d5-Phenol	79.7%	2-Fluorophenol	80.0%
2,4,6-Tribromophenol	85.1%	d4-2-Chlorophenol	83.7%

SIM SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-MH108-042710-W
SAMPLE

Lab Sample ID: QU49A
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU49-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 04/29/10
Date Analyzed: 05/08/10 15:04
Instrument/Analyst: NT2/YZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.014**
91-57-6	**2-Methylnaphthalene**	**0.010**	**0.010 Q**
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	**Phenanthrene**	**0.010**	**0.064**
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	**Fluoranthene**	**0.010**	**0.12**
129-00-0	**Pyrene**	**0.010**	**0.053**
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	**Chrysene**	**0.010**	**0.026**
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	53.0%
d14-Dibenzo(a,h)anthracene	36.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
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Sample ID: NBF-LS431-042710-W
SAMPLE

Lab Sample ID: QU49B
LIMS ID: 10-10471
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU49-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 04/29/10
Date Analyzed: 05/08/10 15:27
Instrument/Analyst: NT2/YZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.020**
91-57-6	**2-Methylnaphthalene**	**0.010**	**0.021 Q**
90-12-0	**1-Methylnaphthalene**	**0.010**	**0.017**
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	**Acenaphthene**	**0.010**	**0.022**
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	**Phenanthrene**	**0.010**	**0.056**
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	**Fluoranthene**	**0.010**	**0.13**
129-00-0	**Pyrene**	**0.010**	**0.064**
56-55-3	**Benzo(a)anthracene**	**0.010**	**0.017**
218-01-9	**Chrysene**	**0.010**	**0.069**
205-99-2	**Benzo(b)fluoranthene**	**0.010**	**0.042**
207-08-9	**Benzo(k)fluoranthene**	**0.010**	**0.042**
50-32-8	**Benzo(a)pyrene**	**0.010**	**0.030**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.010**	**0.028**
53-70-3	**Dibenz(a,h)anthracene**	**0.010**	**0.010**
191-24-2	**Benzo(g,h,i)perylene**	**0.010**	**0.031**
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	56.0%
d14-Dibenzo(a,h)anthracene	60.0%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QU49-Science App. International Corp
Project: NBF

Client ID	MNP	DBA	TOT OUT
MB-042910	69.7%	69.0%	0
LCS-042910	66.7%	71.3%	0
LCSD-042910	64.3%	74.0%	0
NBF-MH108-042710-W	53.0%	36.7%	0
NBF-LS431-042710-W	56.0%	60.0%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(42-100)	(31-109)
(DBA) = d14-Dibenzo(a,h)anthracene	(40-125)	(10-133)

Prep Method: SW3520C
Log Number Range: 10-10470 to 10-10471

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
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Sample ID: LCS-042910
LAB CONTROL SAMPLE

Lab Sample ID: LCS-042910
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU49-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 04/29/10

Date Analyzed LCS: 05/08/10 14:17
LCSD: 05/08/10 14:40
Instrument/Analyst LCS: NT2/YZ
LCSD: NT2/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	0.157	0.300	52.3%	0.161	0.300	53.7%	2.5%
2-Methylnaphthalene	0.194 Q	0.300	64.7%	0.196 Q	0.300	65.3%	1.0%
1-Methylnaphthalene	0.191	0.300	63.7%	0.189	0.300	63.0%	1.1%
Acenaphthylene	0.183	0.300	61.0%	0.176	0.300	58.7%	3.9%
Acenaphthene	0.182	0.300	60.7%	0.178	0.300	59.3%	2.2%
Fluorene	0.202	0.300	67.3%	0.196	0.300	65.3%	3.0%
Phenanthrene	0.209	0.300	69.7%	0.198	0.300	66.0%	5.4%
Anthracene	0.202	0.300	67.3%	0.194	0.300	64.7%	4.0%
Fluoranthene	0.227	0.300	75.7%	0.219	0.300	73.0%	3.6%
Pyrene	0.223	0.300	74.3%	0.216	0.300	72.0%	3.2%
Benzo(a)anthracene	0.234	0.300	78.0%	0.224	0.300	74.7%	4.4%
Chrysene	0.229	0.300	76.3%	0.243	0.300	81.0%	5.9%
Benzo(b)fluoranthene	0.255	0.300	85.0%	0.266	0.300	88.7%	4.2%
Benzo(k)fluoranthene	0.192	0.300	64.0%	0.190	0.300	63.3%	1.0%
Benzo(a)pyrene	0.172	0.300	57.3%	0.188	0.300	62.7%	8.9%
Indeno(1,2,3-cd)pyrene	0.190	0.300	63.3%	0.204	0.300	68.0%	7.1%
Dibenz(a,h)anthracene	0.205	0.300	68.3%	0.217	0.300	72.3%	5.7%
Benzo(g,h,i)perylene	0.176	0.300	58.7%	0.192	0.300	64.0%	8.7%
Dibenzofuran	0.184	0.300	61.3%	0.178	0.300	59.3%	3.3%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	66.7%	64.3%
d14-Dibenzo(a,h)anthracene	71.3%	74.0%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QU49MBW1

Lab Name: ANALYTICAL RESOURCES, INC

Client: SAIC

ARI Job No: QU49

Project: NBF

Lab File ID: QU49MB1

Date Extracted: 04/29/10

Instrument ID: NT2

Date Analyzed: 05/08/10

Matrix: LIQUID

Time Analyzed: 1354

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QU49LCSW1	QU49LCSW1	QU49SB1	05/08/10
02	QU49LCSDW1	QU49LCSDW1	QU49SBD	05/08/10
03	NBF-MH108-042710	QU49A	QU49A	05/08/10
04	NBF-LS431-042710	QU49B	QU49B	05/08/10
05				
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09				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS

Sample ID: MB-042910
METHOD BLANK

Lab Sample ID: MB-042910
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU49-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 04/29/10
Date Analyzed: 05/08/10 13:54
Instrument/Analyst: NT2/YZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	69.7%
d14-Dibenzo(a,h)anthracene	69.0%

PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108-042710-W
SAMPLE

Lab Sample ID: QU49A
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 04/30/10
Date Analyzed: 05/03/10 19:16
Instrument/Analyst: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.038	< 0.038 Y
11097-69-1	**Aroclor 1254**	**0.010**	**0.027**
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	105%
Tetrachlorometaxylene	79.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431-042710-W
SAMPLE

Lab Sample ID: QU49B
LIMS ID: 10-10471
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 04/30/10
Date Analyzed: 05/06/10 11:37
Instrument/Analyst: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.024	< 0.024 Y
11097-69-1	**Aroclor 1254**	**0.010**	**0.016**
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	96.8%
Tetrachlorometaxylene	68.8%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QU49-Science App. International Corp
Project: NBF

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-043010	99.2%	32-108	76.8%	31-100	0
LCS-043010	99.2%	32-108	77.8%	31-100	0
LCSD-043010	103%	32-108	79.0%	31-100	0
NBF-MH108-042710-W	105%	19-111	79.2%	21-100	0
NBF-LS431-042710-W	96.8%	19-111	68.8%	21-100	0

Prep Method: SW3510C
Log Number Range: 10-10470 to 10-10471

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-043010
LCS/LCSD

Lab Sample ID: LCS-043010
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 04/30/10

Date Analyzed LCS: 05/03/10 18:28
LCSD: 05/03/10 18:52
Instrument/Analyst LCS: ECD7/AAR
LCSD: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1000 mL
LCSD: 1000 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.042	0.050	84.0%	0.044	0.050	88.0%	4.7%
Aroclor 1260	0.041	0.050	82.0%	0.044	0.050	88.0%	7.1%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	99.2%	103%
Tetrachlorometaxylene	77.8%	79.0%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QU49MBW1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QU49
Project: NBF

Lab Sample ID: QU49MBW1
Lab File ID: 0503A021

Date Extracted: 04/30/10
Matrix: LIQUID

Date Analyzed: 05/03/10
Instrument ID: ECD7

Time Analyzed: 1805
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QU49LCSW1	QU49LCSW1	05/03/10
02	QU49LCSDW1	QU49LCSDW1	05/03/10
03	NBF-MH108-042710-W	QU49A	05/03/10
04	NBF-LS431-042710-W	QU49B	05/06/10

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-043010
METHOD BLANK

Lab Sample ID: MB-043010
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted: 04/30/10
Date Analyzed: 05/03/10 18:05
Instrument/Analyst: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	99.2%
Tetrachlorometaxylene	76.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108A-042710-S
SAMPLE

Lab Sample ID: QU49E
LIMS ID: 10-10474
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/12/10 04:00
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	18	< 18 Y
11097-69-1	**Aroclor 1254**	**1.0**	**30**
11096-82-5	**Aroclor 1260**	**1.0**	**5.6**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	88.5%
Tetrachlorometaxylene	88.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH434A-042710-S
SAMPLE

Lab Sample ID: QU49F
LIMS ID: 10-10475
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/12/10 04:23
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	3.8	< 3.8 Y
11097-69-1	**Aroclor 1254**	**1.0**	**5.9**
11096-82-5	**Aroclor 1260**	**1.0**	**3.6**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	95.0%
Tetrachlorometaxylene	124%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431A-042710-S
SAMPLE

Lab Sample ID: QU49G
LIMS ID: 10-10476
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/12/10 04:47
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 20.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.0	< 2.0 U
53469-21-9	Aroclor 1242	2.0	< 2.0 U
12672-29-6	Aroclor 1248	7.5	< 7.5 Y
11097-69-1	**Aroclor 1254**	**2.0**	**11**
11096-82-5	**Aroclor 1260**	**2.0**	**2.3**
11104-28-2	Aroclor 1221	2.0	< 2.0 U
11141-16-5	Aroclor 1232	2.0	< 2.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	91.6%
Tetrachlorometaxylene	101%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-CB423A-042710-S
SAMPLE

Lab Sample ID: QU49H
LIMS ID: 10-10478
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 03/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/12/10 05:10
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.5	< 0.5 U
53469-21-9	Aroclor 1242	0.5	< 0.5 U
12672-29-6	Aroclor 1248	0.5	< 0.5 U
11097-69-1	Aroclor 1254	0.5	< 0.5 U
11096-82-5	Aroclor 1260	0.5	< 0.5 U
11104-28-2	Aroclor 1221	0.5	< 0.5 U
11141-16-5	Aroclor 1232	0.5	< 0.5 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	80.2%
Tetrachlorometaxylene	92.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH356A-042710-S
SAMPLE

Lab Sample ID: QU49I
LIMS ID: 10-10479
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/11/10 23:17
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 25.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.5	< 2.5 U
53469-21-9	Aroclor 1242	2.5	< 2.5 U
12672-29-6	Aroclor 1248	6.2	< 6.2 Y
11097-69-1	**Aroclor 1254**	**2.5**	**12**
11096-82-5	**Aroclor 1260**	**2.5**	**4.2**
11104-28-2	Aroclor 1221	2.5	< 2.5 U
11141-16-5	Aroclor 1232	2.5	< 2.5 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	101%
Tetrachlorometaxylene	111%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
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Sample ID: NBF-MH369A-042710-S
SAMPLE

Lab Sample ID: QU49J
LIMS ID: 10-10480
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/11/10 23:40
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 25.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.5	< 2.5 U
53469-21-9	Aroclor 1242	2.5	< 2.5 U
12672-29-6	Aroclor 1248	2.5	< 2.5 U
11097-69-1	**Aroclor 1254**	**2.5**	**8.6**
11096-82-5	**Aroclor 1260**	**2.5**	**7.9**
11104-28-2	Aroclor 1221	2.5	< 2.5 U
11141-16-5	Aroclor 1232	2.5	< 2.5 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	97.5%
Tetrachlorometaxylene	115%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH226A-042710-S
SAMPLE

Lab Sample ID: QU49K
LIMS ID: 10-10481
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/12/10 00:04
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.5	< 1.5 Y
11097-69-1	**Aroclor 1254**	**1.0**	**3.3**
11096-82-5	**Aroclor 1260**	**1.0**	**3.7**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	83.5%
Tetrachlorometaxylene	83.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH152A-042710-S
SAMPLE

Lab Sample ID: QU49L
LIMS ID: 10-10482
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/12/10 00:28
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 50.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	5.0	< 5.0 U
53469-21-9	Aroclor 1242	5.0	< 5.0 U
12672-29-6	Aroclor 1248	25	< 25 Y
11097-69-1	**Aroclor 1254**	**5.0**	**33**
11096-82-5	**Aroclor 1260**	**5.0**	**5.6**
11104-28-2	Aroclor 1221	5.0	< 5.0 U
11141-16-5	Aroclor 1232	5.0	< 5.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	123%
Tetrachlorometaxylene	98.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-CB165A-042710-S
SAMPLE

Lab Sample ID: QU49M
LIMS ID: 10-10483
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/12/10 00:51
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 50.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	5.0	< 5.0 U
53469-21-9	Aroclor 1242	5.0	< 5.0 U
12672-29-6	**Aroclor 1248**	**5.0**	**85**
11097-69-1	**Aroclor 1254**	**5.0**	**70**
11096-82-5	**Aroclor 1260**	**5.0**	**15**
11104-28-2	Aroclor 1221	5.0	< 5.0 U
11141-16-5	Aroclor 1232	5.0	< 5.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	117%
Tetrachlorometaxylene	114%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH178A-042710-S
SAMPLE

Lab Sample ID: QU49N
LIMS ID: 10-10484
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/12/10 01:15
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	2.5	< 2.5 Y
11097-69-1	**Aroclor 1254**	**1.0**	**7.1**
11096-82-5	**Aroclor 1260**	**1.0**	**3.9**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	96.0%
Tetrachlorometaxylene	57.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-CB173A-042710-S
SAMPLE

Lab Sample ID: QU490
LIMS ID: 10-10485
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/12/10 01:38
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 200
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	**Aroclor 1248**	**20**	**370**
11097-69-1	**Aroclor 1254**	**20**	**280**
11096-82-5	Aroclor 1260	30	< 30 Y
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in Total µg

PCB Surrogate Recovery	
Decachlorobiphenyl	D
Tetrachlorometaxylene	D

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Filter

QC Report No: QU49-Science App. International Corp
Project: NBF

Client ID	DCBP	TCMX	TOT OUT
MB-050510	92.2%	71.2%	0
LCS-050510	89.0%	68.2%	0
LCSD-050510	83.8%	63.5%	0
NBF-MH108A-042710-S	88.5%	88.5%	0
NBF-MH434A-042710-S	95.0%	124%	0
NBF-LS431A-042710-S	91.6%	101%	0
NBF-CB423A-042710-S	80.2%	92.0%	0
NBF-MH356A-042710-S	101%	111%	0
NBF-MH369A-042710-S	97.5%	115%	0
NBF-MH226A-042710-S	83.5%	83.5%	0
NBF-MH152A-042710-S	123%	98.5%	0
NBF-CB165A-042710-S	117%	114%	0
NBF-MH178A-042710-S	96.0%	57.5%	0
NBF-CB173A-042710-S	D	D	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A
Log Number Range: 10-10474 to 10-10485

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
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Sample ID: LCS-050510
LCS/LCSD

Lab Sample ID: LCS-050510
LIMS ID: 10-10474
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted LCS/LCSD: 05/05/10

Date Analyzed LCS: 05/12/10 03:13
LCSD: 05/12/10 03:36
Instrument/Analyst LCS: ECD7/JGR
LCSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1.00 Filter
LCSD: 1.00 Filter
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	1.9	2.5	76.0%	1.8	2.5	72.0%	5.4%
Aroclor 1260	2.2	2.5	88.0%	2.1	2.5	84.0%	4.7%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	89.0%	83.8%
Tetrachlorometaxylene	68.2%	63.5%

Reported in Total µg
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QU49MB1

Lab Name: ANALYTICAL RESOURCES, INC — Client: SAIC

ARI Job No.: QU49 — Project: NBF

Lab Sample ID: QU49MB1 — Lab File ID: 0511A041

Date Extracted: 05/05/10 — Matrix: SOLID

Date Analyzed: 05/12/10 — Instrument ID: ECD7

Time Analyzed: 0249 — GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	NBF-MH356A-042710-S	QU49I	05/11/10
02	NBF-MH369A-042710-S	QU49J	05/11/10
03	NBF-MH226A-042710-S	QU49K	05/12/10
04	NBF-MH152A-042710-S	QU49L	05/12/10
05	NBF-CB165A-042710-S	QU49M	05/12/10
06	NBF-MH178A-042710-S	QU49N	05/12/10
07	NBF-CB173A-042710-S	QU49O	05/12/10
08	QU49LCS1	QU49LCS1	05/12/10
09	QU49LCSD1	QU49LCSD1	05/12/10
10	NBF-MH108A-042710-S	QU49E	05/12/10
11	NBF-MH434A-042710-S	QU49F	05/12/10
12	NBF-LS431A-042710-S	QU49G	05/12/10
13	NBF-CB423A-042710-S	QU49H	05/12/10

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-050510
METHOD BLANK

Lab Sample ID: MB-050510
LIMS ID: 10-10474
Matrix: Filter
Data Release Authorized:
Reported: 05/14/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted: 05/05/10
Date Analyzed: 05/12/10 02:49
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.1	< 0.1 U
53469-21-9	Aroclor 1242	0.1	< 0.1 U
12672-29-6	Aroclor 1248	0.1	< 0.1 U
11097-69-1	Aroclor 1254	0.1	< 0.1 U
11096-82-5	Aroclor 1260	0.1	< 0.1 U
11104-28-2	Aroclor 1221	0.1	< 0.1 U
11141-16-5	Aroclor 1232	0.1	< 0.1 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	92.2%
Tetrachlorometaxylene	71.2%

METALS ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-042710-W
SAMPLE

Lab Sample ID: QU49A
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	04/30/10	200.8	05/12/10	**7440-38-2**	**Arsenic**	0.2	**0.9**	
200.8	04/30/10	200.8	05/12/10	**7440-43-9**	**Cadmium**	0.2	**0.3**	
3010A	04/30/10	6010B	05/04/10	**7440-70-2**	**Calcium**	50	**8,850**	
200.8	04/30/10	200.8	05/12/10	**7440-47-3**	**Chromium**	0.5	**0.6**	
200.8	04/30/10	200.8	05/12/10	**7440-50-8**	**Copper**	0.5	**12.1**	
200.8	04/30/10	200.8	05/12/10	**7439-92-1**	**Lead**	1	**1**	
3010A	04/30/10	6010B	05/04/10	**7439-95-4**	**Magnesium**	50	**2,030**	
7470A	04/30/10	7470A	04/30/10	7439-97-6	Mercury	0.1	0.1	U
200.8	04/30/10	200.8	05/12/10	**7440-02-0**	**Nickel**	0.5	**1.2**	
200.8	04/30/10	200.8	05/12/10	7782-49-2	Selenium	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7440-22-4	Silver	0.2	0.2	U
200.8	04/30/10	200.8	05/12/10	**7440-66-6**	**Zinc**	4	**73**	

Calculated Hardness (mg-CaCO3/L): 30

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-LS431-042710-W
SAMPLE

Lab Sample ID: QU49B
LIMS ID: 10-10471
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	04/30/10	200.8	05/12/10	**7440-38-2**	**Arsenic**	0.2	**1.0**	
200.8	04/30/10	200.8	05/12/10	**7440-43-9**	**Cadmium**	0.2	**0.3**	
3010A	04/30/10	6010B	05/04/10	**7440-70-2**	**Calcium**	50	**10,900**	
200.8	04/30/10	200.8	05/12/10	**7440-47-3**	**Chromium**	0.5	**1.4**	
200.8	04/30/10	200.8	05/12/10	**7440-50-8**	**Copper**	0.5	**7.1**	
200.8	04/30/10	200.8	05/12/10	**7439-92-1**	**Lead**	1	**2**	
3010A	04/30/10	6010B	05/04/10	**7439-95-4**	**Magnesium**	50	**3,860**	
7470A	04/30/10	7470A	04/30/10	7439-97-6	Mercury	0.1	0.1	U
200.8	04/30/10	200.8	05/12/10	**7440-02-0**	**Nickel**	0.5	**1.0**	
200.8	04/30/10	200.8	05/12/10	7782-49-2	Selenium	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7440-22-4	Silver	0.2	0.2	U
200.8	04/30/10	200.8	05/12/10	**7440-66-6**	**Zinc**	4	**44**	

Calculated Hardness (mg-CaCO3/L): 43

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-042710-W
MATRIX SPIKE

Lab Sample ID: QU49A
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	0.920	27.6	25.0	107%	
Cadmium	200.8	0.290	25.8	25.0	102%	
Calcium	6010B	8,850	19,100	10,000	102%	
Chromium	200.8	0.560	25.3	25.0	99.0%	
Copper	200.8	12.1	38.6	25.0	106%	
Lead	200.8	1.24	27.6	25.0	105%	
Magnesium	6010B	2,030	12,100	10,000	101%	
Mercury	7470A	0.100 U	1.14	1.00	114%	
Nickel	200.8	1.22	27.3	25.0	104%	
Selenium	200.8	0.500 U	75.9	80.0	94.9%	
Silver	200.8	0.200 U	25.5	25.0	102%	
Zinc	200.8	72.5	144	80.0	89.4%	

Reported in µg/L

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH108-042710-W DUPLICATE

Lab Sample ID: QU49A
LIMS ID: 10-10470
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	0.9	0.9	0.0%	+/- 0.2	L
Cadmium	200.8	0.3	0.3	0.0%	+/- 0.2	L
Calcium	6010B	8,850	9,090	2.7%	+/- 20%	
Chromium	200.8	0.6	0.5	18.2%	+/- 0.5	L
Copper	200.8	12.1	11.8	2.5%	+/- 20%	
Lead	200.8	1	1	0.0%	+/- 1	L
Magnesium	6010B	2,030	2,080	2.4%	+/- 20%	
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Nickel	200.8	1.2	1.2	0.0%	+/- 0.5	L
Selenium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	73	71	2.8%	+/- 20%	

Reported in µg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: LAB CONTROL**

Lab Sample ID: QU49LCS
LIMS ID: 10-10471
Matrix: Water
Data Release Authorized: MB
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	27.0	25.0	108%	
Cadmium	200.8	25.6	25.0	102%	
Calcium	6010B	10200	10000	102%	
Chromium	200.8	25.8	25.0	103%	
Copper	200.8	27.9	25.0	112%	
Lead	200.8	26	25	104%	
Magnesium	6010B	10300	10000	103%	
Mercury	7470A	2.2	2.0	110%	
Nickel	200.8	26.2	25.0	105%	
Selenium	200.8	77.2	80.0	96.5%	
Silver	200.8	25.3	25.0	101%	
Zinc	200.8	81	80	101%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: QU49MB
LIMS ID: 10-10471
Matrix: Water
Data Release Authorized: MB
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	04/30/10	200.8	05/12/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	04/30/10	200.8	05/12/10	7440-43-9	Cadmium	0.2	0.2	U
3010A	04/30/10	6010B	05/04/10	7440-70-2	Calcium	50	50	U
200.8	04/30/10	200.8	05/12/10	7440-47-3	Chromium	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7440-50-8	Copper	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7439-92-1	Lead	1	1	U
3010A	04/30/10	6010B	05/04/10	7439-95-4	Magnesium	50	50	U
7470A	04/30/10	7470A	04/30/10	7439-97-6	Mercury	0.1	0.1	U
200.8	04/30/10	200.8	05/12/10	7440-02-0	Nickel	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7782-49-2	Selenium	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7440-22-4	Silver	0.2	0.2	U
200.8	04/30/10	200.8	05/12/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: NBF-MH108-042710-W
SAMPLE

Lab Sample ID: QU49C
LIMS ID: 10-10472
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	04/30/10	200.8	05/12/10	**7440-38-2**	**Arsenic**	0.2	**0.5**	
200.8	04/30/10	200.8	05/12/10	**7440-43-9**	**Cadmium**	0.2	**0.2**	
200.8	04/30/10	200.8	05/12/10	7440-47-3	Chromium	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	**7440-50-8**	**Copper**	0.5	**7.7**	
200.8	04/30/10	200.8	05/12/10	7439-92-1	Lead	1	1	U
200.8	04/30/10	200.8	05/12/10	**7440-02-0**	**Nickel**	0.5	**1.1**	
200.8	04/30/10	200.8	05/12/10	7782-49-2	Selenium	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7440-22-4	Silver	0.2	0.2	U
200.8	04/30/10	200.8	05/12/10	**7440-66-6**	**Zinc**	4	**59**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-LS431-042710-W
SAMPLE

Lab Sample ID: QU49D
LIMS ID: 10-10473
Matrix: Water
Data Release Authorized: MB
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	04/30/10	200.8	05/12/10	**7440-38-2**	**Arsenic**	0.2	**0.5**	
200.8	04/30/10	200.8	05/12/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	04/30/10	200.8	05/12/10	**7440-47-3**	**Chromium**	0.5	**0.5**	
200.8	04/30/10	200.8	05/12/10	**7440-50-8**	**Copper**	0.5	**4.2**	
200.8	04/30/10	200.8	05/12/10	7439-92-1	Lead	1	1	U
200.8	04/30/10	200.8	05/12/10	**7440-02-0**	**Nickel**	0.5	**0.9**	
200.8	04/30/10	200.8	05/12/10	7782-49-2	Selenium	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7440-22-4	Silver	0.2	0.2	U
200.8	04/30/10	200.8	05/12/10	**7440-66-6**	**Zinc**	4	**27**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-042710-W
MATRIX SPIKE

Lab Sample ID: QU49C
LIMS ID: 10-10472
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	0.480	27.8	25.0	109%	
Cadmium	200.8	0.220	25.7	25.0	102%	
Chromium	200.8	0.500 U	25.5	25.0	102%	
Copper	200.8	7.66	35.3	25.0	111%	
Lead	200.8	1.00 U	27.3	25.0	109%	
Nickel	200.8	1.07	28.3	25.0	109%	
Selenium	200.8	0.500 U	75.3	80.0	94.1%	
Silver	200.8	0.200 U	25.7	25.0	103%	
Zinc	200.8	59.2	134	80.0	93.5%	

Reported in µg/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-042710-W DUPLICATE

Lab Sample ID: QU49C
LIMS ID: 10-10472
Matrix: Water
Data Release Authorized: MG
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	0.5	0.5	0.0%	+/- 0.2	L
Cadmium	200.8	0.2	0.2	0.0%	+/- 0.2	L
Chromium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	200.8	7.7	7.6	1.3%	+/- 20%	
Lead	200.8	1 U	1 U	0.0%	+/- 1	L
Nickel	200.8	1.1	1.1	0.0%	+/- 0.5	L
Selenium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	59	60	1.7%	+/- 20%	

Reported in µg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QU49LCS
LIMS ID: 10-10473
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	27.0	25.0	108%	
Cadmium	200.8	25.4	25.0	102%	
Chromium	200.8	26.4	25.0	106%	
Copper	200.8	28.5	25.0	114%	
Lead	200.8	27	25	108%	
Nickel	200.8	27.7	25.0	111%	
Selenium	200.8	75.1	80.0	93.9%	
Silver	200.8	26.0	25.0	104%	
Zinc	200.8	80	80	100%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS **Sample ID: METHOD BLANK**

Lab Sample ID: QU49MB
LIMS ID: 10-10473
Matrix: Water
Data Release Authorized: MB
Reported: 05/13/10

QC Report No: QU49-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	04/30/10	200.8	05/12/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	04/30/10	200.8	05/12/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	04/30/10	200.8	05/12/10	7440-47-3	Chromium	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7440-50-8	Copper	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7439-92-1	Lead	1	1	U
200.8	04/30/10	200.8	05/12/10	7440-02-0	Nickel	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7782-49-2	Selenium	0.5	0.5	U
200.8	04/30/10	200.8	05/12/10	7440-22-4	Silver	0.2	0.2	U
200.8	04/30/10	200.8	05/12/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108A-042710-S
SAMPLE

Lab Sample ID: QU60A
LIMS ID: 10-10533
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Percent Total Solids: 20.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	7440-38-2	Arsenic	60	60	U
3050B	04/30/10	6010B	05/06/10	**7440-43-9**	**Cadmium**	2	**10**	
3050B	04/30/10	6010B	05/06/10	**7440-47-3**	**Chromium**	6	**53**	
3050B	04/30/10	6010B	05/06/10	**7440-50-8**	**Copper**	2	**329**	
3050B	04/30/10	6010B	05/06/10	**7439-92-1**	**Lead**	20	**120**	
CLP	04/30/10	7471A	05/05/10	**7439-97-6**	**Mercury**	0.1	**1.4**	
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	4	4	U
3050B	04/30/10	6010B	05/06/10	**7440-66-6**	**Zinc**	10	**950**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH434A-042710-S
SAMPLE

Lab Sample ID: QU60B
LIMS ID: 10-10534
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Percent Total Solids: 30.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	**7440-38-2**	**Arsenic**	20	**60**	
3050B	04/30/10	6010B	05/06/10	**7440-43-9**	**Cadmium**	0.6	**3.4**	
3050B	04/30/10	6010B	05/06/10	**7440-47-3**	**Chromium**	2	**76**	
3050B	04/30/10	6010B	05/06/10	**7440-50-8**	**Copper**	0.6	**130**	
3050B	04/30/10	6010B	05/06/10	**7439-92-1**	**Lead**	6	**146**	
CLP	04/30/10	7471A	05/05/10	**7439-97-6**	**Mercury**	0.07	**0.10**	
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	1	1	U
3050B	04/30/10	6010B	05/06/10	**7440-66-6**	**Zinc**	3	**923**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-LS431A-042710-S
SAMPLE

Lab Sample ID: QU60C
LIMS ID: 10-10535
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Percent Total Solids: 23.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	7440-38-2	Arsenic	50	50	U
3050B	04/30/10	6010B	05/06/10	**7440-43-9**	**Cadmium**	2	**7**	
3050B	04/30/10	6010B	05/06/10	**7440-47-3**	**Chromium**	5	**44**	
3050B	04/30/10	6010B	05/06/10	**7440-50-8**	**Copper**	2	**85**	
3050B	04/30/10	6010B	05/06/10	**7439-92-1**	**Lead**	20	**50**	
CLP	04/30/10	7471A	05/05/10	**7439-97-6**	**Mercury**	0.09	**0.16**	
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	3	3	U
3050B	04/30/10	6010B	05/06/10	**7440-66-6**	**Zinc**	10	**610**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH356A-042710-S
SAMPLE

Lab Sample ID: QU60E
LIMS ID: 10-10537
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Percent Total Solids: 8.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	7440-38-2	Arsenic	60	60	U
3050B	04/30/10	6010B	05/06/10	**7440-43-9**	**Cadmium**	2	**16**	
3050B	04/30/10	6010B	05/06/10	**7440-47-3**	**Chromium**	6	**94**	
3050B	04/30/10	6010B	05/06/10	**7440-50-8**	**Copper**	2	**226**	
3050B	04/30/10	6010B	05/06/10	**7439-92-1**	**Lead**	20	**180**	
CLP	04/30/10	7471A	05/05/10	**7439-97-6**	**Mercury**	0.3	**0.3**	
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	3	3	U
3050B	04/30/10	6010B	05/06/10	**7440-66-6**	**Zinc**	10	**1,420**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH369A-042710-S
SAMPLE

Lab Sample ID: QU60F
LIMS ID: 10-10538
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Percent Total Solids: 13.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	7440-38-2	Arsenic	90	90	U
3050B	04/30/10	6010B	05/06/10	**7440-43-9**	**Cadmium**	4	**9**	
3050B	04/30/10	6010B	05/06/10	**7440-47-3**	**Chromium**	9	**108**	
3050B	04/30/10	6010B	05/06/10	**7440-50-8**	**Copper**	4	**133**	
3050B	04/30/10	6010B	05/06/10	**7439-92-1**	**Lead**	40	**130**	
CLP	04/30/10	7471A	05/05/10	**7439-97-6**	**Mercury**	0.1	**0.2**	
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	5	5	U
3050B	04/30/10	6010B	05/06/10	**7440-66-6**	**Zinc**	20	**820**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH226A-042710-S
SAMPLE

Lab Sample ID: QU60G
LIMS ID: 10-10539
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Percent Total Solids: 13.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	7440-38-2	Arsenic	40	40	U
3050B	04/30/10	6010B	05/06/10	**7440-43-9**	**Cadmium**	1	**10**	
3050B	04/30/10	6010B	05/06/10	**7440-47-3**	**Chromium**	4	**56**	
3050B	04/30/10	6010B	05/06/10	**7440-50-8**	**Copper**	1	**211**	
3050B	04/30/10	6010B	05/06/10	**7439-92-1**	**Lead**	10	**200**	
CLP	04/30/10	7471A	05/05/10	**7439-97-6**	**Mercury**	0.2	**0.4**	
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	2	2	U
3050B	04/30/10	6010B	05/06/10	**7440-66-6**	**Zinc**	7	**1,170**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH152A-042710-S
SAMPLE

Lab Sample ID: QU60H
LIMS ID: 10-10540
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Percent Total Solids: 15.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	7440-38-2	Arsenic	30	30	U
3050B	04/30/10	6010B	05/06/10	**7440-43-9**	**Cadmium**	1	**7**	
3050B	04/30/10	6010B	05/06/10	**7440-47-3**	**Chromium**	3	**59**	
3050B	04/30/10	6010B	05/06/10	**7440-50-8**	**Copper**	1	**393**	
3050B	04/30/10	6010B	05/06/10	**7439-92-1**	**Lead**	10	**190**	
CLP	04/30/10	7471A	05/05/10	**7439-97-6**	**Mercury**	0.1	**1.3**	
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	2	2	U
3050B	04/30/10	6010B	05/06/10	**7440-66-6**	**Zinc**	6	**869**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-CB165A-042710-S
SAMPLE

Lab Sample ID: QU60I
LIMS ID: 10-10541
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Percent Total Solids: 41.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	**7440-38-2**	**Arsenic**	30	**30**	
3050B	04/30/10	6010B	05/06/10	**7440-43-9**	**Cadmium**	1	**13**	
3050B	04/30/10	6010B	05/06/10	**7440-47-3**	**Chromium**	3	**133**	
3050B	04/30/10	6010B	05/06/10	**7440-50-8**	**Copper**	1	**278**	
3050B	04/30/10	6010B	05/06/10	**7439-92-1**	**Lead**	10	**320**	
CLP	04/30/10	7471A	05/05/10	**7439-97-6**	**Mercury**	0.5	**12.4**	
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	2	2	U
3050B	04/30/10	6010B	05/06/10	**7440-66-6**	**Zinc**	6	**4,770**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH178A-042710-S
SAMPLE

Lab Sample ID: QU60J
LIMS ID: 10-10542
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Percent Total Solids: 27.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	**7440-38-2**	**Arsenic**	20	**20**	
3050B	04/30/10	6010B	05/06/10	**7440-43-9**	**Cadmium**	0.7	**6.2**	
3050B	04/30/10	6010B	05/06/10	**7440-47-3**	**Chromium**	2	**57**	
3050B	04/30/10	6010B	05/06/10	**7440-50-8**	**Copper**	0.7	**352**	
3050B	04/30/10	6010B	05/06/10	**7439-92-1**	**Lead**	7	**237**	
CLP	04/30/10	7471A	05/05/10	**7439-97-6**	**Mercury**	0.07	**0.36**	
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	1	1	U
3050B	04/30/10	6010B	05/06/10	**7440-66-6**	**Zinc**	3	**652**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-CB173A-042710-S
SAMPLE

Lab Sample ID: QU60K
LIMS ID: 10-10543
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Percent Total Solids: 20.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	7440-38-2	Arsenic	20	20	U
3050B	04/30/10	6010B	05/06/10	**7440-43-9**	**Cadmium**	0.9	**8.3**	
3050B	04/30/10	6010B	05/06/10	**7440-47-3**	**Chromium**	2	**67**	
3050B	04/30/10	6010B	05/06/10	**7440-50-8**	**Copper**	0.9	**245**	
3050B	04/30/10	6010B	05/06/10	**7439-92-1**	**Lead**	9	**142**	
CLP	04/30/10	7471A	05/05/10	**7439-97-6**	**Mercury**	0.09	**0.57**	
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	1	1	U
3050B	04/30/10	6010B	05/06/10	**7440-66-6**	**Zinc**	5	**2,040**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108A-042710-S
MATRIX SPIKE

Lab Sample ID: QU60A
LIMS ID: 10-10533
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	60 U	990	942	105%	
Cadmium	6010B	10	259	236	106%	
Chromium	6010B	53	291	236	101%	
Copper	6010B	329	578	236	106%	
Lead	6010B	120	1,070	942	101%	
Mercury	7471A	1.4	1.9	1.04	48.1%	N
Silver	6010B	4 U	237	236	100%	
Zinc	6010B	950	1,360	236	174%	H

Reported in mg/kg-dry

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH108A-042710-S DUPLICATE

Lab Sample ID: QU60A
LIMS ID: 10-10533
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	60 U	60 U	0.0%	+/- 60	L
Cadmium	6010B	10	12	18.2%	+/- 2	L
Chromium	6010B	53	76	35.7%	+/- 20%	*
Copper	6010B	329	352	6.8%	+/- 20%	
Lead	6010B	120	140	15.4%	+/- 20%	
Mercury	7471A	1.4	0.9	43.5%	+/- 20%	*
Silver	6010B	4 U	4 U	0.0%	+/- 4	L
Zinc	6010B	950	1,180	21.6%	+/- 20%	*

Reported in mg/kg-dry

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QU60LCS
LIMS ID: 10-10534
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	203	200	102%	
Cadmium	6010B	51.7	50.0	103%	
Chromium	6010B	50.2	50.0	100%	
Copper	6010B	48.0	50.0	96.0%	
Lead	6010B	197	200	98.5%	
Mercury	7471A	0.46	0.50	92.0%	
Silver	6010B	52.0	50.0	104%	
Zinc	6010B	49	50	98.0%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: QU60MB
LIMS ID: 10-10534
Matrix: Sediment
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU60-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	04/30/10	6010B	05/06/10	7440-38-2	Arsenic	5	5	U
3050B	04/30/10	6010B	05/06/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	04/30/10	6010B	05/06/10	7440-47-3	Chromium	0.5	0.5	U
3050B	04/30/10	6010B	05/06/10	7440-50-8	Copper	0.2	0.2	U
3050B	04/30/10	6010B	05/06/10	7439-92-1	Lead	2	2	U
CLP	04/30/10	7471A	05/05/10	7439-97-6	Mercury	0.02	0.02	U
3050B	04/30/10	6010B	05/06/10	7440-22-4	Silver	0.3	0.3	U
3050B	04/30/10	6010B	05/06/10	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

MERCURY ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
Dissolved Mercury by Method SW7470A

Data Release Authorized:
Reported: 05/04/10
Date Received: 04/27/10
Page 1 of 1

QC Report No: QU59-Science App. International Corp
Project: NBF

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
NBF-MH108-042710-W QU59A 10-10531	04/27/10	Water	04/29/10 05/04/10	20.0	20.0 U
NBF-LS431-042710-W QU59B 10-10532	04/27/10	Water	04/29/10 05/04/10	20.0	20.0 U
MB-042910 Method Blank	NA	Water	04/29/10 05/04/10	20.0	20.0 U

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-042710-W
MATRIX SPIKE

Lab Sample ID: QU59A
LIMS ID: 10-10531
Matrix: Water
Data Release Authorized:
Reported: 05/04/10

QC Report No: QU59-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7470A	20.0 U	115	100	115%	

Reported in ng/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-042710-W
DUPLICATE

Lab Sample ID: QU59A
LIMS ID: 10-10531
Matrix: Water
Data Release Authorized:
Reported: 05/04/10

QC Report No: QU59-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7470A	20.0 U	20.0 U	0.0%	+/- 20.0	L

Reported in ng/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: LAB CONTROL

Lab Sample ID: QU59LCS
LIMS ID: 10-10532
Matrix: Water
Data Release Authorized:
Reported: 05/04/10

QC Report No: QU59-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	203	200	102%	

Reported in ng/L

N-Control limit not met
Control Limits: 80-120%

GENERAL CHEMISTRY ANALYSIS

SAMPLE RESULTS-CONVENTIONALS
QU49-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/04/10

Project: NBF
Event: NA
Date Sampled: 04/27/10
Date Received: 04/27/10

Client ID: NBF-MH108-042710-W
ARI ID: 10-10470 QU49A

Analyte	Date Batch	Method	Units	RL	Sample
pH	04/27/10 042710#1	EPA 150.1	std units	0.01	6.74
Alkalinity	04/30/10 043010#1	SM 2320	mg/L CaCO3	1.0	32.9
Carbonate	04/30/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	04/30/10	SM 2320	mg/L CaCO3	1.0	32.9
Hydroxide	04/30/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	05/03/10 050310#1	EPA 160.2	mg/L	2.1	5.6
Chloride	04/28/10 042810#1	EPA 300.0	mg/L	0.1	1.9
N-Nitrate	04/28/10 042810#1	EPA 300.0	mg-N/L	0.1	0.4
Sulfate	04/28/10 042810#1	EPA 300.0	mg/L	1.0	5.0
Total Organic Carbon	04/30/10 043010#1	EPA 415.1	mg/L	1.50	3.60

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QU49-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/04/10

Project: NBF
Event: NA
Date Sampled: 04/27/10
Date Received: 04/27/10

Client ID: NBF-LS431-042710-W
ARI ID: 10-10471 QU49B

Analyte	Date Batch	Method	Units	RL	Sample
pH	04/27/10 042710#1	EPA 150.1	std units	0.01	7.07
Alkalinity	04/30/10 043010#1	SM 2320	mg/L CaCO3	1.0	55.4
Carbonate	04/30/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	04/30/10	SM 2320	mg/L CaCO3	1.0	55.4
Hydroxide	04/30/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	05/03/10 050310#1	EPA 160.2	mg/L	1.7	16.3
Chloride	04/28/10 042810#1	EPA 300.0	mg/L	1.0	7.7
N-Nitrate	04/28/10 042810#1	EPA 300.0	mg-N/L	0.1	0.2
Sulfate	04/28/10 042810#1	EPA 300.0	mg/L	0.1	3.0
Total Organic Carbon	04/30/10 043010#1	EPA 415.1	mg/L	1.50	4.51

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QU49-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/04/10

Project: NBF
Event: NA
Date Sampled: 04/27/10
Date Received: 04/27/10

Client ID: NBF-MH108-042710-W
ARI ID: 10-10472 QU49C

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	04/28/10 042810#1	EPA 415.1	mg/L	1.50	3.07

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QU49-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/04/10

Project: NBF
Event: NA
Date Sampled: 04/27/10
Date Received: 04/27/10

Client ID: NBF-LS431-042710-W
ARI ID: 10-10473 QU49D

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	04/28/10 042810#1	EPA 415.1	mg/L	1.50	3.51

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
QU49-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/04/10

Project: NBF
Event: NA
Date Sampled: 04/27/10
Date Received: 04/27/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: QU49A Client ID: NBF-MH108-042710-W							
Chloride	EPA 300.0	04/28/10	mg/L	1.9	3.5	2.0	80.0%
N-Nitrate	EPA 300.0	04/28/10	mg-N/L	0.4	2.3	2.0	95.0%
Sulfate	EPA 300.0	04/28/10	mg/L	5.0	24.2	20.0	96.0%
Total Organic Carbon	EPA 415.1	04/30/10	mg/L	3.60	20.8	20.0	86.0%
ARI ID: QU49C Client ID: NBF-MH108-042710-W							
Dissolved Organic Carbon	EPA 415.1	04/28/10	mg/L	3.07	20.4	20.0	86.6%

REPLICATE RESULTS-CONVENTIONALS
QU49-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/04/10

Project: NBF
Event: NA
Date Sampled: 04/27/10
Date Received: 04/27/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: QU49A Client ID: NBF-MH108-042710-W						
pH	EPA 150.1	04/27/10	std units	6.74	6.74	0.00
Alkalinity	SM 2320	04/30/10	mg/L CaCO3	32.9	32.8	0.3%
Carbonate	SM 2320	04/30/10	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	04/30/10	mg/L CaCO3	32.9	32.8	0.3%
Hydroxide	SM 2320	04/30/10	mg/L CaCO3	< 1.0	< 1.0	NA
Total Suspended Solids	EPA 160.2	05/03/10	mg/L	5.6	6.5	14.9%
Chloride	EPA 300.0	04/28/10	mg/L	1.9	1.6	17.1%
N-Nitrate	EPA 300.0	04/28/10	mg-N/L	0.4	0.3	28.6%
Sulfate	EPA 300.0	04/28/10	mg/L	5.0	5.2	3.9%
Total Organic Carbon	EPA 415.1	04/30/10	mg/L	3.60	3.76	4.3%
ARI ID: QU49C Client ID: NBF-MH108-042710-W						
Dissolved Organic Carbo	EPA 415.1	04/28/10	mg/L	3.07	3.24	5.4%

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

LAB CONTROL RESULTS-CONVENTIONALS
QU49-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/04/10

Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH EPA 150.1	ICVL	04/27/10	std units	7.00	7.00	0.00
Total Suspended Solids EPA 160.2	ICVL	05/03/10	mg/L	49.3	50.0	98.6%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

METHOD BLANK RESULTS-CONVENTIONALS
QU49-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/04/10

Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Total Suspended Solids	EPA 160.2	05/03/10	mg/L	< 1.0 U	
Chloride	EPA 300.0	04/28/10	mg/L	< 0.1 U	
N-Nitrate	EPA 300.0	04/28/10	mg-N/L	< 0.1 U	
Sulfate	EPA 300.0	04/28/10	mg/L	< 0.1 U	
Total Organic Carbon	EPA 415.1	04/30/10	mg/L	< 1.50 U	
Dissolved Organic Carbon	EPA 415.1	04/28/10	mg/L	< 1.50 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
QU49-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/04/10

Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	04/30/10	mg/L CaCO3	34.2	35.0	97.7%
Chloride ERA #230109	EPA 300.0	04/28/10	mg/L	3.0	3.0	100.0%
N-Nitrate ERA #09127	EPA 300.0	04/28/10	mg-N/L	2.9	3.0	96.7%
Sulfate ERA #220109	EPA 300.0	04/28/10	mg/L	3.2	3.0	106.7%
Total Organic Carbon ERA 0506-09-01	EPA 415.1	04/30/10	mg/L	19.7	20.0	98.5%
Dissolved Organic Carbon ERA 0506-09-01	EPA 415.1	04/28/10	mg/L	18.9	20.0	94.5%

GEOTECHNICAL ANALYSIS

Science App. Internatioal Corp
NBF

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
NBF-MH108A-042710-S	100.0	99.1	96.3	90.0	84.0	77.3	70.8	66.6	68.0	48.5	36.0	31.5	25.5	19.7
NBF-LS431A-042710-S	100.0	100.0	100.0	99.9	99.8	99.6	99.4	99.3	98.9	96.4	86.2	72.9	55.1	33.7
NBF-MH152A-042710-S	100.0	94.3	92.4	89.3	86.9	83.8	79.6	73.6	70.9	69.7	60.0	50.5	38.6	30.1
NBF-CB165A-042710-S	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	88.6	45.4	36.0	29.2	25.1	19.3
NBF-MH178A-042710-S	100.0	95.3	94.8	94.6	94.3	93.8	93.3	92.2	90.1	78.1	65.3	49.5	32.3	17.9
NBF-CB173A-042710-S	100.0	99.7	97.7	93.7	91.2	89.6	88.4	87.5	86.3	69.8	48.7	30.5	9.9	-1.8

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Science App. Internatioal Corp
NBF

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
NBF-MH108A-042710-S	3.7	6.3	6.0	6.7	6.5	4.2	-1.4	19.5	12.5	4.5	6.0	5.8	19.7	66.6
NBF-LS431A-042710-S	0.0	0.1	0.1	0.2	0.2	0.1	0.4	2.5	10.2	13.3	17.8	21.4	33.7	99.3
NBF-MH152A-042710-S	7.6	3.1	2.4	3.1	4.2	6.1	2.7	1.2	9.7	9.5	11.9	8.5	30.1	73.6
NBF-CB165A-042710-S	0.6	0.0	0.0	0.0	0.0	0.0	10.8	43.2	9.4	6.8	4.1	5.8	19.3	99.4
NBF-MH178A-042710-S	5.2	0.2	0.3	0.5	0.5	1.1	2.1	12.0	12.8	15.8	17.2	14.4	17.9	92.2
NBF-CB173A-042710-S	2.3	4.0	2.5	1.6	1.2	0.9	1.2	16.5	21.1	18.2	20.6	11.7	-1.8	87.5

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

TOTAL SOLIDS

Solids Data Entry Report Checked by: DM Date: 5/4/10
Date: 05/04/10 Data Analyst: MH

Solids Determination performed on 05/03/10 by MH

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
QU60	A	NBF-MH108A-042710-S	0.950	5.013	1.788	20.63
QU60	B	NBF-MH434A-042710-S	0.953	5.095	2.196	30.01
QU60	C	NBF-LS431A-042710-S	0.955	5.163	1.961	23.91
QU60	E	NBF-MH356A-042710-S	0.969	5.058	1.307	8.27
QU60	F	NBF-MH369A-042710-S	0.988	5.033	1.542	13.70
QU60	G	NBF-MH226A-042710-S	0.986	3.942	1.375	13.16
QU60	H	NBF-MH152A-042710-S	0.968	5.079	1.603	15.45
QU60	I	NBF-CB165A-042710-S	0.998	5.091	2.674	40.95
QU60	J	NBF-MH178A-042710-S	0.979	5.113	2.124	27.70
QU60	K	NBF-CB173A-042710-S	0.989	5.120	1.853	20.92

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory
Analyst Notes

ARI Job No.: QU49 Client ID: Science App. International Corp

Parameter: PCB Client Project: NBF

SOP Number(s): No Anomalies:

List problems, concerns, corrective actions and any other pertinent information

Prep time (before drying) ~~2hr 5min~~ 3hr 5min MW 4/29/10 Prep time (After drying) 11:40 - 17:10 5 hrs AC 5-5-10

Sample wet weights.

E = 304.03g F = 305.40g G = 336.67g H = 337.40g

I = 323.30g J = 298.35 K = 357.11g L = 318.86g

M = 380.15g N = 341.03g O = 356.67g

Metals split. E = 10.05g F = 11.11g G = 10.78g H = 0g I = 13.27g

J = 10.12g K = 6.40g L = 14.08g M = 14.54g N = 11.34g O = 12.54g

Geotech split E = 8.02g F = 0g G = 17.78g H = 0g I = 0g

J = 0g K = 0g L = 7.60g M = 20.79g N = 20.49g O = 10.76g MW 4/29/10

Dry weights (w/plastic Ring). E = ~~85.21g~~ 67.41g AC 5-5-10 F = 70.75g G = 75.60g H = 60.47g I = 79.63g

J = 76.91g K = 79.11g L = 72.26g M = 91.41g N = 79.93 O = 84.15g

Plastic Ring weights. E = 17.03g F = 16.56g G = ~~16.10g~~ 16.87g AC 5-5-10 H = 16.16g I = 16.42g

J = 16.44g K = 16.86g = 17.15g M = 17.76g N = 17.97g O = 17.59g

Dry weights (without plastic Ring). E = ~~57.14~~ 50.82g F = 54.34g G = 58.73g H = 44.18g

I = 63.18g J = ~~76.97~~ 60.01g AC 5-5-10 K = 62.19g L = 55.01g M = 73.74g N = 62.06g O = 66.62g

GC analyst, Samples were surrogated at (5x) normal level to leave room for possible dilutions. ~~JH~~ 5/5/10

Analyst Initials:		Date:	

3056F QU49 M & O - Required 2x acid clean due to possible saturation. 5/10/10 TH

Revision 006
1/12/07

Analytical Resources, Incorporated
Analytical Chemists and Consultants

May 21, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: QU97

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile QU97

Chain of Custody Documentation

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QU97

prepared
by

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: QU49	Turn-around Requested: Standard
ARI Client Company: SAIC	Phone: 206 271 4691
Client Contact: Glen Vodera	
Client Project Name: NBF	
Client Project #:	Samplers: JW/WH/MG/GV
Page: 1 of 4	
Date: 3 4/27/10	Ice Present?
No. of Coolers:	Cooler Temps:

Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors (1)	TAH HG (2)	Gold Metals (3)	Grain Size (4)	Low level PCB Aroclor	Metals total & dissolved	SVOC & SIM SVOC	hardness, pH, Alkalinity	Anions, TOC, DOC, TSS		Notes/Comments
															Analyze filtered solids in order listed if insufficient material
NBF-MH108A-042710-S	3/27/10	0900	Filter	1	X	X	X	X							
NBF-MH108B-042710-S	3/27/10	0900	Filter	1											Archive frozen
NBF-MH108-042710-W	3/27/10	0900	water	1					X	X	X	X	X		
NBF-MH434B-042710-S	3/27/10	1130	Filter	1											Archive frozen
NBF-MH434A-042710-S	3/27/10	1130	Filter	1	X	X	X	X							
NBF-LS431V-042710-S	3/27/10	1100	Filter	4											Archive
NBF-LS431A-042710-S	3/27/10	1015	Filter	1	X	X	X	X							
NBF-LS431B-042710-S	3/27/10	1015	Filter	1											Archive frozen
NBF-CB423A-042710-S	3/27/10	1150	Filter	1	X	X	X	X							
NBF-CB423B-042710-S	3/27/10	1150	Filter	1											Archive frozen

Comments/Special Instructions

Relinquished by:	Received by:	Relinquished by:	Received by:
(Signature) [signature]	(Signature) J. Peterson	(Signature)	(Signature)
Printed Name: Julie Warter	Printed Name: J. Peterson	Printed Name:	Printed Name:
Company: SAIC	Company: ARI	Company:	Company:
Date & Time: 4/27/10 1720	Date & Time: 4/27/10 1720	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: QU49	Turn-around Requested: Standard
ARI Client Company: SAIC	Phone: 206 271 4691
Client Contact: Glen Vedera	
Client Project Name: NBF	
Client Project #:	Samplers: JW/WH/MB/GV
Page: 2 of 4	
Date: 4/27/10	Ice Present?
No. of Coolers:	Cooler Temps:

Analysis Requested: 1 PCB Aroclors; 2 7471 Mercury; 3 6010 Metals; 4 Grain Size

	Sample ID	Date	Time	Matrix	No. Containers	1 PCB Aroclors	2 7471 Mercury	3 6010 Metals	4 Grain Size					Notes/Comments
														Analyze in order listed if insufficient material
	NBF-MH356A-042710-S	4/27/10	1015	Filter	1	X	X	X	X					
	NBF-MH356B-042710-S	4/27/10	1015	Filter	1									Archive frozen
	NBF-MH369A-042710-S	04/27/10	1240	Filter	1	X	X	X	X					
	NBF-MH369B-042710-S	04/27/10	1240	Filter	1									Archive frozen
	NBF-MH226A-042710-S	04/27/10	1250	Filter	1	X	X	X	X					
	NBF-MH226B-042710-S	04/27/10	1250	Filter	1									Archive frozen
WH	~~NBF-MH434A-042710-S~~	"		"	1	X	X	X	X					
WH	~~NBF-MH434B-042710-S~~	"		"	1									~~Archive frozen~~
WH	~~NBF-MH423A-042710-S~~	"		"	1	X	X	X	X					
WH	~~NBF-MH423B-042710-S~~	"		"	1									~~Archive frozen~~

(Struck-through rows initialed and dated 4/27/10)

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) Jami Peterson	(Signature)	(Signature)
	Printed Name: Julie Wartes	Printed Name: J. Peterson	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 4/27/10 1720	Date & Time: 4/27/10 1720	Date & Time:	Date & Time:

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

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Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QU49	Turn-around Requested: standard	Page: 3 of 4	
ARI Client Company: SAIC	Phone: 2062714691	Date:	Ice Present?
Client Contact: Glen Vedera		No. of Coolers:	Cooler Temps:
Client Project Name: NBF			
Client Project #:	Samplers: JW/WH/MG/LW		

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

Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors (1)	7471 Mercury (2)	6010 metals (3)	Grain Size (4)	Low Level PCB Aroclor	Metals total & dissolved	SVOC & SIM SVOC	Hardness, pH, Alkalinity	Anions, TOC, DOC, TSS		Notes/Comments
NBF LS431-042710-W	4/27/10	1130	water	1					X	X	X	X	X		
~~NBF-MH153A-042710-S~~	~~4/27/10~~		~~filter~~	~~1~~	~~X~~	~~X~~	~~X~~	~~X~~							~~Archive frozen~~
~~NBF-MH153B-042710-S~~	~~4/27/10~~		~~filter~~	~~1~~											
~~NBF-MH136A-042710-S~~	~~4/27/10~~		~~filter~~	~~1~~	~~X~~	~~X~~	~~X~~	~~X~~							~~Archive frozen~~
~~NBF-MH136B-042710-S~~	~~4/27/10~~		~~filter~~	~~1~~											
NBF-MH152A-042710-S	4/27/10	1550	filter	1	X	X	X	X							
NBF-MH152B-042710-S	4/27/10	1550	filter	1											Archive frozen
NBF-CB165A-042710-S	4/27/10	1605	filter	1	X	X	X	X							
NBF-CB165B-042710-S	4/27/10	1605	filter	1											Archive frozen

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Julie Wartes	Printed Name: S. Peterson	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 4/27/10 1720	Date & Time: 4/27/10 1720	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

QU49: 000005

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: QU49	Turn-around Requested: Standard	Page: 4 of 4	
ARI Client Company: SAIC	Phone: 206 271 4691	Date:	Ice Present?
Client Contact: Glen Vedera		No. of Coolers:	Cooler Temps:
Client Project Name: NBF			
Client Project #:	Samplers: JW/WH/MG/GV		

Sample ID	Date	Time	Matrix	No. Containers	① PCB Aroclors	② 7471 Mercury	③ 6010 metals	④ Grain size					Notes/Comments
													Analyze in order listed if insufficient material
NBF-MH178A-042710-S	4/27/10	1610	Filter	1	X	X	X	X					
NBF-MH178B-042710-S	4/27/10	1610	Filter	1									Archive frozen
NBF-CB173A-042710-S	4/27/10	1625	Filter	1	X	X	X	X					
NBF-CB173B-042710-S	4/27/10	1625	Filter	1									Archive frozen

Julie [signature] 4/27/10

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Julie [signature]	(Signature) A. Peterson	(Signature)	(Signature)
	Printed Name: Julie [illegible]	Printed Name: A. Peterson	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 4/27/10 1720	Date & Time: 4/27/10 1720	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

QU97 : 00006

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: QU49 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)..... 5.9 4.8 4.6 3.9 ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941609

Cooler Accepted by: JP Date: 4/27/10 Time: 1720

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: 4/ _____ Equipment: Polypropylene Churn Split by: JP

Samples Logged by: JP Date: 4/27/10 Time: 1900

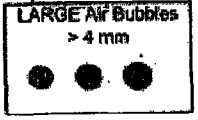
***** Notify Project Manager of discrepancies or concerns *****

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

Additional Notes, Discrepancies, & Resolutions:

The whole 1st page of the Chain of Custody has the date as 3/27/10, but IDs have -042710- as part of the ID. I assumed they ment 4/27/10

By: JP Date: 4/28/10

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Subject: More PAH and filter scraping
From: "Hafner, William D." <WILLIAM.D.HAFNER@saic.com>
Date: Mon, 3 May 2010 13:33:24 -0700
To: "Cheronne" <CheronneO@arilabs.com>

Cheronne,

I hope you had a good vacation and aren't too overloaded.

Eric may have told you, but we will be analyzing all 11 of the duplicate filters from last week for PAH. They should be in the freezer.

The list of samples is:

Sample ID

Date Collected

ARI Batch

MH108B-042710-S

4/27/2010

QU49P

MH434B-042710-S

4/27/2010

QU49Q

LS431B-042710-S

4/27/2010

QU49S

CB423B-042710-S

4/27/2010

QU49T

MH356B-042710-S

4/27/2010

QU49U

MH369B-042710-S

4/27/2010

QU49V

MH226B-042710-S

4/27/2010

QU49W

MH152B-042710-S

4/27/2010

QU49X

CB165B-042710-S

4/27/2010

QU49Y

MH178B-042710-S

4/27/2010

QU49Z

CB173B-042710-S

4/27/2010

QU49AA

We also need to see where we are at with composite QP50. Last update, we had 780 grams. Please have the following filters scraped and added to the total:

Sample ID	Date Collected	ARI Batch
LS431A-032610-S	3/26/2010	QS24
LS431B-032610-S	3/26/2010	QS24
LS431A-033010-S	3/30/2010	QQ60
LS431B-033010-S	3/30/2010	QQ60
LS431A-040510-S	4/5/2010	QR45
LS431B-040510-S	4/5/2010	QR45
LS431A-040910-S	4/9/2010	QS24
LS431B-040910-S	4/9/2010	QS24
LS431A-043010-S	4/30/2010	QU84
LS431B-043010-S	4/30/2010	QU84

Finally, can you send me the filter prep sheet for QP33? These were the batch of two filters shipped to Axys.

Thanks,

Will

William Hafner, Ph.D. | SAIC

Environmental Chemist | Infrastructure, Logistics, and Product Solutions Group

phone: 425.482.3327 | mobile: 425.318.0420

email: hafnerw@saic.com

Case Narrative

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QU97

prepared
by

Analytical Resources, Inc.

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job No.: QU97

Sample Receipt

Eleven filter-bag samples that were previously logged under ARI job QU49 were removed from frozen archive on May 3, 2010. For details regarding sample receipt, please refer to the Cooler Receipt Form. The samples were re-logged under ARI job QU97 and analyzed for PAHs, as requested.

PAHs by SW8270D

The samples were extracted and analyzed within the method recommended holding time for solid material, using internal standard methods. Please note the plastic rings were removed before extracting the filter-bag samples.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The internal standard area of Perylene-d12 was outside the control limits high for sample **NBF-MH369B-042710-S**. The sample was re-analyzed at a dilution and all internal standard areas were within control limits. Both sets of data have been reported for review. No corrective action was required.

The internal standard areas of Chrysene-d12 and Perylene-d12 were outside the control limits high for the dilution of sample **NBF-MH152B-042710-S**. The sample was also analyzed straight and all internal standard areas were within control limits. Both sets of data have been reported for review. No corrective action was required.

The internal standard areas of Chrysene-d12 and Perylene-d12 were outside the control limits high for sample **NBF-LS431B-042710-S**. The sample was analyzed at a dilution and all internal standard areas were within control limits, except for Perylene-d12 which was out of control high. Both sets of data have been reported for review. No corrective action was required.

The internal standard areas of Chrysene-d12 and Perylene-d12 were outside the control limits high for the dilution of sample **NBF-CB423B-042710-S**. The sample was analyzed at a dilution and all internal standard areas were within control limits. Both sets of data have been reported for review. No corrective action was required.

The surrogate percent recovery of d14-p-Terphenyl was outside the control limits high. All other surrogate percent recoveries were within control limits. No corrective action was required.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

SURR SOLUTIONS

4/3/2010

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1706-2	ABN	100/150	MEOH	07/30/10
B	1633-3	SIM PNA	15/75	MEOH	08/12/10
C	1705-4	SIM ABN	25/37.5	MEOH	03/08/11
D	1689-2	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1634-1	LOW S. PNA	1.5	MEOH	08/12/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1699-1	TPH	450	MECL2	07/02/10
P	1707-4	HCID	2250	MECL2	07/02/10
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					
#project specific					
Y					
Z					

LCS SOLUTIONS

4/3/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#	1472-3	BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1667-1	LOW PEST	0.2/0.4/2	ACETONE	06/26/10
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1705-1	ABN	100	ACETONE	07/01/10
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1642-2	TPHD	15000	ACETONE	09/07/10
12	1698-1	ABN BASE	200	MEOH	07/24/10
13	1613-1	LOW PCB	2	ACETONE	06/08/10
14*	1547-1	LOW ABN ACID	10/20	MEOH	04/10/10
15	1716-2	SIM PNA	15/75	MEOH	03/30/11
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18*	1591-4	LOW SIM PNA	1.5	ACETONE	08/28/10
19	1685-3	AK103	7500	ACETONE	09/03/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1593-3	SKY/BHT	100	MEOH	03/31/10
22	1702-4	HERB	12.5/12500	MEOH	04/17/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#	1481-1	DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#	1684-1	ADD. PEST	4	ACETONE	03/25/10
29#	1496-3	DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

4/3/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons EPA Method SW-846-8270D [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Matrix	Water		Soil	
Sample Volume / Final Volume	**500 mL to 0.5 mL**		**7.5 g / 0.5 mL**	
LCS Spike Recovery [6]	**Control Limits**	**ME Limits [3]**	**Control Limits**	**ME Limits [3]**
Napthalene	30 - **100**	21 - **100**	37 - **100**	31 - **100**
2-Methylnapthalene	33 - 108	21 - 121	43 - 101	33 - 111
1-Methylnapthalene	34 - **100**	26 - **100**	39 - **100**	32 - **100**
Acenaphthylene	45 - **100**	38 - **100**	44 - **100**	37 - **100**
Acenapthene	40 - **100**	32 - **100**	41 - **100**	35 - **100**
Dibenzofuran	45 - **100**	37 - **100**	44 - **100**	37 - **100**
Fluorene	45 - **100**	37 - 105	49 - **100**	43 - **100**
Phenanthrene	47 - 101	38 - 110	48 - **100**	42 - **100**
Anthracene	47 - **100**	38 - 108	50 - **100**	44 - **100**
Fluoranthene	48 - 110	38 - 120	54 - **100**	47 - 107
Pyrene	48 - 109	38 - 119	41 - 105	30 - 116
Benz(a)anthracene	44 - 105	34 - 115	49 - **100**	42 - 102
Chyrsene	50 - 103	41 - 112	50 - **100**	43 - 101
Benzo(b)fluoranthene	43 - 115	31 - 127	53 - **100**	45 - 107
Benzo(k)fluoranthene	51 - 110	41 - 120	54 - **100**	47 - 104
Benzo(a)pyrene	44 - 107	34 - 118	50 - **100**	42 - 105
Indeno(1,2,3-cd)pyrene	30 - 106	17 - 119	33 - 101	22 - 112
Dibenzo(a,h)anthracene	42 - 103	32 - 113	37 - 104	26 - 115
Benzo(g,h,i)Perylene	42 - 102	32 - 112	33 - 107	21 - 119
MB / LCS Surrogate Recovery		-		
d14-p-Terphenyl	52 - 110	(5)	47 - 112	(5)
2-Fluorobiphenyl	36 - **100**	(5)	40 - **100**	(5)
Sample Surrogate Recovery				
d14-p-Terphenyl	23 - 120	(5)	35 - 112	(5)
2-Fluorobiphenyl	38 - **100**	(5)	34 - **100**	(5)

(1) Control limits calculated using all available spike recovery data from 7/1/07 through 2/27/09.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) **ME** = A marginal exceedance defined in the NELAC Standard (4) as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) Marginal Exceedances are not allowed for surrogate standards.
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QU97

prepared
by

Analytical Resources, Inc.

SEMIVOLATILE PAH ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH369B-042710-S
SAMPLE

Lab Sample ID: QU97A
LIMS ID: 10-10746
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 14:42
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	0.5	1.7
91-57-6	**2-Methylnaphthalene**	0.5	1.5
90-12-0	1-Methylnaphthalene	2.5	< 2.5 Y
208-96-8	**Acenaphthylene**	0.5	0.3 J
83-32-9	**Acenaphthene**	0.5	1.1
86-73-7	**Fluorene**	0.5	2.1
85-01-8	**Phenanthrene**	0.5	16
120-12-7	**Anthracene**	0.5	1.6
206-44-0	**Fluoranthene**	0.5	24
129-00-0	**Pyrene**	0.5	14
56-55-3	**Benzo(a)anthracene**	0.5	6.2
218-01-9	**Chrysene**	0.5	16
205-99-2	**Benzo(b)fluoranthene**	0.5	7.0
207-08-9	**Benzo(k)fluoranthene**	0.5	7.0
50-32-8	**Benzo(a)pyrene**	0.5	7.4
193-39-5	**Indeno(1,2,3-cd)pyrene**	0.5	5.1
53-70-3	**Dibenz(a,h)anthracene**	0.5	2.0
191-24-2	**Benzo(g,h,i)perylene**	0.5	6.5
132-64-9	**Dibenzofuran**	0.5	1.7

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	48.3%
2-Fluorobiphenyl	59.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH369B-042710-S
DILUTION

Lab Sample ID: QU97A
LIMS ID: 10-10746
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/14/10 16:22
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result	
91-20-3	**Naphthalene**	**1.5**	**1.7**	
91-57-6	**2-Methylnaphthalene**	**1.5**	**1.5**	**J**
90-12-0	1-Methylnaphthalene	2.1	< 2.1	Y
208-96-8	Acenaphthylene	1.5	< 1.5	U
83-32-9	**Acenaphthene**	**1.5**	**1.3**	**J**
86-73-7	**Fluorene**	**1.5**	**2.2**	
85-01-8	**Phenanthrene**	**1.5**	**17**	
120-12-7	**Anthracene**	**1.5**	**1.6**	
206-44-0	**Fluoranthene**	**1.5**	**35**	
129-00-0	**Pyrene**	**1.5**	**16**	
56-55-3	**Benzo(a)anthracene**	**1.5**	**6.4**	
218-01-9	**Chrysene**	**1.5**	**18**	
205-99-2	**Benzo(b)fluoranthene**	**1.5**	**8.8**	
207-08-9	**Benzo(k)fluoranthene**	**1.5**	**8.8**	
50-32-8	**Benzo(a)pyrene**	**1.5**	**7.3**	
193-39-5	**Indeno(1,2,3-cd)pyrene**	**1.5**	**2.4**	
53-70-3	**Dibenz(a,h)anthracene**	**1.5**	**0.9**	**J**
191-24-2	**Benzo(g,h,i)perylene**	**1.5**	**2.3**	
132-64-9	**Dibenzofuran**	**1.5**	**1.9**	

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	59.5%
2-Fluorobiphenyl	74.4%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH226B-042710-S
SAMPLE

Lab Sample ID: QU97B
LIMS ID: 10-10747
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 15:14
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result	
91-20-3	**Naphthalene**	**0.5**	**2.5**	
91-57-6	**2-Methylnaphthalene**	**0.5**	**1.6**	
90-12-0	1-Methylnaphthalene	2.0	< 2.0	Y
208-96-8	**Acenaphthylene**	**0.5**	**0.4**	**J**
83-32-9	**Acenaphthene**	**0.5**	**0.9**	
86-73-7	**Fluorene**	**0.5**	**2.3**	
85-01-8	**Phenanthrene**	**0.5**	**43**	**E**
120-12-7	**Anthracene**	**0.5**	**2.8**	
206-44-0	**Fluoranthene**	**0.5**	**75**	**ES**
129-00-0	**Pyrene**	**0.5**	**53**	**ES**
56-55-3	**Benzo(a)anthracene**	**0.5**	**11**	
218-01-9	**Chrysene**	**0.5**	**55**	**ES**
205-99-2	**Benzo(b)fluoranthene**	**0.5**	**29**	
207-08-9	**Benzo(k)fluoranthene**	**0.5**	**29**	
50-32-8	**Benzo(a)pyrene**	**0.5**	**18**	
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.5**	**28**	
53-70-3	**Dibenz(a,h)anthracene**	**0.5**	**8.9**	
191-24-2	**Benzo(g,h,i)perylene**	**0.5**	**31**	
132-64-9	**Dibenzofuran**	**0.5**	**3.5**	

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	72.2%
2-Fluorobiphenyl	51.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH226B-042710-S
DILUTION

Lab Sample ID: QU97B
LIMS ID: 10-10747
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/14/10 17:59
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 5.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**2.5**	**2.7**
91-57-6	2-Methylnaphthalene	2.5	< 2.5 U
90-12-0	**1-Methylnaphthalene**	**2.5**	**1.7 J**
208-96-8	Acenaphthylene	2.5	< 2.5 U
83-32-9	Acenaphthene	2.5	< 2.5 U
86-73-7	**Fluorene**	**2.5**	**2.6**
85-01-8	**Phenanthrene**	**2.5**	**60**
120-12-7	**Anthracene**	**2.5**	**2.6**
206-44-0	**Fluoranthene**	**2.5**	**160**
129-00-0	**Pyrene**	**2.5**	**59**
56-55-3	**Benzo(a)anthracene**	**2.5**	**13**
218-01-9	**Chrysene**	**2.5**	**82**
205-99-2	**Benzo(b)fluoranthene**	**2.5**	**59**
207-08-9	**Benzo(k)fluoranthene**	**2.5**	**59**
50-32-8	**Benzo(a)pyrene**	**2.5**	**28**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**2.5**	**17**
53-70-3	**Dibenz(a,h)anthracene**	**2.5**	**4.9**
191-24-2	**Benzo(g,h,i)perylene**	**2.5**	**16**
132-64-9	**Dibenzofuran**	**2.5**	**3.7**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	52.4%
2-Fluorobiphenyl	72.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH152B-042710-S
SAMPLE

Lab Sample ID: QU97C
LIMS ID: 10-10748
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 15:46
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result	
91-20-3	**Naphthalene**	0.5	2.4	
91-57-6	**2-Methylnaphthalene**	0.5	1.6	
90-12-0	1-Methylnaphthalene	2.6	< 2.6	Y
208-96-8	**Acenaphthylene**	0.5	0.3	J
83-32-9	**Acenaphthene**	0.5	0.6	
86-73-7	**Fluorene**	0.5	2.2	
85-01-8	**Phenanthrene**	0.5	39	
120-12-7	**Anthracene**	0.5	1.2	
206-44-0	**Fluoranthene**	0.5	77	ES
129-00-0	**Pyrene**	0.5	67	ES
56-55-3	**Benzo(a)anthracene**	0.5	9.6	
218-01-9	**Chrysene**	0.5	49	ES
205-99-2	**Benzo(b)fluoranthene**	0.5	24	
207-08-9	**Benzo(k)fluoranthene**	0.5	24	
50-32-8	**Benzo(a)pyrene**	0.5	7.9	
193-39-5	**Indeno(1,2,3-cd)pyrene**	0.5	17	
53-70-3	**Dibenz(a,h)anthracene**	0.5	4.6	
191-24-2	**Benzo(g,h,i)perylene**	0.5	17	
132-64-9	**Dibenzofuran**	0.5	3.4	

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	97.6%
2-Fluorobiphenyl	47.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH152B-042710-S
DILUTION

Lab Sample ID: QU97C
LIMS ID: 10-10748
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/14/10 18:32
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 5.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**2.5**	**2.4 J**
91-57-6	2-Methylnaphthalene	2.5	< 2.5 U
90-12-0	**1-Methylnaphthalene**	**2.5**	**2.1 J**
208-96-8	Acenaphthylene	2.5	< 2.5 U
83-32-9	Acenaphthene	2.5	< 2.5 U
86-73-7	**Fluorene**	**2.5**	**2.0 J**
85-01-8	**Phenanthrene**	**2.5**	**43**
120-12-7	**Anthracene**	**2.5**	**1.4 J**
206-44-0	**Fluoranthene**	**2.5**	**160**
129-00-0	**Pyrene**	**2.5**	**32**
56-55-3	**Benzo(a)anthracene**	**2.5**	**8.4**
218-01-9	**Chrysene**	**2.5**	**56**
205-99-2	**Benzo(b)fluoranthene**	**2.5**	**36**
207-08-9	**Benzo(k)fluoranthene**	**2.5**	**36**
50-32-8	**Benzo(a)pyrene**	**2.5**	**14**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**2.5**	**8.2**
53-70-3	**Dibenz(a,h)anthracene**	**2.5**	**2.4 J**
191-24-2	**Benzo(g,h,i)perylene**	**2.5**	**7.4**
132-64-9	**Dibenzofuran**	**2.5**	**2.7**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	48.4%
2-Fluorobiphenyl	66.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-CB165B-042710-S
SAMPLE

Lab Sample ID: QU97D
LIMS ID: 10-10749
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 16:19
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result	
91-20-3	**Naphthalene**	**1.0**	**3.4**	
91-57-6	**2-Methylnaphthalene**	**1.0**	**2.9**	
90-12-0	1-Methylnaphthalene	3.8	< 3.8	Y
208-96-8	**Acenaphthylene**	**1.0**	**0.6**	**J**
83-32-9	**Acenaphthene**	**1.0**	**1.2**	
86-73-7	**Fluorene**	**1.0**	**2.1**	
85-01-8	**Phenanthrene**	**1.0**	**21**	
120-12-7	**Anthracene**	**1.0**	**2.3**	
206-44-0	**Fluoranthene**	**1.0**	**33**	
129-00-0	**Pyrene**	**1.0**	**33**	
56-55-3	**Benzo(a)anthracene**	**1.0**	**11**	
218-01-9	**Chrysene**	**1.0**	**22**	
205-99-2	**Benzo(b)fluoranthene**	**1.0**	**13**	
207-08-9	**Benzo(k)fluoranthene**	**1.0**	**13**	
50-32-8	**Benzo(a)pyrene**	**1.0**	**13**	
193-39-5	**Indeno(1,2,3-cd)pyrene**	**1.0**	**9.4**	
53-70-3	**Dibenz(a,h)anthracene**	**1.0**	**3.6**	
191-24-2	**Benzo(g,h,i)perylene**	**1.0**	**12**	
132-64-9	**Dibenzofuran**	**1.0**	**1.8**	

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	69.0%
2-Fluorobiphenyl	57.9%

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Sample ID: NBF-MH178B-042710-S
SAMPLE

Lab Sample ID: QU97E
LIMS ID: 10-10750
Matrix: Filter Bag
Data Release Authorized: 
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 16:51
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result	
91-20-3	**Naphthalene**	1.0	2.6	
91-57-6	**2-Methylnaphthalene**	1.0	1.8	
90-12-0	1-Methylnaphthalene	3.7	< 3.7	Y
208-96-8	**Acenaphthylene**	1.0	0.6	J
83-32-9	**Acenaphthene**	1.0	1.6	
86-73-7	**Fluorene**	1.0	3.5	
85-01-8	**Phenanthrene**	1.0	42	
120-12-7	**Anthracene**	1.0	3.0	
206-44-0	**Fluoranthene**	1.0	76	
129-00-0	**Pyrene**	1.0	65	
56-55-3	**Benzo(a)anthracene**	1.0	15	
218-01-9	**Chrysene**	1.0	59	
205-99-2	**Benzo(b)fluoranthene**	1.0	40	
207-08-9	**Benzo(k)fluoranthene**	1.0	40	
50-32-8	**Benzo(a)pyrene**	1.0	27	
193-39-5	**Indeno(1,2,3-cd)pyrene**	1.0	35	
53-70-3	**Dibenz(a,h)anthracene**	1.0	13	
191-24-2	**Benzo(g,h,i)perylene**	1.0	35	
132-64-9	**Dibenzofuran**	1.0	3.7	

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	80.2%
2-Fluorobiphenyl	59.0%

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Sample ID: NBF-CB173B-042710-S
SAMPLE

Lab Sample ID: QU97F
LIMS ID: 10-10751
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 17:23
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result	
91-20-3	**Naphthalene**	1.0	4.2	
91-57-6	**2-Methylnaphthalene**	1.0	4.4	
90-12-0	1-Methylnaphthalene	4.6	< 4.6	Y
208-96-8	**Acenaphthylene**	1.0	0.9	J
83-32-9	**Acenaphthene**	1.0	1.5	
86-73-7	**Fluorene**	1.0	2.8	
85-01-8	**Phenanthrene**	1.0	19	
120-12-7	**Anthracene**	1.0	2.0	
206-44-0	**Fluoranthene**	1.0	25	
129-00-0	**Pyrene**	1.0	28	
56-55-3	**Benzo(a)anthracene**	1.0	5.6	
218-01-9	**Chrysene**	1.0	21	
205-99-2	**Benzo(b)fluoranthene**	1.0	12	
207-08-9	**Benzo(k)fluoranthene**	1.0	12	
50-32-8	**Benzo(a)pyrene**	1.0	9.2	
193-39-5	**Indeno(1,2,3-cd)pyrene**	1.0	8.2	
53-70-3	**Dibenz(a,h)anthracene**	1.0	3.1	
191-24-2	**Benzo(g,h,i)perylene**	1.0	12	
132-64-9	**Dibenzofuran**	1.0	2.6	

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	70.4%
2-Fluorobiphenyl	69.1%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: NBF-MH108B-042710-S
SAMPLE

Lab Sample ID: QU97G
LIMS ID: 10-10753
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 17:55
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.5**	**1.6**
91-57-6	**2-Methylnaphthalene**	**0.5**	**1.1**
90-12-0	1-Methylnaphthalene	2.9	< 2.9 Y
208-96-8	Acenaphthylene	0.5	< 0.5 U
83-32-9	**Acenaphthene**	**0.5**	**0.5**
86-73-7	**Fluorene**	**0.5**	**1.6**
85-01-8	**Phenanthrene**	**0.5**	**12**
120-12-7	**Anthracene**	**0.5**	**0.6**
206-44-0	**Fluoranthene**	**0.5**	**25**
129-00-0	**Pyrene**	**0.5**	**16**
56-55-3	**Benzo(a)anthracene**	**0.5**	**2.5**
218-01-9	**Chrysene**	**0.5**	**13**
205-99-2	**Benzo(b)fluoranthene**	**0.5**	**7.4**
207-08-9	**Benzo(k)fluoranthene**	**0.5**	**7.4**
50-32-8	**Benzo(a)pyrene**	**0.5**	**4.0**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.5**	**5.8**
53-70-3	**Dibenz(a,h)anthracene**	**0.5**	**1.8**
191-24-2	**Benzo(g,h,i)perylene**	**0.5**	**6.2**
132-64-9	**Dibenzofuran**	**0.5**	**1.6**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	57.5%
2-Fluorobiphenyl	57.0%

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Sample ID: NBF-MH434B-042710-S
SAMPLE

Lab Sample ID: QU97H
LIMS ID: 10-10754
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 18:28
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	1.0	3.5
91-57-6	**2-Methylnaphthalene**	1.0	2.6
90-12-0	1-Methylnaphthalene	4.6	< 4.6 Y
208-96-8	**Acenaphthylene**	1.0	0.6 J
83-32-9	**Acenaphthene**	1.0	1.4
86-73-7	**Fluorene**	1.0	4.4
85-01-8	**Phenanthrene**	1.0	20
120-12-7	**Anthracene**	1.0	1.8
206-44-0	**Fluoranthene**	1.0	37
129-00-0	**Pyrene**	1.0	38
56-55-3	**Benzo(a)anthracene**	1.0	6.8
218-01-9	**Chrysene**	1.0	28
205-99-2	**Benzo(b)fluoranthene**	1.0	18
207-08-9	**Benzo(k)fluoranthene**	1.0	18
50-32-8	**Benzo(a)pyrene**	1.0	12
193-39-5	**Indeno(1,2,3-cd)pyrene**	1.0	13
53-70-3	**Dibenz(a,h)anthracene**	1.0	5.2
191-24-2	**Benzo(g,h,i)perylene**	1.0	16
132-64-9	**Dibenzofuran**	1.0	3.2

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	92.5%
2-Fluorobiphenyl	64.3%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: NBF-LS431B-042710-S
SAMPLE

Lab Sample ID: QU97I
LIMS ID: 10-10755
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 19:00
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result	
91-20-3	Naphthalene	0.5	1.5	
91-57-6	2-Methylnaphthalene	0.5	1.5	
90-12-0	1-Methylnaphthalene	3.1	< 3.1	Y
208-96-8	Acenaphthylene	0.5	0.3	J
83-32-9	Acenaphthene	0.5	1.6	
86-73-7	Fluorene	0.5	2.0	
85-01-8	Phenanthrene	0.5	11	
120-12-7	Anthracene	0.5	0.8	
206-44-0	Fluoranthene	0.5	26	
129-00-0	Pyrene	0.5	16	
56-55-3	Benzo(a)anthracene	0.5	3.4	
218-01-9	Chrysene	0.5	15	
205-99-2	Benzo(b)fluoranthene	0.5	10	
207-08-9	Benzo(k)fluoranthene	0.5	10	
50-32-8	Benzo(a)pyrene	0.5	5.2	
193-39-5	Indeno(1,2,3-cd)pyrene	0.5	8.4	
53-70-3	Dibenz(a,h)anthracene	0.5	3.0	
191-24-2	Benzo(g,h,i)perylene	0.5	8.4	
132-64-9	Dibenzofuran	0.5	1.8	

Reported in Total µg

Semivolatile Surrogate Recovery

d14-p-Terphenyl	52.1%
2-Fluorobiphenyl	59.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
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Sample ID: NBF-LS431B-042710-S
DILUTION

Lab Sample ID: QU97I
LIMS ID: 10-10755
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/14/10 16:54
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**1.5**	**1.5 J**
91-57-6	**2-Methylnaphthalene**	**1.5**	**1.3 J**
90-12-0	1-Methylnaphthalene	2.8	< 2.8 Y
208-96-8	Acenaphthylene	1.5	< 1.5 U
83-32-9	**Acenaphthene**	**1.5**	**1.6**
86-73-7	**Fluorene**	**1.5**	**1.8**
85-01-8	**Phenanthrene**	**1.5**	**12**
120-12-7	**Anthracene**	**1.5**	**0.9 J**
206-44-0	**Fluoranthene**	**1.5**	**40**
129-00-0	**Pyrene**	**1.5**	**13**
56-55-3	**Benzo(a)anthracene**	**1.5**	**3.9**
218-01-9	**Chrysene**	**1.5**	**20**
205-99-2	**Benzo(b)fluoranthene**	**1.5**	**14**
207-08-9	**Benzo(k)fluoranthene**	**1.5**	**14**
50-32-8	**Benzo(a)pyrene**	**1.5**	**5.8**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**1.5**	**3.4**
53-70-3	**Dibenz(a,h)anthracene**	**1.5**	**1.0 J**
191-24-2	**Benzo(g,h,i)perylene**	**1.5**	**2.6**
132-64-9	**Dibenzofuran**	**1.5**	**1.7**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	52.6%
2-Fluorobiphenyl	69.8%

ANALYTICAL RESOURCES INCORPORATED

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PNAs by SW8270D GC/MS

Sample ID: NBF-CB423B-042710-S
SAMPLE

Lab Sample ID: QU97J
LIMS ID: 10-10756
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 19:32
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result	
91-20-3	**Naphthalene**	**0.5**	**2.1**	
91-57-6	**2-Methylnaphthalene**	**0.5**	**1.1**	
90-12-0	1-Methylnaphthalene	3.0	< 3.0	Y
208-96-8	Acenaphthylene	0.5	< 0.5	U
83-32-9	Acenaphthene	0.5	< 0.5	U
86-73-7	**Fluorene**	**0.5**	**2.2**	
85-01-8	**Phenanthrene**	**0.5**	**2.5**	
120-12-7	**Anthracene**	**0.5**	**0.4**	**J**
206-44-0	**Fluoranthene**	**0.5**	**0.5**	**J**
129-00-0	**Pyrene**	**0.5**	**0.3**	**J**
56-55-3	Benzo(a)anthracene	0.5	< 0.5	U
218-01-9	**Chrysene**	**0.5**	**0.3**	**J**
205-99-2	Benzo(b)fluoranthene	0.5	< 0.5	U
207-08-9	Benzo(k)fluoranthene	0.5	< 0.5	U
50-32-8	Benzo(a)pyrene	0.5	< 0.5	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.5	< 0.5	U
53-70-3	Dibenz(a,h)anthracene	0.5	< 0.5	U
191-24-2	Benzo(g,h,i)perylene	0.5	< 0.5	U
132-64-9	**Dibenzofuran**	**0.5**	**1.8**	

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	44.2%
2-Fluorobiphenyl	63.3%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: NBF-CB423B-042710-S
DILUTION

Lab Sample ID: QU97J
LIMS ID: 10-10756
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/14/10 17:27
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**1.5**	**1.9**
91-57-6	2-Methylnaphthalene	1.5	< 1.5 U
90-12-0	1-Methylnaphthalene	3.0	< 3.0 Y
208-96-8	Acenaphthylene	1.5	< 1.5 U
83-32-9	Acenaphthene	1.5	< 1.5 U
86-73-7	**Fluorene**	**1.5**	**1.8**
85-01-8	**Phenanthrene**	**1.5**	**2.6**
120-12-7	Anthracene	1.5	< 1.5 U
206-44-0	Fluoranthene	1.5	< 1.5 U
129-00-0	Pyrene	1.5	< 1.5 U
56-55-3	Benzo(a)anthracene	1.5	< 1.5 U
218-01-9	Chrysene	1.5	< 1.5 U
205-99-2	Benzo(b)fluoranthene	1.5	< 1.5 U
207-08-9	Benzo(k)fluoranthene	1.5	< 1.5 U
50-32-8	Benzo(a)pyrene	1.5	< 1.5 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.5	< 1.5 U
53-70-3	Dibenz(a,h)anthracene	1.5	< 1.5 U
191-24-2	Benzo(g,h,i)perylene	1.5	< 1.5 U
132-64-9	**Dibenzofuran**	**1.5**	**1.5**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	62.6%
2-Fluorobiphenyl	66.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
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Sample ID: NBF-MH356B-042710-S
SAMPLE

Lab Sample ID: QU97K
LIMS ID: 10-10757
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 20:04
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result	
91-20-3	**Naphthalene**	0.5	3.6	
91-57-6	**2-Methylnaphthalene**	0.5	3.6	
90-12-0	1-Methylnaphthalene	3.7	< 3.7	Y
208-96-8	**Acenaphthylene**	0.5	0.7	
83-32-9	**Acenaphthene**	0.5	2.6	
86-73-7	**Fluorene**	0.5	3.9	
85-01-8	**Phenanthrene**	0.5	34	
120-12-7	**Anthracene**	0.5	33	
206-44-0	**Fluoranthene**	0.5	120	**ES**
129-00-0	**Pyrene**	0.5	170	**ES**
56-55-3	**Benzo(a)anthracene**	0.5	25	
218-01-9	**Chrysene**	0.5	130	**ES**
205-99-2	**Benzo(b)fluoranthene**	0.5	57	**ES**
207-08-9	**Benzo(k)fluoranthene**	0.5	57	**ES**
50-32-8	**Benzo(a)pyrene**	0.5	30	
193-39-5	**Indeno(1,2,3-cd)pyrene**	0.5	50	**ES**
53-70-3	**Dibenz(a,h)anthracene**	0.5	18	
191-24-2	**Benzo(g,h,i)perylene**	0.5	47	**ES**
132-64-9	**Dibenzofuran**	0.5	5.3	

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	136%
2-Fluorobiphenyl	56.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
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Sample ID: NBF-MH356B-042710-S
DILUTION

Lab Sample ID: QU97K
LIMS ID: 10-10757
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: 04/27/10
Date Received: 04/27/10

Date Extracted: 05/05/10
Date Analyzed: 05/14/10 20:41
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 0.5 mL
Dilution Factor: 10.0
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**5.0**	**4.4 J**
91-57-6	2-Methylnaphthalene	5.0	< 5.0 U
90-12-0	**1-Methylnaphthalene**	**5.0**	**3.3 J**
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	**Acenaphthene**	**5.0**	**3.6 J**
86-73-7	**Fluorene**	**5.0**	**3.2 J**
85-01-8	**Phenanthrene**	**5.0**	**83**
120-12-7	**Anthracene**	**5.0**	**3.2 J**
206-44-0	**Fluoranthene**	**5.0**	**380**
129-00-0	**Pyrene**	**5.0**	**89**
56-55-3	**Benzo(a)anthracene**	**5.0**	**31**
218-01-9	**Chrysene**	**5.0**	**200**
205-99-2	**Benzo(b)fluoranthene**	**5.0**	**140**
207-08-9	**Benzo(k)fluoranthene**	**5.0**	**140**
50-32-8	**Benzo(a)pyrene**	**5.0**	**48**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**5.0**	**34**
53-70-3	**Dibenz(a,h)anthracene**	**5.0**	**10**
191-24-2	**Benzo(g,h,i)perylene**	**5.0**	**26**
132-64-9	**Dibenzofuran**	**5.0**	**4.8 J**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	52.6%
2-Fluorobiphenyl	81.6%

ANALYTICAL RESOURCES INCORPORATED

SW8270 PNA SURROGATE RECOVERY SUMMARY

Matrix: Filter Bag

QC Report No: QU97-Science App. International Corp
Project: NBF

Client ID		TER	FBP	TOT OUT
MB-050510		87.2%	53.2%	0
LCS-050510		84.8%	56.8%	0
LCSD-050510		83.2%	56.4%	0
NBF-MH369B-042710-S		48.3%	59.0%	0
NBF-MH369B-042710-S	DL	59.5%	74.4%	0
NBF-MH226B-042710-S		72.2%	51.9%	0
NBF-MH226B-042710-S	DL	52.4%	72.8%	0
NBF-MH152B-042710-S		97.6%	47.2%	0
NBF-MH152B-042710-S	DL	48.4%	66.0%	0
NBF-CB165B-042710-S		69.0%	57.9%	0
NBF-MH178B-042710-S		80.2%	59.0%	0
NBF-CB173B-042710-S		70.4%	69.1%	0
NBF-MH108B-042710-S		57.5%	57.0%	0
NBF-MH434B-042710-S		92.5%	64.3%	0
NBF-LS431B-042710-S		52.1%	59.2%	0
NBF-LS431B-042710-S	DL	52.6%	69.8%	0
NBF-CB423B-042710-S		44.2%	63.3%	0
NBF-CB423B-042710-S	DL	62.6%	66.2%	0
NBF-MH356B-042710-S		136%*	56.6%	1
NBF-MH356B-042710-S	DL	52.6%	81.6%	0

	LCS/MB LIMITS	QC LIMITS
(TER) = d14-p-Terphenyl	(47-112)	(35-112)
(FBP) = 2-Fluorobiphenyl	(40-100)	(34-100)

Prep Method: SW3550B
Log Number Range: 10-10746 to 10-10757

FORM-II SW8270 PNA

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: LCS-050510
LCS/LCSD

Lab Sample ID: LCS-050510
LIMS ID: 10-10746
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: 04/27/10

Date Extracted LCS/LCSD: 05/05/10

Date Analyzed LCS: 05/13/10 13:37
LCSD: 05/13/10 14:09
Instrument/Analyst LCS: NT6/JZ
LCSD: NT6/JZ
GPC Cleanup: Yes
Silica Gel Cleanup: Yes

Sample Amount LCS: 1.00 g
LCSD: 1.00 g
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Alumina Cleanup: No

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	5.3	12.5	42.4%	5.7	12.5	45.6%	7.3%
2-Methylnaphthalene	5.9	12.5	47.2%	6.1	12.5	48.8%	3.3%
1-Methylnaphthalene	5.8	12.5	46.4%	6.1	12.5	48.8%	5.0%
Acenaphthylene	6.9	12.5	55.2%	7.0	12.5	56.0%	1.4%
Acenaphthene	7.0	12.5	56.0%	7.0	12.5	56.0%	0.0%
Fluorene	7.6	12.5	60.8%	7.4	12.5	59.2%	2.7%
Phenanthrene	8.9	12.5	71.2%	8.6	12.5	68.8%	3.4%
Anthracene	8.4	12.5	67.2%	8.2	12.5	65.6%	2.4%
Fluoranthene	9.9	12.5	79.2%	9.4	12.5	75.2%	5.2%
Pyrene	9.3	12.5	74.4%	9.7	12.5	77.6%	4.2%
Benzo(a)anthracene	10.0	12.5	80.0%	9.9	12.5	79.2%	1.0%
Chrysene	10.2	12.5	81.6%	10.0	12.5	80.0%	2.0%
Benzo(b)fluoranthene	9.8	12.5	78.4%	9.2	12.5	73.6%	6.3%
Benzo(k)fluoranthene	10.3	12.5	82.4%	10.3	12.5	82.4%	0.0%
Benzo(a)pyrene	8.8	12.5	70.4%	8.8	12.5	70.4%	0.0%
Indeno(1,2,3-cd)pyrene	11.3	12.5	90.4%	11.3	12.5	90.4%	0.0%
Dibenz(a,h)anthracene	10.9	12.5	87.2%	11.0	12.5	88.0%	0.9%
Benzo(g,h,i)perylene	10.7	12.5	85.6%	11.0	12.5	88.0%	2.8%
Dibenzofuran	7.7	12.5	61.6%	7.6	12.5	60.8%	1.3%

Semivolatile Surrogate Recovery

	LCS	LCSD
d14-p-Terphenyl	84.8%	83.2%
2-Fluorobiphenyl	56.8%	56.4%

Results reported in Total µg
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QU97MB1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: QU97 Project: NBF

Lab File ID: 05131002 Date Extracted: 05/05/10

Instrument ID: NT6 Date Analyzed: 05/13/10

Matrix: SOLID Time Analyzed: 1305

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QU97LCS1	QU97LCS1	05131003	05/13/10
02	QU97LCSD1	QU97LCSD1	05131004	05/13/10
03	NBF-MH369B-04271	QU97A	05131005	05/13/10
04	NBF-MH226B-04271	QU97B	05131006	05/13/10
05	NBF-MH152B-04271	QU97C	05131007	05/13/10
06	NBF-CB165B-04271	QU97D	05131008	05/13/10
07	NBF-MH178B-04271	QU97E	05131009	05/13/10
08	NBF-CB173B-04271	QU97F	05131010	05/13/10
09	NBF-MH108B-04271	QU97G	05131011	05/13/10
10	NBF-MH434B-04271	QU97H	05131012	05/13/10
11	NBF-LS431B-04271	QU97I	05131013	05/13/10
12	NBF-CB423B-04271	QU97J	05131014	05/13/10
13	NBF-MH356B-04271	QU97K	05131015	05/13/10
14	NBF-MH369B-04271	QU97A	05141010	05/14/10
15	NBF-LS431B-04271	QU97I	05141011	05/14/10
16	NBF-CB423B-04271	QU97J	05141012	05/14/10
17	NBF-MH226B-04271	QU97B	05141013	05/14/10
18	NBF-MH152B-04271	QU97C	05141014	05/14/10
19	NBF-MH356B-04271	QU97K	05141018	05/14/10
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: MB-050510
METHOD BLANK

Lab Sample ID: MB-050510
LIMS ID: 10-10746
Matrix: Filter Bag
Data Release Authorized:
Reported: 05/19/10

QC Report No: QU97-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted: 05/05/10
Date Analyzed: 05/13/10 13:05
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 g
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.5	< 0.5 U
91-57-6	2-Methylnaphthalene	0.5	< 0.5 U
90-12-0	1-Methylnaphthalene	0.5	< 0.5 U
208-96-8	Acenaphthylene	0.5	< 0.5 U
83-32-9	Acenaphthene	0.5	< 0.5 U
86-73-7	Fluorene	0.5	< 0.5 U
85-01-8	Phenanthrene	0.5	< 0.5 U
120-12-7	Anthracene	0.5	< 0.5 U
206-44-0	Fluoranthene	0.5	< 0.5 U
129-00-0	Pyrene	0.5	< 0.5 U
56-55-3	Benzo(a)anthracene	0.5	< 0.5 U
218-01-9	Chrysene	0.5	< 0.5 U
205-99-2	Benzo(b)fluoranthene	0.5	< 0.5 U
207-08-9	Benzo(k)fluoranthene	0.5	< 0.5 U
50-32-8	Benzo(a)pyrene	0.5	< 0.5 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.5	< 0.5 U
53-70-3	Dibenz(a,h)anthracene	0.5	< 0.5 U
191-24-2	Benzo(g,h,i)perylene	0.5	< 0.5 U
132-64-9	Dibenzofuran	0.5	< 0.5 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	87.2%
2-Fluorobiphenyl	53.2%

Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 8, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: QX25 & QX26

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile QX25/QX26

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QX25, QX26

prepared
by

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QX25	Turn-around Requested: Standard	Page: 1 of 3	
ARI Client Company: SAIC	Phone: 425 368 0420	Date: 5/20/10	Ice Present?
Client Contact: Will Hafner		No. of Coolers:	Cooler Temps:
Client Project Name: NBF			
Client Project #:	Samplers: WH/AW/DK		

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

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested (1) RCB Arsenic	(2) 7471 Mercury	(3) 6010 metals	(4) Grain Size	Low Level RCB Arsenic	Metals (total and dissolved)	SOC + SIM SOC	Hardness, pH, Alkalinity	Anions, TOC, DOC, TSS	VOC	Notes/Comments
NBF-MH108A-052010-S	5/20/10	11:00	Filter	1	X	X	X	X							
NBF-MH108B-052010-S	5/20/10		Filter	1											Dioxins - dry + send to Access
NBF-MH108-052010-W	5/20/10		Water	1					X	X	X	X	X	X	
~~NBF-MH108A-052010-S~~	~~5/20/10~~		~~Filter~~		~~X~~	~~X~~	~~X~~	~~X~~							
~~NBF-MH108B-052010-S~~	~~5/20/10~~		~~Filter~~												~~Dioxins - dry + send to Access~~
NBF-LS431V-052010-S	5/20/10		Filter	4											Archive
NBF-LS431A-052010-S	5/20/10		Filter	1	X	X	X	X							
NBF-LS431B-052010-S	5/20/10		Filter	1											Dioxins - dry + send to Access
NBF-CB423A-052010-S	5/20/10		Filter	1	X	X	X	X							
NBF-CB423B-052010	5/20/10	↓	Filter	1											Dioxins - dry + send to Access

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Jonathan Nuwer	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 5/20/10	Date & Time: 5/20/10 1145	Date & Time:	Date & Time:

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

QX25 - 5/20/10

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested: Standard	Page: 2 of 3	
ARI Client Company: SAIC	Phone: 425 318 0420	Date: 5/20/10	Ice Present?
Client Contact: Will Hafner		No. of Coolers:	Cooler Temps:
Client Project Name: NBF			
Client Project #:	Samplers: WH/AW/DK		

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

Sample ID	Date	Time	Matrix	No. Containers	① PCB Aroclor	② 7471 Mercury	③ 6010 metals	⑤ Grain Size					Notes/Comments: Analyze in order listed if insufficent material
NBF-MH356A-052010-S	5/20/10	11:00	Filter	1	X	X	X	X					
NBF-MH356B-052010-S	5/20/10	↓	Filter	1									~~Aroclor~~ Dioxins - dry + send to Access
NBF-MH369A-052010-S	5/20/10	↓	Filter	1	X	X	X	X					
NBF-MH369B-052010-S	5/20/10	↓	Filter	1									~~Aroclor~~ Dioxins - dry + send to Access
NBF-MH226A-052010-S	5/20/10	↓	Filter	1	X	X	X	X					
NBF-MH226B-052010-S	5/20/10	↓	Filter	1									~~Aroclor~~ Dioxins - dry + send to Archive
NBF-MH152A-052010-S	5/20/10	↓	Filter	1	X	X	X	X					
NBF-MH152B-052010-S	5/20/10	↓	Filter	1									~~Aroclor~~ Dioxins - dry + send to Access
NBF-CB165A-052010-S	5/20/10	↓	Filter	1	X	X	X	X					
NBF-CB165B-052010-S	5/20/10	↓	Filter	1									~~Aroclor~~ Dioxins - dry + send to Access

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Jonathan Nuwer	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 5/20/10	Date & Time: 5/20/10 1145	Date & Time:	Date & Time:

QX25 : 00004

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number:	Turn-around Requested: Standard
ARI Client Company: SAIC	Phone: 425 318 0420
Client Contact: Will Hafner	
Client Project Name: NBF	
Client Project #:	Samplers: WH/AW/DK

Page: 3 of 3		
Date: 5/20/10	Ice Present?	
No. of Coolers:	Cooler Temps:	

Analysis Requested

Sample ID	Date	Time	Matrix	No. Containers	① PCB Aroclor	② 7471 Mercury	③ 6010 Metals	④ Grain Size	low level PCB Aroclor	Metals total + dissolved	SVOC + SIM SVOC	Hardness, pH Alkalinity	Anions, TOC DOC, TSS	VOC	Notes/Comments
															Analyze filtered solids in order listed if insufficient material
NBF-LSUB1-052010-W	5/20/10	11:00	Water	1					X	X	X	X	X	X	
NBF-MH178A-052010-S	5/20/10	↓	Filter	1	X	X	X	X							
NBF-MH178B-052010-S	5/20/10	↓	Filter	1											~~Aroclor~~ Dioxins - dry + send to Axys
NBF-CB173A-052010-S	5/20/10	↓	Filter	1	X	X	X	X							
NBF-CB173B-052010-S	5/20/10	↓	Filter												Dioxins ~~Aroclor~~ - dry + send to Axys
NBF-MH133DA-052010-S	5/20/10	↓	Filter		X	X	X	X							
NBF-MH133DB-052010-S	5/20/10	↓	Filter												Dioxins ~~Aroclor~~ - dry + send to Axys
NBF-~~135A~~ MH138A-052010-S	5/20/10	↓	Filter		X	X	X	X							
NBF-~~MH~~138B-052010-S	5/20/10	↓	Filter												Dioxins ~~Aroclor~~ - dry + send to Axys

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Jonathan Nuwer	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 5/20/10	Date & Time: 5/20/10 1145	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

QX25:00005

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: QX25 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): 8.8 (W) 8.3 (W) 5.6 4.9 ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90877757

Cooler Accepted by: AV Date: 5/20/10 Time: 1145

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: 5/20/10 ≈1330 Equipment: polychurn Split by: AV/JP

Samples Logged by: AV Date: 5/20/10 Time: _____

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

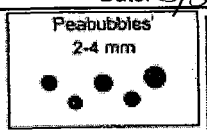
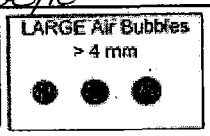
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
NBF-MH108A-05/10/20-S	NBF-MH108A-052010-S		
NBF-MH133A-05/10/20-S	NBF-MH133DA-052010-S		
NBF-MH133B-05/10/20-S	NBF-MH133DB-052010-S		

Additional Notes, Discrepancies, & Resolutions:

Carboys in buckets of ice when brought in. Site water not on C.O.C, being added to another job.
*All dates on filters written 5/20/10, on C.O.C 052010

*Waters within Compliance filters not

By: AV Date: 5/20/10

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

Cooler#: 1	Temperature(°C): 8.3	
Sample ID	**Bottle Count**	**Bottle Type**
NBF-MH108A-05/10/20-S	1	filter
NBF-MH356B-05/20/10-S	1	"
-MH108B-05/20/10-S	1	"
-MH423B-05/20/10-S	1	"
-MH423A-05/20/10-S	1	"
-LS431B-05/20/10-S	1	"
-LS431V-05/20/10-S	~~2~~ 4 AV	"
-LS431A-05/20/10-S	1	"
Cooler#: 1 cont	**Temperature(°C):**	
Sample ID	**Bottle Count**	**Bottle Type**
~~NBF-LS431~~ AV		
NBF-MH356A-05/20/10-S	1	filter
Cooler#: 2	**Temperature(°C): 8.8**	
Sample ID	**Bottle Count**	**Bottle Type**
NBF-CB116SB-05/20/10-S	1	filter
-CB116SA-05/20/10-S	1	"
-MH178B-05/20/10-S	1	"
-MH178A-05/20/10-S	1	"
-CB173A-05/20/10-S	1	"
-MH152-A-05/20/10-S	1	"
-MH369B-05/20/10-S	1	"
-CB173B-05/20/10-S	1	"
Cooler#: 2 cont	**Temperature(°C):**	
Sample ID	**Bottle Count**	**Bottle Type**
NBF-MH152B-05/20/10-S	1	filter
-MH138A-05/20/10-S	1	"
-MH226B-05/20/10-S	1	"
-MH138B-05/20/10-S	1	"
-MH369A-05/20/10-S	1	"
-MH226A-05/20/10-S	1	"
-CB133A-05/20/10-S	1	"
-CB133B-05/20/10-S	1	"

Completed by: AV Date: 5/20/10 Time: 1510

PRESERVATION VERIFICATION 05/20/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QX25**

PC: Cheronne
VTSR: 05/20/10

Inquiry Number: NONE
Analysis Requested: 05/20/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-490
Validatable Package: YES
Deliverables:

Project #:
Project: NBF
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-12123 **QX25A**	NBF-MH108-052010-W						TOT PASS				NP	PASS										
10-12124 **QX25B**	NBF-LS431-052010-W						TOT ↓				↓	↓										
10-12125 **QX25C**	NBF-MH108-052010-W						DIS NP									N	N					
10-12126 **QX25D**	NBF-LS431-052010-W						DIS ↓									N	N					

* Dissolved metals not filtered or preserved
* DOC not filtered or preserved
NP = Not preserved

DOC filtered + preserved
5-20-10

QX25 : 99999

Checked By AV Date 5/20/10

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC
Project Name: NBF
COC No(s): _____ (NA)
Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____
Assigned ARI Job No: QX26
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)..... 8.8 8.3 (W 5.6) (W 4.9) ___ ___
If cooler temperature is out of compliance fill out form 00070F
Temp Gun ID#: 90977955

Cooler Accepted by: AV Date: 5/20/10 Time: 1145

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: 5/20/10 ≈1330 Equipment: polychurn Split by: AV/JP

Samples Logged by: AV Date: 5/20/10 Time: 1630

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

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
NBFMH108A-05/10/20-S	NBF-MH108A-05.2010-S		

Additional Notes, Discrepancies, & Resolutions:
Carboys in buckets of ice when brought in. * All water samples in compliance
Site water not on C.O.C, being added to another job.

By: AV Date: 5/20/10

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm	
			Small → "sm"
			Peabubbles → "pb"
			Large → "lg"
			Headspace → "hs"

PRESERVATION VERIFICATION 05/20/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QX26**

Inquiry Number: NONE
Analysis Requested: 05/20/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Cheronne
VTSR: 05/20/10

Project #:
Project: NBF
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-12164 **QX26A**	NBF-MH108-052010-W						DIS NP									N						
10-12165 **QX26B**	NBF-LS431-052010-W						DIS ↓									N						

* Dissolved metals not preserved or filtered

QX26 5/20/10

Checked By AV Date 5/20/10

Case Narrative

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QX25, QX26

prepared
by

Analytical Resources, Inc.

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job No.: QX25 & QX26

Sample Receipt

Twenty-five filter-bag samples and two water samples were received on May 20, 2010 under ARI jobs QX25 and QX26. The cooler temperatures measured by IR thermometer following ARI SOP were 4.9, 5.6, 8.3, and 8.8°C. Sample **NBF-LS431V-052010-S** was archived upon receipt. The two water samples were submitted in five gallon carboys. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The carboy water samples were homogenized using fourteen liter churn-splitters and then poured in to individual sample containers for analysis.

Select filter-bag samples were dried, frozen, and shipped to AXYS Analytical Services in Sidney, B.C.

Volatile by SW8260C

The samples were analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The continuing calibrations of Chloromethane, Acetone, Vinyl Acetate, and Acrylonitrile fell outside the 20% control limit low. All detected results for these compounds have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

Semivolatiles by SW8270D

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS and LCSD percent recoveries of Benzyl Alcohol were outside the control limits high for **LCS-052410**. The associated samples were undetected for this compound. No corrective action was required.

The LCSD percent recovery of 4-Methylphenol was outside the control limits high for **LCS-052410**. The LCS percent recovery was within control limits. No corrective action was required.

Low-Level Semivolatiles by SW8270D-SIM

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods. Please note the plastic rings were removed before extracting the filter-bag samples.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

The undetected results for several analytes were raised and "Y"-flagged due to interference from the matrix.

Total/Dissolved Metals and Total Mercury

Eight to eighteen grams of solid material were removed from select filter-bag samples to be analyzed for metals and mercury. All samples were digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery of copper fell outside the control limits low for sample **NBF-MH108A-052010-S**. A post digestion spike was performed and the recovery was within control limits. All relevant data have been flagged with an "N" qualifier on the appropriate Form V. No further corrective action was required.

The matrix spike percent recovery of zinc fell outside the control limits low for sample **NBF-MH108A-052010-S**. The sample concentration exceeded the spike concentration by a factor of four or more. No corrective action was required.

The duplicate RPD of mercury was outside the control limit high for sample **NBF-MH108A-052010-S**. All relevant data have been flagged with a "*" qualifier. No further corrective action was required.

Dissolved Low-Level Mercury

The samples were digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery and duplicate RPD were within control limits.

General Chemistry

The samples were prepared and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recoveries and replicate RPD/RSDs were were within control limits.

Geotechnical Parameters

Fourteen to twenty-two grams of solid material were removed from select filter-bags to be analyzed by the geotechnical laboratory. A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science App. International Corp. **ARI Project No.:** QX25

Client Project: NBF/GTSP Stormwater Sampling

Case Narrative

1. Five samples were received on May 20, 2010.
2. The samples were submitted for grain size analysis by means of X-ray diffraction using a Sedigraph 5120. The values are calculated using Stokes' Law of sedimentation and Beer's law of extinction. The samples were submitted with limited sample volume, and there was not enough material to split a triplicate.
3. The standard operating procedure calls for the samples to be measured on the #4 (4750 µm) sieve, down to the 0.1 µm particle size with the Sedigraph 5120. If there were no particles measured at these extremes, the data is not included in the report.
4. The samples contained a percentage of organic material, which does not absorb X-rays, and is not included in the fine portion of the analysis.
5. The data is provided in summary tables and plots.
6. There were no noted anomalies in the samples or methods on this project.

Approved by: _____ Date: June 3, 2010
Lead Technician

5/29/2010

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1732-2	ABN	100/150	MEOH	07/30/10
B	1633-3	SIM PNA	15/75	MEOH	08/12/10
C	1705-4	SIM ABN	25/37.5	MEOH	07/30/10
D	1689-2	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1634-1	LOW S. PNA	1.5	MEOH	08/12/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1740-1	TPH	450	MECL2	12/11/10
P	1707-4	HCID	2250	MECL2	07/02/10
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					
#project specific					
Y					
Z					

LCS SOLUTIONS

5/29/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#		BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1667-1	LOW PEST	0.2/0.4/2	ACETONE	06/26/10
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1738-2	ABN	100	ACETONE	01/31/11
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1730-2	TPHD	15000	ACETONE	04/26/11
12	1698-1	ABN BASE	200	MEOH	07/24/10
13	1716-2	LOW PCB	2	ACETONE	03/30/11
14	1730-1	LOW ABN ACID	10/20	MEOH	07/14/10
15	1726-3	SIM PNA	15/75	MEOH	10/07/10
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18	1726-4	LOW SIM PNA	1.5	ACETONE	10/07/10
19	1685-3	AK103	7500	ACETONE	09/03/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1725-1	SKY/BHT	100	MEOH	03/18/11
22	1728-1	HERB	12.5/12500	MEOH	10/20/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#		DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#	1684-1	ADD. PEST	4	ACETONE	03/25/10
29#		DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

5/29/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Data Reporting Qualifiers
Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Spike Recovery Control Limits for Analysis of Aqueous Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 10 mL Purge Volume [1,7]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI Control Limits	ARI ME Control Limits[2]
LCS Spike Recovery [6]		
tert-Butanol	49 - 150	32 - 167
Metyl-*tert*-butylether	47 - 154	29 - 172
Di-*iso*-propylether	43 - 149	25 - 167
Ethyl-*tert*-butylether	45 - 155	27 - 173
tert-Amyl methylether	52 - 151	35 - 168
Dichlorodifluoromethane	59 - 129	47 - 141
Chloromethane	66 - 123	57 - 133
Vinyl Chloride	68 - 121	59 - 130
Bromomethane	55 - 148	40 - 164
Chloroethane	47 - 155	29 - 173
1,1,2-Trichloro-1,2,2-trifluoroethane	70 - 129	60 - 139
Acrolein	24 170	**10** - 194
Trichlorotrifluoroethane	74 - 127	65 - 136
Acetone	70 - 130	60 - 140
1,1-Dichloroethene	72 - **120**	64 - 127
Bromoethane	73 - 131	63 - 141
Methyl Iodide	34 - 183	**10** - 208
Methylene Chloride	70 - 124	61 - 133
Acrylonitrile	71 - 135	60 - 146
Methyl tert-Butyl Ether	78 - **120**	72 - 122
Carbon Disulfide	66 - 129	56 - 140
trans-1,2-Dichloroethene	76 - **120**	70 - 120
Vinyl Acetate	49 - 134	35 - 148
1,1-Dichloroethane	75 - **120**	68 - 124
2-Butanone	78 - 131	69 - 140
2,2-Dichloropropane	68 - 121	59 - 130
cis-1,2-Dichloroethene	80 - **120**	75 - **120**
Chloroform	78 - **120**	72 - 121
Bromodichloromethane	79 - **120**	73 - **120**
1,1,1-Trichloroethane	76 - **120**	69 - 123
1,1-Dichloropropene	78 - **120**	72 - 120
Carbon Tetrachloride	70 - 126	61 - 135
1,2-Dichloroethane	78 - **120**	72 - **120**
Benzene	79 - **120**	73 - **120**
Trichloroethene	78 - **120**	72 - 122
1,2-Dichloropropane	80 - **120**	75 - **120**
Bromochloromethane	78 - **120**	72 - 124

Dibromomethane	80 - **120**	75 - **120**
2-Chloroethylvinylether	68 - 134	57 - 145
4-Methyl-2-Pentanone	73 - 131	63 - 141
cis-1,3-Dichloropropene	78 - **120**	72 - 121
Toluene	79 - **120**	74 - **120**
trans-1,3-Dichloropropene	75 - **120**	68 - 124
2-Hexanone	75 - 130	66 - 139
1,1,2-Trichloroethane	79 - **120**	74 - **120**
1,3-Dichloropropane	78 - **120**	72 - 120
Tetrachloroethene	72 - **120**	65 - 125
Dibromochloromethane	78 - **120**	71 - 125
Ethylene Dibromide	75 - **120**	68 - 125
Chlorobenzene	79 - **120**	73 - **120**
Ethylbenzene	78 - 121	71 - 128
1,1,2,2-Tetrachloroethane	72 - **120**	64 - 127
m,p-Xylene	65 - 129	54 - 140
o-Xylene	76 - 120	69 - 127
Styrene	74 - 121	66 - 129
Isopropylbenzene	74 - 120	66 - 128
Bromoform	71 - 120	63 - 128
1,1,1,2-Tetrachloroethane	75 - **120**	68 - 126
1,2,3-Trichloropropane	73 - 120	65 - 128
trans-1,4-Dichloro-2-butene	65 - 135	53 - 147
n-Propylbenzene	76 - 121	69 - 129
Bromobenzene	72 - **120**	64 - 126
1,3,5-Trimethylbenzene	74 - 123	66 - 131
2-Chlorotoluene	74 - **120**	67 - 127
4-Chlorotoluene	75 - **120**	68 - 125
tert-Butylbenzene	73 - 121	65 - 129
1,2,4-Trimethylbenzene	73 - 124	65 - 133
sec-Butylbenzene	75 - 123	67 - 131
4-Isopropyltoluene	71 - 125	62 - 134
1,3-Dichlorobenzene	72 - **120**	64 - 127
1,4-Dichlorobenzene	76 - **120**	69 - 123
n-Butylbenzene	72 - 124	63 - 133
1,2-Dichlorobenzene	75 - **120**	68 - 124
1,2-Dibromo-3-chloropropane	67 - 121	58 - 130
1,2,4-Trichlorobenzene	71 - 120	63 - 128
Hexachloro-1,3-butadiene	67 - 124	58 - 134
Naphthalene	71 - 125	62 - 134
1,2,3-Trichlorobenzene	61 - 134	49 - 146
MB/LCS Surrogate Recovery		
Dibromofluoromethane	64 - 133	(3)
d4-1,2-Dichloroethane	70 - 132	(3)
d8-Toluene	**80 - 120**	(3)

4-Bromofluorobenzene	**80 - 120**	(3)
d4-1,2-Dichlorobenzene	**80 - 120**	(3)
Sample Surrogate Recovery		
Dibromofluoromethane	30 - 160 [5]	(3)
d4-1,2-Dichloroethane	**80** - 143	(3)
d8-Toluene	**80 - 120**	(3)
4-Bromofluorobenzene	**80 - 120**	(3)
D4-1,2-Dichlorobenzene	**80** - 120	(3)

(1) Control Limits calculated using all data generated 1/1/08 through 4/15/09.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard[4] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances require corrective action.
(3) Marginal Exceedances not allowed for surrogate standards.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) are adjusted from the calculated values as follows:
a) ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
b) Control limits for analyzes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
LCS Spike Recovery [8]				
Phenol [3]	50 - **100**	43 - 103	16 - **100**	6 - **100**
Bis-(2-chloroethyl) ether	52 - **100**	45 - 105	41 - 112	29 - 124
2-Chlorophenol	56 - **100**	49 - 103	43 - 111	32 - 122
1,3-Dichlorobenzene	23 - **100**	15 - **100**	32 - **100**	22 - 103
1,4-Dichlorobenzene	25 - **100**	17 - **100**	32 - **100**	22 - 103
Benzyl Alcohol	19 - 100	**10** - 114	22 - 100	9 - 113
1,2-Dichlorobenzene	30 - **100**	22 - **100**	34 - **100**	24 - 104
2-Methylphenol	52 - **100**	44 - 106	36 - 110	24 - 122
2,2'-oxybis(1-chloropropane)	32 - 111	19 - 124	29 - 118	14 - 133
4-Methylphenol	53 - 102	45 - 110	38 - 104	27 - 115
N-Nitroso-di-n-propylamine	43 - 104	33 - 114	38 - 115	25 - 128
Hexachloroethane	12 - **100**	**10** - **100**	24 - **100**	13 - 100
Nitrobenzene	33 - 125	18 - 140	45 - 106	35 - 116
Isophorone	57 - 115	47 - 125	55 - 119	44 - 130
2-Nitrophenol	56 - 102	48 - 110	46 - 118	34 - 130
2,4-Dimethyphenol	29 - **100**	20 - **100**	28 - 105	15 - 118
Bis-(2-chloroethoxy) methane	54 - 101	46 - 109	44 - 118	32 - 130
Benzoic Acid [3]	**10** - 131	**10** - 151	11 - **100**	**10** - **100**
2,4-Dichlorophenol	56 - 104	48 - 112	43 - 121	30 - 134
1,2,4-Trichlorobenzene	27 - **100**	18 - **100**	35 - **100**	25 - 107
Naphthalene	45 - **100**	38 - **100**	36 - 111	24 - 124
4-Chloroaniline [3]	**10** - 139	**10** - 161	10 - 174	**10** - 201
2-Chloronaphthalene	45 - **100**	37 - 105	39 - 118	26 - 131
Hexachlorobutadiene	**10** - **100**	**10** - **100**	24 - **100**	12 - 108
4-Chloro-3-methylphenol	53 - 109	44 - 118	45 - 122	32 - 135
2-Methylnaphthalene	46 - **100**	38 - 100	45 - 103	35 - 113
Hexachlorocyclopentadiene	**10** - **100**	**10** - **100**	23 - 108	**10** - 122
2,4,6-Trichlorophenol	58 - 108	50 - 116	48 - 122	36 - 134
2,4,5-Trichlorophenol	58 - 107	50 - 115	48 - 122	36 - 134
2-Nitroaniline	50 - 107	41 - 117	48 - 118	36 - 130
Dimethylphthalate	58 - 107	50 - 115	50 - 120	38 - 132
Acenaphthylene	57 - 100	50 - 107	50 - 119	39 - 131
2,6-Dinitrotoluene	58 - 112	49 - 121	48 - 133	34 - 147
3-Nitroaniline [3]	21 - 150	**10** - 172	54 - 140	40 - 154
Acenaphthene	51 - **100**	43 - 106	41 - 120	28 - 133
2,4-Dinitrophenol	12 - 169	**10** - 195	23 - 176	**10** - 202

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibenzofuran	57 - 100	50 - 107	51 - 114	41 - 125
4-Nitrophenol [3]	35 - 119	21 - 133	13 - **100**	**10** - **100**
2,4-Dinitrotoluene	58 - 117	48 - 127	51 - 134	37 - 148
Fluorene	56 - 104	48 - 112	50 - 120	38 - 132
Diethylphthlalate	52 - 111	42 - 121	48 - 122	36 - 134
4-Chlorophenyl-phenyl ether	55 - 104	47 - 112	50 - 118	39 - 129
4-Nitroaniline	49 - 112	39 - 123	42 - 136	26 - 152
4,6-Dinitro-2-Methylphenol	13 - 139	**10** - 160	32 - 121	17 - 136
N-Nitrosodiphenylamine	60 - 136	47 - 149	58 - 141	44 - 155
4-Bromophenyl-phenyl ether	55 - 103	47 - 111	50 - 122	38 - 134
Hexachlorobenzene	54 - 106	45 - 115	47 - 125	34 - 138
Pentachlorophenol	46 - 114	35 - 125	35 - 130	19 - 146
Phenanthrene	56 - 102	48 - 110	49 - 120	37 - 132
Anthracene	56 - 101	49 - 109	53 - 116	43 - 127
Carbazole	60 - 108	52 - 116	57 - 122	46 - 133
Di-n-butylphthalate	56 - 112	47 - 121	57 - 121	46 - 132
Fluoranthene	57 - 110	48 - 119	56 - 119	46 - 130
Pyrene	48 - 119	36 - 131	37 - 143	19 - 161
Butylbenzylphthalate	51 - 114	41 - 125	34 - 152	14 - 172
Benzo(a)Anthracene	55 - 105	47 - 113	49 - 129	36 - 142
3,3'-Dichlorbenzidine [3]	**10** - 128	**10** - 148	50 - 128	37 - 141
Chrysene	55 - 104	47 - 112	45 - 128	31 - 142
bis(2-Ethylhexyl) phthalate	28 - 164	**10** - 187	57 - 133	44 - 146
Di-n-octylphthalate	57 - 107	49 - 115	52 - 120	41 - 131
Benzo(b)Fluoranthene	53 - 112	43 - 122	50 - 126	37 - 139
Benzo(k)Fluoranthene	50 - 116	39 - 127	49 - 126	36 - 139
Benzo(a)Pyrene	45 - 103	35 - 113	46 - 109	36 - 120
Indeno(1,2,3-cd)Pyrene	35 - 118	21 - 132	34 - 136	17 - 153
Dibenz(a,h)anthracene	42 - 119	29 - 132	41 - 134	26 - 150
Benzo(g,h,i)Perylene	39 - 123	25 - 137	41 - 133	26 - 148
Aniline [3]	**10** - **100**	**10** - **100**	28 - 126	12 - 142
1,2-Diphenylhydrazine /Azobenzene	57 - 109	48 - 118	55 - 119	44 - 130
N-Nitrosodimethylamine	49 - **100**	41 - 104	31 - **100**	21 - 105
1-Methylnaphthalene	46 - **100**	37 - 107	43 - 115	31 - 127
1,4-Dioxane	40 - **100**	30 - 108	30 - 160 [4]	30 - 160 [4]
Pyridine	-	-	25 - **100**	15 - **100**
Tributyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibutyl Phenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butyl Diphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Triphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butylated Hydroxytoluene (BHT)	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
MB / LCS Surrogate Recovery				
d4-2-Chlorophenol	53 - 100	(5)	49 - 101	(5)
d4-1,2-Dichlorobenzene	38 - **100**	(5)	40 - **100**	(5)
2,4,6-Tribromophenol	52 - 123	(5)	51 - 122	(5)
2-Fluorophenol	46 - **100**	(5)	31 - **100**	(5)
d5-Phenol [3]	50 - 100	52 - 108	19 - **100**	12 - **100**
d5-Nitrobenzene	46 - 100	(5)	46 - 101	(5)
2-Fluorobiphenyl	49 - **100**	(5)	49 - 103	(5)
d14-p-Terphenyl	53 - 119	(5)	49 - 130	(5)
d8-1,4-Dioxane	45 - **100**	(5)	30 - 160 [4]	(5)
Sample Surrogate Recovery				
d4-2-Chlorophenol	44 - **100**	(5)	23 - 104	(5)
d4-1,2-Dichlorobenzene	32 - **100**	(5)	22 - **100**	(5)
2,4,6-Tribromophenol	48 - 118	(5)	22 - 125	(5)
2-Fluorophenol	38 - **100**	(5)	18 - **100**	(5)
d5-Phenol	41 - **100**	32 - 104	**10** - **100**	17 - **100**
d5-Nitrobenzene	39 - **100**	(5)	21 - 106	(5)
2-Fluorobiphenyl	42 - **100**	(5)	26 - 104	(5)
d14-p-Terphenyl	26 - 114	(5)	11 - 132	(5)
d8-1,4-Dioxane	32 - **100**	(5)	30 - 160 [4]	(5)

(1) Control Limits calculated using all data generated 1/1/07 through 12/1/07.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [6] as beyond the CL but still within the ME limits. ARI defines ME limits as between 3 and 4 standard deviations around the mean with upper limit ≥ 100%. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances in an analysis require corrective action.
(3) These are "**poor performers**" defined in the DoD QSM[7] as compounds that "produce low mean recoveries and high standard deviations, resulting in wide LCS control limits with particularly low lower control limits (sometimes-negative values). ARI does not control batch acceptance based on these compounds since there is a high level of uncertainty in their recovery."
(4) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(5) Marginal Exceedances not allowed for surrogate unless it is a "poor performer".
(6) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(7) Page 182 of: **Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 Final, March 2005** Prepared By Environmental Data Quality Workgroup, Department of Navy, Lead Service (Based On National Environmental Laboratory Accreditation Conference (NELAC) Chapter 5 (Quality Systems) NELAC Voted Version – 5 June 2003
(8) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(9) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified Low Level Aqueous Samples[1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Volume / Final Volume	500 mL to 0.5 mL	
	Control Limits	ME Limits [2]
LCS Spike Recovery [6]		
Napthalene	41 - 101	31 - 111
2-Methylnapthalene	47 - **100**	39 - 103
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	35 - **100**	25 - 104
Acenapthene	43 - 104	33 - 114
Dibenzofuran	37 - **100**	27 - 108
Fluorene	51 - 103	42 - 112
Phenanthrene	55 - 109	46 - 118
Anthracene	30 - 101	18 - 113
Fluoranthene	49 - 123	37 - 135
Pyrene	48 - 120	36 - 132
Benz(a)anthracene	43 - 113	31 - 125
Chrysene	59 - 112	50 - 121
Benzo(b)fluoranthene	44 - 121	31 - 134
Benzo(k)fluoranthene	50 - 117	39 - 128
Benzo(a)pyrene	**10** - **100**	**10** - 109
Indeno(1,2,3-cd)pyrene	43 - 112	32 - 124
Dibenzo(a,h)anthracene	42 - 114	30 - 126
Benzo(g,h,i)perylene	31 - 118	17 - 133
MB / LCS Surrogate Recovery		
d10-2-Methylnaphthalene	42 - **100**	(4)
d14-Dibenzo(a,h)anthracene	40 - 125	(4)
Sample Surrogate Recovery		
d10-2-Methylnaphthalene	31 - 109	(4)
d14-Dibenzo(a,h)anthracene	**10** - 133	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/1/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6)Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

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Spike Recovery Control Limits Analysis of PCB / Aroclors in Aqueous Samples - EPA SW-846 Methods 8081 & 8082 [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Analytical Method:	Standard Analysis	MTCA Analysis	Low Level Analysis	Manchester Extraction
***Sample* Weight / Final Volume:**	500 / 5 mL	500 / 1 mL	1000 / 0.5 mL	3000 / 1 mL
LCS Spike Recovery [4]				
Aroclor 1016	45 - 121	36 - **100**	44 - 117	30 - 160[3]
Aroclor 1260	54 - 129	41 - 113	46 - 131	30 - 160[3]
Method Blank/LCS Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	40 - 118	29 - **100**	31 - **100**	30 - 160[3]
Decachlorobiphenyl	41 - 111	35 - 116	32 - 108	30 - 160[3]
Sample Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	38 - 118	25 - **100**	21 - **100**	30 - 160[3]
Decachlorobiphenyl	29 - 118	**10** - 128	19 - 111	30 - 160[3]

(1) Control Limits calculated using all data generated 1/1/08 through 12/1/08.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Summary of Laboratory Control Limits

Default limits of 30-160% recovery and 30% RPD apply for all organic analytes when laboratory generated control limits are not available on ARI's web site. Default limits for all inorganic analytes are 75-125% recovery and 25% RPD.

ARI's laboratory generated Quality Control Limits may be superseded by project specific data quality objectives (DQO) provided by ARI's clients. The use of project specific DQO must be approved by ARI's Laboratory and QA Program Managers.

Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QX25, QX26

prepared
by

Analytical Resources, Inc.

VOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-MH108-052010-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QX25A
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 05/24/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/21/10 19:10

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**1.1**	
67-64-1	**Acetone**	**5.0**	**8.1**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**9.0**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

Lab Sample ID: QX25A
LIMS ID: 10-12123
Matrix: Water
Date Analyzed: 05/21/10 19:10

QC Report No: QX25-Science App. International Corp
Project: NBF

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	98.9%
Bromofluorobenzene	86.7%
d4-1,2-Dichlorobenzene	104%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-LS431-052010-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QX25B
LIMS ID: 10-12124
Matrix: Water
Data Release Authorized:
Reported: 05/24/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/21/10 19:36

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**1.3**	
67-64-1	**Acetone**	**5.0**	**8.5**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**6.0**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

Lab Sample ID: QX25B
LIMS ID: 10-12124
Matrix: Water
Date Analyzed: 05/21/10 19:36

QC Report No: QX25-Science App. International Corp
Project: NBF

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	99.3%
d8-Toluene	98.1%
Bromofluorobenzene	85.4%
d4-1,2-Dichlorobenzene	106%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QX25-Science App. International Corp
Project: NBF

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-052110	Method Blank	10	95.6%	98.4%	89.2%	103%	0
LCS-052110	Lab Control	10	91.2%	99.1%	93.5%	98.5%	0
LCSD-052110	Lab Control Dup	10	90.0%	98.4%	95.0%	99.9%	0
QX25A	NBF-MH108-052010-W	10	102%	98.9%	86.7%	104%	0
QX25B	NBF-LS431-052010-W	10	99.3%	98.1%	85.4%	106%	0

SW8260C	LCS/MB LIMITS	QC LIMITS
(DCE) = d4-1,2-Dichloroethane	70-132	80-143
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 10-12123 to 10-12124

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-052110**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-052110 QC Report No: QX25-Science App. International Corp
LIMS ID: 10-12123 Project: NBF
Matrix: Water
Data Release Authorized:
Reported: 05/24/10 Date Received: NA

Date Sampled: NA

Instrument/Analyst LCS: NT5/PKC Sample Amount LCS: 10.0 mL
LCSD: NT5/PKC LCSD: 10.0 mL
Date Analyzed LCS: 05/21/10 10:55 Purge Volume LCS: 10.0 mL
LCSD: 05/21/10 11:21 LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	8.1 Q	10.0	81.0%	8.4 Q	10.0	84.0%	3.6%
Bromomethane	10.1	10.0	101%	10.7	10.0	107%	5.8%
Vinyl Chloride	8.2	10.0	82.0%	8.7	10.0	87.0%	5.9%
Chloroethane	9.3	10.0	93.0%	9.4	10.0	94.0%	1.1%
Methylene Chloride	8.6	10.0	86.0%	9.0	10.0	90.0%	4.5%
Acetone	39.4 Q	50.0	78.8%	39.8 Q	50.0	79.6%	1.0%
Carbon Disulfide	9.4	10.0	94.0%	9.6	10.0	96.0%	2.1%
1,1-Dichloroethene	9.6	10.0	96.0%	9.8	10.0	98.0%	2.1%
1,1-Dichloroethane	8.9	10.0	89.0%	9.1	10.0	91.0%	2.2%
trans-1,2-Dichloroethene	9.4	10.0	94.0%	9.5	10.0	95.0%	1.1%
cis-1,2-Dichloroethene	9.3	10.0	93.0%	9.4	10.0	94.0%	1.1%
Chloroform	9.4	10.0	94.0%	9.6	10.0	96.0%	2.1%
1,2-Dichloroethane	9.4	10.0	94.0%	9.6	10.0	96.0%	2.1%
2-Butanone	42.1	50.0	84.2%	45.1	50.0	90.2%	6.9%
1,1,1-Trichloroethane	9.6	10.0	96.0%	9.9	10.0	99.0%	3.1%
Carbon Tetrachloride	10.1	10.0	101%	10.4	10.0	104%	2.9%
Vinyl Acetate	7.7 Q	10.0	77.0%	7.8 Q	10.0	78.0%	1.3%
Bromodichloromethane	9.8	10.0	98.0%	10.2	10.0	102%	4.0%
1,2-Dichloropropane	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
cis-1,3-Dichloropropene	9.8	10.0	98.0%	10.2	10.0	102%	4.0%
Trichloroethene	10.3	10.0	103%	10.6	10.0	106%	2.9%
Dibromochloromethane	10.0	10.0	100%	10.6	10.0	106%	5.8%
1,1,2-Trichloroethane	10.0	10.0	100%	10.3	10.0	103%	3.0%
Benzene	10.1	10.0	101%	10.4	10.0	104%	2.9%
trans-1,3-Dichloropropene	10.0	10.0	100%	10.0	10.0	100%	0.0%
2-Chloroethylvinylether	8.7	10.0	87.0%	9.1	10.0	91.0%	4.5%
Bromoform	10.3	10.0	103%	10.4	10.0	104%	1.0%
4-Methyl-2-Pentanone (MIBK)	44.9	50.0	89.8%	47.4	50.0	94.8%	5.4%
2-Hexanone	42.0	50.0	84.0%	43.6	50.0	87.2%	3.7%
Tetrachloroethene	10.2	10.0	102%	10.6	10.0	106%	3.8%
1,1,2,2-Tetrachloroethane	9.0	10.0	90.0%	9.4	10.0	94.0%	4.3%
Toluene	10.4	10.0	104%	10.8	10.0	108%	3.8%
Chlorobenzene	10.1	10.0	101%	10.7	10.0	107%	5.8%
Ethylbenzene	11.1	10.0	111%	10.8	10.0	108%	2.7%
Styrene	10.6	10.0	106%	11.3	10.0	113%	6.4%
Trichlorofluoromethane	9.7	10.0	97.0%	9.9	10.0	99.0%	2.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	9.3	10.0	93.0%	9.5	10.0	95.0%	2.1%
m,p-Xylene	21.6	20.0	108%	22.6	20.0	113%	4.5%
o-Xylene	10.2	10.0	102%	10.9	10.0	109%	6.6%
1,2-Dichlorobenzene	9.7	10.0	97.0%	10.1	10.0	101%	4.0%
1,3-Dichlorobenzene	10.2	10.0	102%	10.6	10.0	106%	3.8%
1,4-Dichlorobenzene	9.9	10.0	99.0%	10.3	10.0	103%	4.0%
Acrolein	40.6	50.0	81.2%	41.3	50.0	82.6%	1.7%
Methyl Iodide	10.2	10.0	102%	10.5	10.0	105%	2.9%
Bromoethane	9.5	10.0	95.0%	9.8	10.0	98.0%	3.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-052110**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-052110 QC Report No: QX25-Science App. International Corp
LIMS ID: 10-12123 Project: NBF
Matrix: Water

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Acrylonitrile	8.1 Q	10.0	81.0%	8.0 Q	10.0	80.0%	1.2%
1,1-Dichloropropene	9.6	10.0	96.0%	10.0	10.0	100%	4.1%
Dibromomethane	9.6	10.0	96.0%	10.1	10.0	101%	5.1%
1,1,1,2-Tetrachloroethane	10.2	10.0	102%	10.6	10.0	106%	3.8%
1,2-Dibromo-3-chloropropane	7.7	10.0	77.0%	8.3	10.0	83.0%	7.5%
1,2,3-Trichloropropane	9.7	10.0	97.0%	9.4	10.0	94.0%	3.1%
trans-1,4-Dichloro-2-butene	9.3	10.0	93.0%	9.6	10.0	96.0%	3.2%
1,3,5-Trimethylbenzene	10.2	10.0	102%	10.5	10.0	105%	2.9%
1,2,4-Trimethylbenzene	10.4	10.0	104%	10.8	10.0	108%	3.8%
Hexachlorobutadiene	8.9	10.0	89.0%	9.3	10.0	93.0%	4.4%
Ethylene Dibromide	9.8	10.0	98.0%	10.3	10.0	103%	5.0%
Bromochloromethane	9.7	10.0	97.0%	10.0	10.0	100%	3.0%
2,2-Dichloropropane	9.4	10.0	94.0%	9.7	10.0	97.0%	3.1%
1,3-Dichloropropane	9.3	10.0	93.0%	9.9	10.0	99.0%	6.2%
Isopropylbenzene	10.4	10.0	104%	10.8	10.0	108%	3.8%
n-Propylbenzene	10.3	10.0	103%	10.7	10.0	107%	3.8%
Bromobenzene	10.0	10.0	100%	10.2	10.0	102%	2.0%
2-Chlorotoluene	10.0	10.0	100%	10.3	10.0	103%	3.0%
4-Chlorotoluene	9.9	10.0	99.0%	10.3	10.0	103%	4.0%
tert-Butylbenzene	10.1	10.0	101%	10.6	10.0	106%	4.8%
sec-Butylbenzene	10.2	10.0	102%	10.7	10.0	107%	4.8%
4-Isopropyltoluene	10.3	10.0	103%	10.7	10.0	107%	3.8%
n-Butylbenzene	9.6	10.0	96.0%	10.0	10.0	100%	4.1%
1,2,4-Trichlorobenzene	9.2	10.0	92.0%	9.4	10.0	94.0%	2.2%
Naphthalene	8.8	10.0	88.0%	9.0	10.0	90.0%	2.2%
1,2,3-Trichlorobenzene	9.1	10.0	91.0%	9.4	10.0	94.0%	3.2%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	91.2%	90.0%
d8-Toluene	99.1%	98.4%
Bromofluorobenzene	93.5%	95.0%
d4-1,2-Dichlorobenzene	98.5%	99.9%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0522

Lab Name: ANALYTICAL RESOURCES, INC
Client: SCIENCE APP. INTERNATION

ARI Job No: QX25
Project: NBF

Lab File ID: 05211006
Lab Sample ID: MB0522

Date Analyzed: 05/21/10
Time Analyzed: 1146

Instrument ID: NT5
Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0522	LCS0522	05211004	1055
02	LCSD0522	LCSD0522	05211005	1121
03	NBF-MH108-05	QX25A	05211022	1910
04	NBF-LS431-05	QX25B	05211023	1936
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-052110**
 METHOD BLANK

Lab Sample ID: MB-052110
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 05/24/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/21/10 11:46

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.5	< 0.5	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

Lab Sample ID: MB-052110 QC Report No: QX25-Science App. International Corp
LIMS ID: 10-12123 Project: NBF
Matrix: Water
Date Analyzed: 05/21/10 11:46

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	95.6%
d8-Toluene	98.4%
Bromofluorobenzene	89.2%
d4-1,2-Dichlorobenzene	103%

SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH108-052010-W
SAMPLE

Lab Sample ID: QX25A
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 05/27/10

QC Report No: QX25-Science App. International Corp
Project: NBF
NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/24/10
Date Analyzed: 05/25/10 17:37
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	65.2%	2-Fluorobiphenyl	64.0%
d14-p-Terphenyl	60.8%	d4-1,2-Dichlorobenzene	49.6%
d5-Phenol	53.9%	2-Fluorophenol	62.7%
2,4,6-Tribromophenol	98.1%	d4-2-Chlorophenol	58.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-LS431-052010-W
SAMPLE

Lab Sample ID: QX25B
LIMS ID: 10-12124
Matrix: Water
Data Release Authorized:
Reported: 05/27/10

QC Report No: QX25-Science App. International Corp
Project: NBF
NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/24/10
Date Analyzed: 05/25/10 18:11
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	**Di-n-Butylphthalate**	**1.0**	**1.1**
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	**Di-n-Octyl phthalate**	**1.0**	**1.8**
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	70.4%	2-Fluorobiphenyl	65.6%
d14-p-Terphenyl	64.0%	d4-1,2-Dichlorobenzene	54.0%
d5-Phenol	57.6%	2-Fluorophenol	59.2%
2,4,6-Tribromophenol	103%	d4-2-Chlorophenol	59.7%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QX25-Science App. International Corp
Project: NBF

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MB-052410	70.0%	74.8%	98.4%	58.8%	68.3%	82.4%	84.5%	70.7%	0
LCS-052410	72.8%	78.8%	88.0%	65.2%	71.5%	84.8%	86.1%	75.7%	0
LCSD-052410	81.6%	83.6%	92.4%	67.6%	73.9%	88.0%	96.3%	78.4%	0
NBF-MH108-052010-W	65.2%	64.0%	60.8%	49.6%	53.9%	62.7%	98.1%	58.1%	0
NBF-LS431-052010-W	70.4%	65.6%	64.0%	54.0%	57.6%	59.2%	103%	59.7%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 10-12123 to 10-12124

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-052410
LCS/LCSD

Lab Sample ID: LCS-052410
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 05/27/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted LCS/LCSD: 05/24/10

Date Analyzed LCS: 05/25/10 16:31
LCSD: 05/25/10 17:04

Instrument/Analyst LCS: NT4/JZ
LCSD: NT4/JZ

GPC Cleanup: NO

Sample Amount LCS: 500 mL
LCSD: 500 mL

Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL

Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	21.4	25.0	85.6%	22.6	25.0	90.4%	5.5%
1,4-Dichlorobenzene	12.9	25.0	51.6%	11.7	25.0	46.8%	9.8%
Benzyl Alcohol	53.4	50.0	107%	61.2	50.0	122%	13.6%
1,2-Dichlorobenzene	13.5	25.0	54.0%	13.6	25.0	54.4%	0.7%
2-Methylphenol	21.2	25.0	84.8%	24.2	25.0	96.8%	13.2%
4-Methylphenol	46.5	50.0	93.0%	52.6	50.0	105%	12.3%
2,4-Dimethylphenol	15.0	25.0	60.0%	16.6	25.0	66.4%	10.1%
Benzoic Acid	61.5	75.0	82.0%	67.8	75.0	90.4%	9.7%
1,2,4-Trichlorobenzene	13.2	25.0	52.8%	13.2	25.0	52.8%	0.0%
Naphthalene	18.8	25.0	75.2%	19.0	25.0	76.0%	1.1%
Hexachlorobutadiene	9.2	25.0	36.8%	9.4	25.0	37.6%	1.6%
2-Methylnaphthalene	17.5	25.0	70.0%	17.4	25.0	69.6%	0.6%
Dimethylphthalate	22.5	25.0	90.0%	24.4	25.0	97.6%	8.1%
Acenaphthylene	21.0	25.0	84.0%	22.2	25.0	88.8%	5.6%
Acenaphthene	18.8	25.0	75.2%	20.0	25.0	80.0%	6.2%
Dibenzofuran	22.6	25.0	90.4%	24.4	25.0	97.6%	7.7%
Diethylphthalate	22.1	25.0	88.4%	24.6	25.0	98.4%	10.7%
Fluorene	20.6	25.0	82.4%	22.8	25.0	91.2%	10.1%
N-Nitrosodiphenylamine	19.0	25.0	76.0%	20.7	25.0	82.8%	8.6%
Hexachlorobenzene	19.8	25.0	79.2%	22.3	25.0	89.2%	11.9%
Pentachlorophenol	14.2	25.0	56.8%	13.8	25.0	55.2%	2.9%
Phenanthrene	23.0	25.0	92.0%	24.3	25.0	97.2%	5.5%
Anthracene	22.6	25.0	90.4%	23.9	25.0	95.6%	5.6%
Di-n-Butylphthalate	24.2	25.0	96.8%	25.3	25.0	101%	4.4%
Fluoranthene	25.3	25.0	101%	26.2	25.0	105%	3.5%
Pyrene	23.6	25.0	94.4%	25.1	25.0	100%	6.2%
Butylbenzylphthalate	21.6	25.0	86.4%	23.1	25.0	92.4%	6.7%
Benzo(a)anthracene	22.1	25.0	88.4%	24.0	25.0	96.0%	8.2%
bis(2-Ethylhexyl)phthalate	20.1	25.0	80.4%	22.1	25.0	88.4%	9.5%
Chrysene	22.7	25.0	90.8%	24.4	25.0	97.6%	7.2%
Di-n-Octyl phthalate	21.8	25.0	87.2%	23.2	25.0	92.8%	6.2%
Benzo(b)fluoranthene	23.0	25.0	92.0%	23.4	25.0	93.6%	1.7%
Benzo(k)fluoranthene	23.9	25.0	95.6%	23.4	25.0	93.6%	2.1%
Benzo(a)pyrene	19.4	25.0	77.6%	21.5	25.0	86.0%	10.3%
Indeno(1,2,3-cd)pyrene	19.9	25.0	79.6%	21.5	25.0	86.0%	7.7%
Dibenz(a,h)anthracene	20.7	25.0	82.8%	22.4	25.0	89.6%	7.9%
Benzo(g,h,i)perylene	19.5	25.0	78.0%	20.6	25.0	82.4%	5.5%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	72.8%	81.6%
2-Fluorobiphenyl	78.8%	83.6%
d14-p-Terphenyl	88.0%	92.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-052410
LCS/LCSD

Lab Sample ID: LCS-052410
LIMS ID: 10-12123
Matrix: Water
Date Analyzed LCS: 05/25/10 16:31
LCSD: 05/25/10 17:04

QC Report No: QX25-Science App. International Corp
Project: NBF

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d4-1,2-Dichlorobenzene			65.2%	67.6%			
d5-Phenol			71.5%	73.9%			
2-Fluorophenol			84.8%	88.0%			
2,4,6-Tribromophenol			86.1%	96.3%			
d4-2-Chlorophenol			75.7%	78.4%			

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QX25MBW1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: QX25 Project: NBF

Lab File ID: 05251002 Date Extracted: 05/24/10

Instrument ID: NT4 Date Analyzed: 05/25/10

Matrix: LIQUID Time Analyzed: 1558

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QX25LCSW1	QX25LCSW1	05251003	05/25/10
02	QX25LCSDW1	QX25LCSDW1	05251004	05/25/10
03	NBF-MH108-052010	QX25A	05251005	05/25/10
04	NBF-LS431-052010	QX25B	05251006	05/25/10
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-052410
METHOD BLANK

Lab Sample ID: MB-052410
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 05/27/10

QC Report No: QX25-Science App. International Corp
Project: NBF
NA
Date Sampled: NA
Date Received: NA

Date Extracted: 05/24/10
Date Analyzed: 05/25/10 15:58
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	70.0%	2-Fluorobiphenyl	74.8%
d14-p-Terphenyl	98.4%	d4-1,2-Dichlorobenzene	58.8%
d5-Phenol	68.3%	2-Fluorophenol	82.4%
2,4,6-Tribromophenol	84.5%	d4-2-Chlorophenol	70.7%

SIM SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS **Sample ID: NBF-MH108-052010-W**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QX25A
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/21/10
Date Analyzed: 05/29/10 09:39
Instrument/Analyst: NT2/VTS

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.029**
91-57-6	**2-Methylnaphthalene**	**0.010**	**0.017**
90-12-0	**1-Methylnaphthalene**	**0.010**	**0.012**
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	**Fluorene**	**0.010**	**0.012**
85-01-8	**Phenanthrene**	**0.010**	**0.19**
120-12-7	**Anthracene**	**0.010**	**0.013**
206-44-0	**Fluoranthene**	**0.010**	**0.44**
129-00-0	**Pyrene**	**0.010**	**0.25**
56-55-3	**Benzo(a)anthracene**	**0.010**	**0.069**
218-01-9	**Chrysene**	**0.010**	**0.25**
205-99-2	**Benzo(b)fluoranthene**	**0.010**	**0.16**
207-08-9	**Benzo(k)fluoranthene**	**0.010**	**0.16**
50-32-8	**Benzo(a)pyrene**	**0.010**	**0.13**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.010**	**0.10**
53-70-3	**Dibenz(a,h)anthracene**	**0.010**	**0.035**
191-24-2	**Benzo(g,h,i)perylene**	**0.010**	**0.14**
132-64-9	**Dibenzofuran**	**0.010**	**0.011**

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	55.3%
d14-Dibenzo(a,h)anthracene	69.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS **Sample ID: NBF-LS431-052010-W**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QX25B
LIMS ID: 10-12124
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/21/10
Date Analyzed: 05/29/10 10:01
Instrument/Analyst: NT2/VTS

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result	
91-20-3	Naphthalene	0.010	0.27	
91-57-6	2-Methylnaphthalene	0.010	0.16	
90-12-0	1-Methylnaphthalene	0.010	0.11	
208-96-8	Acenaphthylene	0.010	0.060	
83-32-9	Acenaphthene	0.010	0.029	
86-73-7	Fluorene	0.010	0.22	
85-01-8	Phenanthrene	0.010	1.0	E
120-12-7	Anthracene	0.010	0.16	
206-44-0	Fluoranthene	0.010	0.86	
129-00-0	Pyrene	0.010	0.37	
56-55-3	Benzo(a)anthracene	0.010	0.17	
218-01-9	Chrysene	0.010	0.71	
205-99-2	Benzo(b)fluoranthene	0.010	0.30	
207-08-9	Benzo(k)fluoranthene	0.010	0.30	
50-32-8	Benzo(a)pyrene	0.010	0.22	
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	0.20	
53-70-3	Dibenz(a,h)anthracene	0.010	0.069	
191-24-2	Benzo(g,h,i)perylene	0.010	0.26	
132-64-9	Dibenzofuran	0.010	0.041	

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	63.7%
d14-Dibenzo(a,h)anthracene	81.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-LS431-052010-W
DILUTION

Lab Sample ID: QX25B
LIMS ID: 10-12124
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/21/10
Date Analyzed: 05/29/10 10:23
Instrument/Analyst: NT2/VTS

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 2.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.020	0.26
91-57-6	2-Methylnaphthalene	0.020	0.16
90-12-0	1-Methylnaphthalene	0.020	0.11
208-96-8	Acenaphthylene	0.020	0.056
83-32-9	Acenaphthene	0.020	0.029
86-73-7	Fluorene	0.020	0.22
85-01-8	Phenanthrene	0.020	1.0
120-12-7	Anthracene	0.020	0.15
206-44-0	Fluoranthene	0.020	0.83
129-00-0	Pyrene	0.020	0.36
56-55-3	Benzo(a)anthracene	0.020	0.18
218-01-9	Chrysene	0.020	0.68
205-99-2	Benzo(b)fluoranthene	0.020	0.28
207-08-9	Benzo(k)fluoranthene	0.020	0.28
50-32-8	Benzo(a)pyrene	0.020	0.20
193-39-5	Indeno(1,2,3-cd)pyrene	0.020	0.19
53-70-3	Dibenz(a,h)anthracene	0.020	0.069
191-24-2	Benzo(g,h,i)perylene	0.020	0.24
132-64-9	Dibenzofuran	0.020	0.038

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	62.3%
d14-Dibenzo(a,h)anthracene	75.3%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QX25-Science App. International Corp
Project: NBF

Client ID	MNP	DBA	TOT OUT
MB-052110	60.7%	72.0%	0
LCS-052110	64.7%	78.7%	0
LCSD-052110	58.3%	73.3%	0
NBF-MH108-052010-W	55.3%	69.0%	0
NBF-LS431-052010-W	63.7%	81.7%	0
NBF-LS431-052010-W DL	62.3%	75.3%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(42-100)	(31-109)
(DBA) = d14-Dibenzo(a,h)anthracene	(40-125)	(10-133)

Prep Method: SW3510C
Log Number Range: 10-12123 to 10-12124

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: LCS-052110
LAB CONTROL SAMPLE

Lab Sample ID: LCS-052110
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 05/21/10

Date Analyzed LCS: 05/29/10 08:57
LCSD: 05/29/10 09:18
Instrument/Analyst LCS: NT2/VTS
LCSD: NT2/VTS

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	0.171	0.300	57.0%	0.156	0.300	52.0%	9.2%
2-Methylnaphthalene	0.188	0.300	62.7%	0.173	0.300	57.7%	8.3%
1-Methylnaphthalene	0.180	0.300	60.0%	0.168	0.300	56.0%	6.9%
Acenaphthylene	0.189	0.300	63.0%	0.180	0.300	60.0%	4.9%
Acenaphthene	0.189	0.300	63.0%	0.180	0.300	60.0%	4.9%
Fluorene	0.205	0.300	68.3%	0.201	0.300	67.0%	2.0%
Phenanthrene	0.205	0.300	68.3%	0.205	0.300	68.3%	0.0%
Anthracene	0.214	0.300	71.3%	0.228	0.300	76.0%	6.3%
Fluoranthene	0.228	0.300	76.0%	0.237	0.300	79.0%	3.9%
Pyrene	0.230	0.300	76.7%	0.240	0.300	80.0%	4.3%
Benzo(a)anthracene	0.238	0.300	79.3%	0.249	0.300	83.0%	4.5%
Chrysene	0.241	0.300	80.3%	0.252	0.300	84.0%	4.5%
Benzo(b)fluoranthene	0.219	0.300	73.0%	0.226	0.300	75.3%	3.1%
Benzo(k)fluoranthene	0.253	0.300	84.3%	0.252	0.300	84.0%	0.4%
Benzo(a)pyrene	0.214	0.300	71.3%	0.220	0.300	73.3%	2.8%
Indeno(1,2,3-cd)pyrene	0.217	0.300	72.3%	0.211	0.300	70.3%	2.8%
Dibenz(a,h)anthracene	0.221	0.300	73.7%	0.209	0.300	69.7%	5.6%
Benzo(g,h,i)perylene	0.213	0.300	71.0%	0.207	0.300	69.0%	2.9%
Dibenzofuran	0.192	0.300	64.0%	0.186	0.300	62.0%	3.2%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	64.7%	58.3%
d14-Dibenzo(a,h)anthracene	78.7%	73.3%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QX25MBW1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: QX25 Project: NBF

Lab File ID: QX25MB Date Extracted: 05/21/10

Instrument ID: NT2 Date Analyzed: 05/29/10

Matrix: LIQUID Time Analyzed: 0835

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QX25LCSW1	QX25LCSW1	QX25SB	05/29/10
02	QX25LCSDW1	QX25LCSDW1	QX25SBD	05/29/10
03	NBF-MH108-052010	QX25A	QX25A	05/29/10
04	NBF-LS431-052010	QX25B	QX25B	05/29/10
05	NBF-LS431-052010	QX25B	QX25BDL	05/29/10
06				
07				
08				
09				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS **Sample ID: MB-052110**
Page 1 of 1 **METHOD BLANK**

Lab Sample ID: MB-052110
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 05/21/10
Date Analyzed: 05/29/10 08:35
Instrument/Analyst: NT2/VTS

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	60.7%
d14-Dibenzo(a,h)anthracene	72.0%

PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108-052010-W
SAMPLE

Lab Sample ID: QX25A
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 05/28/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/24/10
Date Analyzed: 05/26/10 13:46
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.10	< 0.10 Y
11097-69-1	**Aroclor 1254**	**0.010**	**0.093**
11096-82-5	**Aroclor 1260**	**0.010**	**0.015**
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	95.5%
Tetrachlorometaxylene	75.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431-052010-W
SAMPLE

Lab Sample ID: QX25B
LIMS ID: 10-12124
Matrix: Water
Data Release Authorized:
Reported: 05/28/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/24/10
Date Analyzed: 05/26/10 14:05
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.025	< 0.025 Y
11097-69-1	**Aroclor 1254**	**0.010**	**0.031**
11096-82-5	**Aroclor 1260**	**0.010**	**0.012**
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.5%
Tetrachlorometaxylene	68.0%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QX25-Science App. International Corp
Project: NBF

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-052410	68.8%	32-108	62.2%	31-100	0
LCS-052410	67.2%	32-108	64.2%	31-100	0
LCSD-052410	79.8%	32-108	70.2%	31-100	0
NBF-MH108-052010-W	95.5%	19-111	75.5%	21-100	0
NBF-LS431-052010-W	92.5%	19-111	68.0%	21-100	0

Prep Method: SW3510C
Log Number Range: 10-12123 to 10-12124

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-052410
LCS/LCSD

Lab Sample ID: LCS-052410
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 05/28/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 05/24/10

Date Analyzed LCS: 05/26/10 13:08
LCSD: 05/26/10 13:27
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1000 mL
LCSD: 1000 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.039	0.050	78.0%	0.042	0.050	84.0%	7.4%
Aroclor 1260	0.030	0.050	60.0%	0.037	0.050	74.0%	20.9%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	67.2%	79.8%
Tetrachlorometaxylene	64.2%	70.2%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QX25MBW1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: QX25 Project: NBF

Lab Sample ID: QX25MBW1 Lab File ID: 0526B011

Date Extracted: 05/24/10 Matrix: LIQUID

Date Analyzed: 05/26/10 Instrument ID: ECD5

Time Analyzed: 1250 GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QX25LCSW1	QX25LCSW1	05/26/10
02	QX25LCSDW1	QX25LCSDW1	05/26/10
03	NBF-MH108-052010-W	QX25A	05/26/10
04	NBF-LS431-052010-W	QX25B	05/26/10

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-052410
METHOD BLANK

Lab Sample ID: MB-052410
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 05/28/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted: 05/24/10
Date Analyzed: 05/26/10 12:50
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	68.8%
Tetrachlorometaxylene	62.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108A-052010-S
SAMPLE

Lab Sample ID: QX25E
LIMS ID: 10-12127
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 17:33
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 50.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	5.0	< 5.0 U
53469-21-9	Aroclor 1242	5.0	< 5.0 U
12672-29-6	Aroclor 1248	20	< 20 Y
11097-69-1	**Aroclor 1254**	**5.0**	**40**
11096-82-5	**Aroclor 1260**	**5.0**	**7.8**
11104-28-2	Aroclor 1221	5.0	< 5.0 U
11141-16-5	Aroclor 1232	5.0	< 5.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	76.0%
Tetrachlorometaxylene	79.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431A-052010-S
SAMPLE

Lab Sample ID: QX25G
LIMS ID: 10-12129
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 17:52
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	4.0	< 4.0 Y
11097-69-1	**Aroclor 1254**	**1.0**	**8.6**
11096-82-5	**Aroclor 1260**	**1.0**	**1.8**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	69.5%
Tetrachlorometaxylene	70.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-CB423A-052010-S
SAMPLE

Lab Sample ID: QX25I
LIMS ID: 10-12131
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 18:10
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	2.0	< 2.0 Y
11097-69-1	**Aroclor 1254**	**1.0**	**3.0**
11096-82-5	**Aroclor 1260**	**1.0**	**2.7**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	56.5%
Tetrachlorometaxylene	56.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH356A-052010-S
SAMPLE

Lab Sample ID: QX25K
LIMS ID: 10-12133
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 19:07
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	4.0	< 4.0 Y
11097-69-1	**Aroclor 1254**	**1.0**	**7.4**
11096-82-5	**Aroclor 1260**	**1.0**	**1.9**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	72.0%
Tetrachlorometaxylene	67.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH369A-052010-S
SAMPLE

Lab Sample ID: QX25M
LIMS ID: 10-12135
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 19:26
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.2	< 1.2 Y
11097-69-1	**Aroclor 1254**	**1.0**	**3.6**
11096-82-5	**Aroclor 1260**	**1.0**	**2.7**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	72.0%
Tetrachlorometaxylene	74.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
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Sample ID: NBF-MH226A-052010-S
SAMPLE

Lab Sample ID: QX250
LIMS ID: 10-12137
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 19:44
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 20.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.0	< 2.0 U
53469-21-9	Aroclor 1242	2.0	< 2.0 U
12672-29-6	Aroclor 1248	5.0	< 5.0 Y
11097-69-1	**Aroclor 1254**	**2.0**	**11**
11096-82-5	**Aroclor 1260**	**2.0**	**4.3**
11104-28-2	Aroclor 1221	2.0	< 2.0 U
11141-16-5	Aroclor 1232	2.0	< 2.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	88.1%
Tetrachlorometaxylene	86.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH152A-052010-S
SAMPLE

Lab Sample ID: QX25Q
LIMS ID: 10-12139
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 20:03
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 100
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	10	< 10 U
53469-21-9	Aroclor 1242	10	< 10 U
12672-29-6	Aroclor 1248	30	< 30 Y
11097-69-1	**Aroclor 1254**	**10**	**50**
11096-82-5	Aroclor 1260	10	< 10 U
11104-28-2	Aroclor 1221	10	< 10 U
11141-16-5	Aroclor 1232	10	< 10 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-CB165A-052010-S
SAMPLE

Lab Sample ID: QX25S
LIMS ID: 10-12141
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 21:00
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 100
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	10	< 10 U
53469-21-9	Aroclor 1242	10	< 10 U
12672-29-6	Aroclor 1248	50	< 50 Y
11097-69-1	**Aroclor 1254**	**10**	**48**
11096-82-5	Aroclor 1260	10	< 10 U
11104-28-2	Aroclor 1221	10	< 10 U
11141-16-5	Aroclor 1232	10	< 10 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	99.0%
Tetrachlorometaxylene	95.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH178A-052010-S
SAMPLE

Lab Sample ID: QX25U
LIMS ID: 10-12143
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 21:19
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.5	< 1.5 Y
11097-69-1	**Aroclor 1254**	**1.0**	**3.1**
11096-82-5	**Aroclor 1260**	**1.0**	**1.2**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	67.0%
Tetrachlorometaxylene	64.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
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Sample ID: NBF-CB173A-052010-S
SAMPLE

Lab Sample ID: QX25W
LIMS ID: 10-12145
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 21:37
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 200
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	100	< 100 Y
11097-69-1	**Aroclor 1254**	**20**	**400**
11096-82-5	Aroclor 1260	30	< 30 Y
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH133A-052010-S
SAMPLE

Lab Sample ID: QX25Y
LIMS ID: 10-12147
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 21:56
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 20.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.0	< 2.0 U
53469-21-9	Aroclor 1242	2.0	< 2.0 U
12672-29-6	Aroclor 1248	3.0	< 3.0 Y
11097-69-1	**Aroclor 1254**	**2.0**	**8.8**
11096-82-5	**Aroclor 1260**	**2.0**	**9.6**
11104-28-2	Aroclor 1221	2.0	< 2.0 U
11141-16-5	Aroclor 1232	2.0	< 2.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	80.4%
Tetrachlorometaxylene	78.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
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Sample ID: NBF-MH138A-052010-S
SAMPLE

Lab Sample ID: QX25AA
LIMS ID: 10-12149
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 22:15
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 20.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.0	< 2.0 U
53469-21-9	Aroclor 1242	2.0	< 2.0 U
12672-29-6	Aroclor 1248	5.0	< 5.0 Y
11097-69-1	**Aroclor 1254**	**2.0**	**16**
11096-82-5	**Aroclor 1260**	**2.0**	**4.3**
11104-28-2	Aroclor 1221	2.0	< 2.0 U
11141-16-5	Aroclor 1232	2.0	< 2.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	77.5%
Tetrachlorometaxylene	75.0%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Filter

QC Report No: QX25-Science App. International Corp
Project: NBF

Client ID	DCBP	TCMX	TOT OUT
MB-052810	73.2%	65.8%	0
LCS-052810	73.8%	66.2%	0
LCSD-052810	71.2%	62.0%	0
NBF-MH108A-052010-S	76.0%	79.2%	0
NBF-LS431A-052010-S	69.5%	70.5%	0
NBF-CB423A-052010-S	56.5%	56.0%	0
NBF-MH356A-052010-S	72.0%	67.5%	0
NBF-MH369A-052010-S	72.0%	74.5%	0
NBF-MH226A-052010-S	88.1%	86.0%	0
NBF-MH152A-052010-S	D	D	0
NBF-CB165A-052010-S	99.0%	95.0%	0
NBF-MH178A-052010-S	67.0%	64.5%	0
NBF-CB173A-052010-S	D	D	0
NBF-MH133A-052010-S	80.4%	78.3%	0
NBF-MH138A-052010-S	77.5%	75.0%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A
Log Number Range: 10-12127 to 10-12149

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
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Sample ID: LCS-052810
LCS/LCSD

Lab Sample ID: LCS-052810
LIMS ID: 10-12127
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Date Extracted LCS/LCSD: 05/28/10

Date Analyzed LCS: 06/04/10 16:55
LCSD: 06/04/10 17:14
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1.00 Filter
LCSD: 1.00 Filter
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	1.9	2.5	76.0%	1.8	2.5	72.0%	5.4%
Aroclor 1260	1.7	2.5	68.0%	1.6	2.5	64.0%	6.1%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	73.8%	71.2%
Tetrachlorometaxylene	66.2%	62.0%

Reported in Total µg
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QX25MB1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: QX25 Project: NBF

Lab Sample ID: QX25MB1 Lab File ID: 0604B015

Date Extracted: 05/28/10 Matrix: SOLID

Date Analyzed: 06/04/10 Instrument ID: ECD5

Time Analyzed: 1636 GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QX25LCS1	QX25LCS1	06/04/10
02	QX25LCSD1	QX25LCSD1	06/04/10
03	NBF-MH108A-052010-S	QX25E	06/04/10
04	NBF-LS431A-052010-S	QX25G	06/04/10
05	NBF-CB423A-052010-S	QX25I	06/04/10
06	NBF-MH356A-052010-S	QX25K	06/04/10
07	NBF-MH369A-052010-S	QX25M	06/04/10
08	NBF-MH226A-052010-S	QX25O	06/04/10
09	NBF-MH152A-052010-S	QX25Q	06/04/10
10	NBF-CB165A-052010-S	QX25S	06/04/10
11	NBF-MH178A-052010-S	QX25U	06/04/10
12	NBF-CB173A-052010-S	QX25W	06/04/10
13	NBF-MH133A-052010-S	QX25Y	06/04/10
14	NBF-MH138A-052010-S	QX25AA	06/04/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
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Sample ID: MB-052810
METHOD BLANK

Lab Sample ID: MB-052810
LIMS ID: 10-12127
Matrix: Filter
Data Release Authorized:
Reported: 06/07/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted: 05/28/10
Date Analyzed: 06/04/10 16:36
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.1	< 0.1 U
53469-21-9	Aroclor 1242	0.1	< 0.1 U
12672-29-6	Aroclor 1248	0.1	< 0.1 U
11097-69-1	Aroclor 1254	0.1	< 0.1 U
11096-82-5	Aroclor 1260	0.1	< 0.1 U
11104-28-2	Aroclor 1221	0.1	< 0.1 U
11141-16-5	Aroclor 1232	0.1	< 0.1 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	73.2%
Tetrachlorometaxylene	65.8%

METALS ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-052010-W
SAMPLE

Lab Sample ID: QX25A
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/24/10	200.8	05/27/10	**7440-38-2**	**Arsenic**	0.2	**1.6**	
200.8	05/24/10	200.8	05/27/10	**7440-43-9**	**Cadmium**	0.2	**0.5**	
3010A	05/24/10	6010B	05/27/10	**7440-70-2**	**Calcium**	50	**9,580**	
200.8	05/24/10	200.8	05/27/10	**7440-47-3**	**Chromium**	0.5	**2.2**	
200.8	05/24/10	200.8	05/27/10	**7440-50-8**	**Copper**	0.5	**27.5**	
200.8	05/24/10	200.8	05/27/10	**7439-92-1**	**Lead**	1	**10**	
3010A	05/24/10	6010B	05/27/10	**7439-95-4**	**Magnesium**	50	**2,500**	
7470A	05/24/10	7470A	05/25/10	7439-97-6	Mercury	0.1	0.1	U
200.8	05/24/10	200.8	05/27/10	**7440-02-0**	**Nickel**	0.5	**2.8**	
200.8	05/24/10	200.8	05/27/10	7782-49-2	Selenium	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7440-22-4	Silver	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	**7440-66-6**	**Zinc**	4	**103**	

Calculated Hardness (mg-CaCO3/L): 34

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-052010-W
MATRIX SPIKE

Lab Sample ID: QX25A
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample		Spike	Spike Added	% Recovery	Q
Arsenic	200.8	1.64		28.2	25.0	106%	
Cadmium	200.8	0.490		27.7	25.0	109%	
Calcium	6010B	9,580		19,700	10,000	101%	
Chromium	200.8	2.22		28.5	25.0	105%	
Copper	200.8	27.5		57.1	25.0	118%	
Lead	200.8	9.64		37.7	25.0	112%	
Magnesium	6010B	2,500		12,400	10,000	99.0%	
Mercury	7470A	0.100	U	1.18	1.00	118%	
Nickel	200.8	2.80		31.6	25.0	115%	
Selenium	200.8	0.500	U	82.8	80.0	104%	
Silver	200.8	0.200	U	25.3	25.0	101%	
Zinc	200.8	103		185	80.0	102%	

Reported in µg/L

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-052010-W DUPLICATE

Lab Sample ID: QX25A
LIMS ID: 10-12123
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	1.6	1.7	6.1%	+/- 20%	
Cadmium	200.8	0.5	0.5	0.0%	+/- 0.2	L
Calcium	6010B	9,580	9,890	3.2%	+/- 20%	
Chromium	200.8	2.2	2.3	4.4%	+/- 0.5	L
Copper	200.8	27.5	27.6	0.4%	+/- 20%	
Lead	200.8	10	10	0.0%	+/- 20%	
Magnesium	6010B	2,500	2,560	2.4%	+/- 20%	
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Nickel	200.8	2.8	2.8	0.0%	+/- 20%	
Selenium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	103	101	2.0%	+/- 20%	

Reported in µg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-LS431-052010-W
SAMPLE

Lab Sample ID: QX25B
LIMS ID: 10-12124
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/24/10	200.8	05/27/10	**7440-38-2**	**Arsenic**	0.2	**1.9**	
200.8	05/24/10	200.8	05/27/10	**7440-43-9**	**Cadmium**	0.2	**0.6**	
3010A	05/24/10	6010B	05/27/10	**7440-70-2**	**Calcium**	50	**9,450**	
200.8	05/24/10	200.8	05/27/10	**7440-47-3**	**Chromium**	0.5	**2.7**	
200.8	05/24/10	200.8	05/27/10	**7440-50-8**	**Copper**	0.5	**14.1**	
200.8	05/24/10	200.8	05/27/10	**7439-92-1**	**Lead**	1	**7**	
3010A	05/24/10	6010B	05/27/10	**7439-95-4**	**Magnesium**	50	**3,720**	
7470A	05/24/10	7470A	05/25/10	7439-97-6	Mercury	0.1	0.1	U
200.8	05/24/10	200.8	05/27/10	**7440-02-0**	**Nickel**	0.5	**1.8**	
200.8	05/24/10	200.8	05/27/10	7782-49-2	Selenium	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7440-22-4	Silver	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	**7440-66-6**	**Zinc**	4	**69**	

Calculated Hardness (mg-CaCO3/L): 39

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: NBF-MH108-052010-W
SAMPLE

Lab Sample ID: QX25C
LIMS ID: 10-12125
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/24/10	200.8	05/27/10	**7440-38-2**	**Arsenic**	0.2	**0.6**	
200.8	05/24/10	200.8	05/27/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	7440-47-3	Chromium	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	**7440-50-8**	**Copper**	0.5	**11.0**	
200.8	05/24/10	200.8	05/27/10	7439-92-1	Lead	1	1	U
200.8	05/24/10	200.8	05/27/10	**7440-02-0**	**Nickel**	0.5	**1.3**	
200.8	05/24/10	200.8	05/27/10	7782-49-2	Selenium	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7440-22-4	Silver	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	**7440-66-6**	**Zinc**	4	**59**	

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: NBF-MH108-052010-W
MATRIX SPIKE

Lab Sample ID: QX25C
LIMS ID: 10-12125
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	0.640	26.9	25.0	105%	
Cadmium	200.8	0.200 U	27.4	25.0	110%	
Chromium	200.8	0.500 U	26.6	25.0	106%	
Copper	200.8	11.0	39.7	25.0	115%	
Lead	200.8	1.00 U	27.2	25.0	109%	
Nickel	200.8	1.29	30.1	25.0	115%	
Selenium	200.8	0.500 U	81.9	80.0	102%	
Silver	200.8	0.200 U	25.6	25.0	102%	
Zinc	200.8	58.5	136	80.0	96.9%	

Reported in µg/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
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Sample ID: NBF-MH108-052010-W
DUPLICATE

Lab Sample ID: QX25C
LIMS ID: 10-12125
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	0.6	0.7	15.4%	+/- 0.2	L
Cadmium	200.8	0.2 U	0.2	0.0%	+/- 0.2	L
Chromium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	200.8	11.0	11.6	5.3%	+/- 20%	
Lead	200.8	1 U	1 U	0.0%	+/- 1	L
Nickel	200.8	1.3	1.4	7.4%	+/- 0.5	L
Selenium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	59	63	6.6%	+/- 20%	

Reported in µg/L

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

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: NBF-LS431-052010-W
SAMPLE

Lab Sample ID: QX25D
LIMS ID: 10-12126
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/24/10	200.8	05/27/10	**7440-38-2**	**Arsenic**	0.2	**0.5**	
200.8	05/24/10	200.8	05/27/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	7440-47-3	Chromium	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	**7440-50-8**	**Copper**	0.5	**5.2**	
200.8	05/24/10	200.8	05/27/10	7439-92-1	Lead	1	1	U
200.8	05/24/10	200.8	05/27/10	**7440-02-0**	**Nickel**	0.5	**0.8**	
200.8	05/24/10	200.8	05/27/10	7782-49-2	Selenium	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7440-22-4	Silver	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	**7440-66-6**	**Zinc**	4	**22**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

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TOTAL METALS
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Sample ID: LAB CONTROL

Lab Sample ID: QX25LCS
LIMS ID: 10-12124
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	27.6	25.0	110%	
Cadmium	200.8	28.6	25.0	114%	
Calcium	6010B	9330	10000	93.3%	
Chromium	200.8	29.1	25.0	116%	
Copper	200.8	30.0	25.0	120%	
Lead	200.8	28	25	112%	
Magnesium	6010B	9430	10000	94.3%	
Mercury	7470A	2.1	2.0	105%	
Nickel	200.8	29.4	25.0	118%	
Selenium	200.8	88.0	80.0	110%	
Silver	200.8	27.6	25.0	110%	
Zinc	200.8	90	80	112%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: LAB CONTROL

Lab Sample ID: QX25LCS
LIMS ID: 10-12126
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	26.9	25.0	108%	
Cadmium	200.8	27.6	25.0	110%	
Chromium	200.8	28.6	25.0	114%	
Copper	200.8	29.4	25.0	118%	
Lead	200.8	28	25	112%	
Nickel	200.8	29.8	25.0	119%	
Selenium	200.8	83.6	80.0	104%	
Silver	200.8	26.7	25.0	107%	
Zinc	200.8	87	80	109%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: METHOD BLANK

Lab Sample ID: QX25MB
LIMS ID: 10-12124
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/24/10	200.8	05/27/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	7440-43-9	Cadmium	0.2	0.2	U
3010A	05/24/10	6010B	05/27/10	7440-70-2	Calcium	50	50	U
200.8	05/24/10	200.8	05/27/10	7440-47-3	Chromium	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7440-50-8	Copper	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7439-92-1	Lead	1	1	U
3010A	05/24/10	6010B	05/27/10	7439-95-4	Magnesium	50	50	U
7470A	05/24/10	7470A	05/25/10	7439-97-6	Mercury	0.1	0.1	U
200.8	05/24/10	200.8	05/27/10	7440-02-0	Nickel	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7782-49-2	Selenium	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7440-22-4	Silver	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: METHOD BLANK

Lab Sample ID: QX25MB
LIMS ID: 10-12126
Matrix: Water
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	05/24/10	200.8	05/27/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	7440-47-3	Chromium	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7440-50-8	Copper	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7439-92-1	Lead	1	1	U
200.8	05/24/10	200.8	05/27/10	7440-02-0	Nickel	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7782-49-2	Selenium	0.5	0.5	U
200.8	05/24/10	200.8	05/27/10	7440-22-4	Silver	0.2	0.2	U
200.8	05/24/10	200.8	05/27/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

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TOTAL METALS
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Sample ID: NBF-MH108A-052010-S
SAMPLE

Lab Sample ID: QX25F
LIMS ID: 10-12128
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 26.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	**7440-38-2**	**Arsenic**	20	**30**	
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	0.7	**9.1**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	2	**76**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	0.7	**386**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	7	**239**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.09	**0.55**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	1	1	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	4	**1,230**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-MH108A-052010-S
MATRIX SPIKE

Lab Sample ID: QX25F
LIMS ID: 10-12128
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	30	780	735	102%	
Cadmium	6010B	9.1	204	184	106%	
Chromium	6010B	76	253	184	96.2%	
Copper	6010B	386	476	184	48.9%	N
Lead	6010B	239	939	735	95.2%	
Mercury	7471A	0.55	1.53	0.879	111%	
Silver	6010B	1 U	189	184	103%	
Zinc	6010B	1,230	1,230	184	0.0%	H

Reported in mg/kg-dry

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-MH108A-052010-S DUPLICATE

Lab Sample ID: QX25F
LIMS ID: 10-12128
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	30	30	0.0%	+/- 20	L
Cadmium	6010B	9.1	8.3	9.2%	+/- 20%	
Chromium	6010B	76	78	2.6%	+/- 20%	
Copper	6010B	386	367	5.0%	+/- 20%	
Lead	6010B	239	234	2.1%	+/- 20%	
Mercury	7471A	0.55	0.81	38.2%	+/- 20%	*
Silver	6010B	1 U	1 U	0.0%	+/- 1	L
Zinc	6010B	1,230	1,240	0.8%	+/- 20%	

Reported in mg/kg-dry

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-LS431A-052010-S
SAMPLE

Lab Sample ID: QX25H
LIMS ID: 10-12130
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 33.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	7440-38-2	Arsenic	40	40	U
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	1	**6**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	4	**49**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	1	**137**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	10	**100**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.06	**0.38**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	2	2	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	7	**705**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-CB423A-052010-S
SAMPLE

Lab Sample ID: QX25J
LIMS ID: 10-12132
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 18.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	7440-38-2	Arsenic	30	30	U
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	1	**5**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	3	**114**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	1	**264**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	10	**190**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.1	**0.2**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	2	2	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	5	**1,360**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-MH356A-052010-S
SAMPLE

Lab Sample ID: QX25L
LIMS ID: 10-12134
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 10.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	7440-38-2	Arsenic	50	50	U
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	2	**14**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	5	**98**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	2	**254**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	20	**250**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.2	**0.3**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	3	3	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	10	**1,460**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-MH369A-052010-S
SAMPLE

Lab Sample ID: QX25N
LIMS ID: 10-12136
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 19.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	**7440-38-2**	**Arsenic**	60	**70**	
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	3	**6**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	6	**98**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	3	**111**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	30	**90**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.1	**0.2**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	4	4	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	10	**630**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-MH226A-052010-S
SAMPLE

Lab Sample ID: QX25P
LIMS ID: 10-12138
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 20.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	**7440-38-2**	**Arsenic**	20	**40**	
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	0.9	**13.0**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	2	**97**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	0.9	**291**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	9	**308**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.1	**0.3**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	1	1	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	5	**1,710**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH152A-052010-S
SAMPLE

Lab Sample ID: QX25R
LIMS ID: 10-12140
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 29.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	**7440-38-2**	**Arsenic**	20	**20**	
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	0.7	**4.6**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	2	**56**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	0.7	**328**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	7	**189**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.07	**0.52**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	1	1	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	3	**686**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-CB165A-052010-S
SAMPLE

Lab Sample ID: QX25T
LIMS ID: 10-12142
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 57.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	**7440-38-2**	**Arsenic**	8	**9**	
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	0.3	**3.2**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	0.8	**79.2**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	0.3	**87.4**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	3	**205**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.03	**2.08**	
3050B	05/25/10	6010B	05/27/10	**7440-22-4**	**Silver**	0.5	**160**	
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	2	**1,640**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH178A-052010-S
SAMPLE

Lab Sample ID: QX25V
LIMS ID: 10-12144
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 29.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	**7440-38-2**	**Arsenic**	20	**20**	
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	0.6	**4.5**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	2	**63**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	0.6	**397**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	6	**230**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.08	**0.25**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	1	1	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	3	**812**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-CB173A-052010-S
SAMPLE

Lab Sample ID: QX25X
LIMS ID: 10-12146
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 23.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	7440-38-2	Arsenic	20	20	U
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	0.8	**31.2**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	2	**81**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	0.8	**278**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	8	**202**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.5	**12.9**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	1	1	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	4	**1,910**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH133A-052010-S
SAMPLE

Lab Sample ID: QX25Z
LIMS ID: 10-12148
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 34.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	**7440-38-2**	**Arsenic**	70	**90**	
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	3	**78**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	7	**78**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	3	**125**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	30	**120**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.05	**3.24**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	4	4	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	10	**2,200**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH138A-052010-S
SAMPLE

Lab Sample ID: QX25AB
LIMS ID: 10-12150
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

Percent Total Solids: 19.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	**7440-38-2**	**Arsenic**	60	**90**	
3050B	05/25/10	6010B	05/27/10	**7440-43-9**	**Cadmium**	2	**10**	
3050B	05/25/10	6010B	05/27/10	**7440-47-3**	**Chromium**	6	**100**	
3050B	05/25/10	6010B	05/27/10	**7440-50-8**	**Copper**	2	**126**	
3050B	05/25/10	6010B	05/27/10	**7439-92-1**	**Lead**	20	**120**	
CLP	05/25/10	7471A	05/28/10	**7439-97-6**	**Mercury**	0.1	**0.4**	
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	4	4	U
3050B	05/25/10	6010B	05/27/10	**7440-66-6**	**Zinc**	10	**2,890**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QX25LCS
LIMS ID: 10-12130
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	212	200	106%	
Cadmium	6010B	52.8	50.0	106%	
Chromium	6010B	53.8	50.0	108%	
Copper	6010B	50.6	50.0	101%	
Lead	6010B	204	200	102%	
Mercury	7471A	0.50	0.50	100%	
Silver	6010B	54.2	50.0	108%	
Zinc	6010B	50	50	100%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Sample ID: METHOD BLANK

Lab Sample ID: QX25MB
LIMS ID: 10-12130
Matrix: Sediment
Data Release Authorized:
Reported: 06/01/10

QC Report No: QX25-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	05/25/10	6010B	05/27/10	7440-38-2	Arsenic	5	5	U
3050B	05/25/10	6010B	05/27/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	05/25/10	6010B	05/27/10	7440-47-3	Chromium	0.5	0.5	U
3050B	05/25/10	6010B	05/27/10	7440-50-8	Copper	0.2	0.2	U
3050B	05/25/10	6010B	05/27/10	7439-92-1	Lead	2	2	U
CLP	05/25/10	7471A	05/28/10	7439-97-6	Mercury	0.02	0.02	U
3050B	05/25/10	6010B	05/27/10	7440-22-4	Silver	0.3	0.3	U
3050B	05/25/10	6010B	05/27/10	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

MERCURY ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
Dissolved Mercury by Method SW7470A

Data Release Authorized:
Reported: 05/26/10
Date Received: 05/20/10
Page 1 of 1

QC Report No: QX26-Science App. International Corp
Project: NBF

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
NBF-MH108-052010-W QX26A 10-12164	05/20/10	Water	05/24/10 05/26/10	20.0	20.0 U
NBF-LS431-052010-W QX26B 10-12165	05/20/10	Water	05/24/10 05/26/10	20.0	20.0 U
MB-052410 Method Blank	NA	Water	05/24/10 05/26/10	20.0	20.0 U

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-052010-W
MATRIX SPIKE

Lab Sample ID: QX26A
LIMS ID: 10-12164
Matrix: Water
Data Release Authorized:
Reported: 05/26/10

QC Report No: QX26-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7470A	20.0 U	106	100	106%	

Reported in ng/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: NBF-MH108-052010-W DUPLICATE

Lab Sample ID: QX26A
LIMS ID: 10-12164
Matrix: Water
Data Release Authorized:
Reported: 05/26/10

QC Report No: QX26-Science App. International Corp
Project: NBF

Date Sampled: 05/20/10
Date Received: 05/20/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7470A	20.0 U	20.0 U	0.0%	+/- 20.0	L

Reported in ng/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QX26LCS
LIMS ID: 10-12165
Matrix: Water
Data Release Authorized:
Reported: 05/26/10

QC Report No: QX26-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	183	200	91.5%	

Reported in ng/L

N-Control limit not met
Control Limits: 80-120%

GENERAL CHEMISTRY ANALYSIS

SAMPLE RESULTS-CONVENTIONALS
QX25-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/26/10

Project: NBF
Event: NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Client ID: NBF-MH108-052010-W
ARI ID: 10-12123 QX25A

Analyte	Date Batch	Method	Units	RL	Sample
pH	05/20/10 052010#1	EPA 150.1	std units	0.01	6.93
Alkalinity	05/21/10 052110#1	SM 2320	mg/L CaCO3	1.0	38.7
Carbonate	05/21/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	05/21/10	SM 2320	mg/L CaCO3	1.0	38.7
Hydroxide	05/21/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	05/21/10 052110#1	EPA 160.2	mg/L	2.2	47.6
Chloride	05/21/10 052110#1	EPA 300.0	mg/L	0.1	2.5
N-Nitrate	05/21/10 052110#1	EPA 300.0	mg-N/L	0.1	0.3
Sulfate	05/22/10 052210#1	EPA 300.0	mg/L	0.5	4.9
Total Organic Carbon	05/25/10 052510#1	EPA 415.1	mg/L	1.50	6.72

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QX25-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/26/10

Project: NBF
Event: NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Client ID: NBF-LS431-052010-W
ARI ID: 10-12124 QX25B

Analyte	Date Batch	Method	Units	RL	Sample
pH	05/20/10 052010#1	EPA 150.1	std units	0.01	7.07
Alkalinity	05/21/10 052110#1	SM 2320	mg/L CaCO3	1.0	53.2
Carbonate	05/21/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	05/21/10	SM 2320	mg/L CaCO3	1.0	53.2
Hydroxide	05/21/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	05/21/10 052110#1	EPA 160.2	mg/L	2.0	41.0
Chloride	05/22/10 052210#1	EPA 300.0	mg/L	0.5	8.5
N-Nitrate	05/21/10 052110#1	EPA 300.0	mg-N/L	0.1	0.2
Sulfate	05/21/10 052110#1	EPA 300.0	mg/L	0.1	2.4
Total Organic Carbon	05/24/10 052410#1	EPA 415.1	mg/L	1.50	6.34

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QX25-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/26/10

Project: NBF
Event: NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Client ID: NBF-MH108-052010-W
ARI ID: 10-12125 QX25C

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	05/24/10 052410#1	EPA 415.1	mg/L	1.50	5.40

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QX25-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/26/10

Project: NBF
Event: NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Client ID: NBF-LS431-052010-W
ARI ID: 10-12126 QX25D

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	05/24/10 052410#1	EPA 415.1	mg/L	1.50	5.22

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
QX25-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/26/10

Project: NBF
Event: NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: QX25A Client ID: NBF-MH108-052010-W							
Chloride	EPA 300.0	05/21/10	mg/L	2.5	4.6	2.0	105.0%
N-Nitrate	EPA 300.0	05/21/10	mg-N/L	0.3	2.2	2.0	95.0%
Sulfate	EPA 300.0	05/22/10	mg/L	4.9	14.6	10.0	97.0%
Total Organic Carbon	EPA 415.1	05/25/10	mg/L	6.72	26.1	20.0	96.9%
ARI ID: QX25C Client ID: NBF-MH108-052010-W							
Dissolved Organic Carbon	EPA 415.1	05/24/10	mg/L	5.40	24.5	20.0	95.5%

REPLICATE RESULTS-CONVENTIONALS
QX25-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/26/10

Project: NBF
Event: NA
Date Sampled: 05/20/10
Date Received: 05/20/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: QX25A Client ID: NBF-MH108-052010-W						
pH	EPA 150.1	05/20/10	std units	6.93	6.93	0.00
Alkalinity	SM 2320	05/21/10	mg/L CaCO3	38.7	38.8	0.3%
Carbonate	SM 2320	05/21/10	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	05/21/10	mg/L CaCO3	38.7	38.8	0.3%
Hydroxide	SM 2320	05/21/10	mg/L CaCO3	< 1.0	< 1.0	NA
Total Suspended Solids	EPA 160.2	05/21/10	mg/L	47.6	48.4	1.7%
Chloride	EPA 300.0	05/21/10	mg/L	2.5	2.5	0.0%
N-Nitrate	EPA 300.0	05/21/10	mg-N/L	0.3	0.3	0.0%
Sulfate	EPA 300.0	05/22/10	mg/L	4.9	4.9	0.0%
Total Organic Carbon	EPA 415.1	05/25/10	mg/L	6.72	6.91	2.8%
ARI ID: QX25C Client ID: NBF-MH108-052010-W						
Dissolved Organic Carbo	EPA 415.1	05/24/10	mg/L	5.40	5.75	6.3%

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

LAB CONTROL RESULTS-CONVENTIONALS
QX25-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/26/10

Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH EPA 150.1	ICVL	05/20/10	std units	7.03	7.00	0.03
Total Suspended Solids EPA 160.2	ICVL	05/21/10	mg/L	49.9	50.0	99.8%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

METHOD BLANK RESULTS-CONVENTIONALS
QX25-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/26/10

Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Total Suspended Solids	EPA 160.2	05/21/10	mg/L	< 1.0 U	
Chloride	EPA 300.0	05/21/10	mg/L	< 0.1 U	
		05/22/10		< 0.1 U	
N-Nitrate	EPA 300.0	05/21/10	mg-N/L	< 0.1 U	
Sulfate	EPA 300.0	05/21/10	mg/L	< 0.1 U	
		05/22/10		< 0.1 U	
Total Organic Carbon	EPA 415.1	05/24/10	mg/L	< 1.50 U	
		05/25/10		< 1.50 U	
Dissolved Organic Carbon	EPA 415.1	05/24/10	mg/L	< 1.50 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
QX25-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/26/10

Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity	SM 2320	05/21/10	mg/L CaCO3	33.9	35.0	96.9%
ERA #P114506						
Chloride	EPA 300.0	05/21/10	mg/L	2.9	3.0	96.7%
ERA #230109		05/22/10		2.9	3.0	96.7%
N-Nitrate	EPA 300.0	05/21/10	mg-N/L	2.8	3.0	93.3%
ERA #09127						
Sulfate	EPA 300.0	05/21/10	mg/L	2.8	3.0	93.3%
ERA #220109		05/22/10		2.8	3.0	93.3%
Total Organic Carbon	EPA 415.1	05/24/10	mg/L	21.1	20.0	105.5%
ERA 0506-09-01		05/25/10		20.0	20.0	100.0%
Dissolved Organic Carbon	EPA 415.1	05/24/10	mg/L	21.1	20.0	105.5%
ERA 0506-09-01						

GEOTECHNICAL ANALYSIS

Science App. Internatioal Corp.

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
NBF-MH108A-052010-S	100.0	100.0	99.0	95.7	89.1	80.1	69.4	60.6	56.1	38.5	31.6	24.3	16.2	9.7
NBF-LS431A-052010-S	100.0	95.3	91.3	89.9	87.1	81.5	74.7	65.9	62.8	46.2	36.8	31.5	23.9	16.0
NBF-CB423A-052010-S	100.0	100.0	98.8	97.2	95.4	91.9	86.3	81.7	79.7	63.8	48.2	39.7	31.5	26.7
NBF-MH152A-052010-S	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.4	69.9	31.2	22.9	15.7	7.7
NBF-MH178A-052010-S	100.0	99.7	99.5	99.4	99.2	98.9	98.4	97.9	91.0	64.1	43.4	25.0	11.9	2.8

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

QX25

Science App. Internatioal Corp.

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
NBF-MH108A-052010-S	1.0	3.3	6.7	8.9	10.7	8.8	4.5	17.6	6.9	7.3	8.1	6.5	9.7	60.6
NBF-LS431A-052010-S	8.7	1.4	2.8	5.6	6.8	8.8	3.1	16.6	9.4	5.3	7.6	7.9	16.0	65.9
NBF-CB423A-052010-S	1.2	1.6	1.8	3.6	5.6	4.6	2.0	15.9	15.6	8.5	8.2	4.8	26.7	81.7
NBF-MH152A-052010-S	0.0	0.0	0.0	0.0	0.0	0.0	1.6	28.5	38.7	8.3	7.2	8.0	7.7	100.0
NBF-MH178A-052010-S	0.5	0.1	0.2	0.3	0.5	0.5	6.9	26.9	20.7	18.4	13.1	9.1	2.8	97.9

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

TOTAL SOLIDS

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory
Analyst Notes

ARI Job No.: QX25 Client ID: Science App. International Co

Parameter: Client Project: NBI

SOP Number(s): No Anomalies:

List problems, concerns, corrective actions and any other pertinent information

Prep Time (Before Drying) - 2hrs and [illegible] WC 5/24/10 Prep Time (After Drying) - ~~1hr 15~~ 2hr 15Min

Sample Wet Weights. 11.15AC 5/27-10 12.1g

E= 325.84g G= 304.20g I= 279.29g K= 336.92g

M= 321.01g O= 247.36g Q= 305.20g S= 251.26g

U= 274.19g W= 269.15g Y= 254.16g AA= 277.28g

Metals Solid Split (wet). E= 11.12g G= 12.63g I= 17.24g K= 16.94g

M= 8.45g O= 5.19g Q= 11.68g S= 13.38g U= 10.19g W= 12.40g Y= 20.82g AA= 15.24g

Geotech Solid Split (wet). E= 14.18g G= 20.19g I= 20.40g K= Øg M= Øg

O= Øg Q= 20.50g S= Øg U= 21.10g W= 0g Y= 0g AA= Øg WC 5/24/10

Dry weights (with Plastic Ring). E= 99.86 G= 90.12 I= 94.40 K= 96.03 M= 90.53

O= 89.00 Q= 110.88 S= 99.07 U= 98.38 W= 101.53 Y= 126.31 AA= 87.92

Plastic Ring Weights. E= 19.27 G= 18.17 I= 18.18 K= 17.39 M= 17.96

O= 17.86 MLes 5/25/10 Q= ~~110.88~~ 19.43 S= 18.53 U= 19.33 W= 18.65 Y= 21.04 AA= ~~87.92~~ 17.10 AA 05/25/10

Dry weights (without plastic Ring). E= 80.34 G= 71.76 I= 76.18 K= 78.49 M= 71.52

O= 71.10 Q= 91.15 S= 80.24 U= 79.05 W= 82.94 Y= 105.06 AA= 72.79

Samples were surrogated at 5X Normal Level to leave room for possible dilutions. ~~JH~~ 5/28/10

Analyst Initials:		Date:	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Prep Sheet Notes

ARI Job No.: QX25 ~~II~~

Client ID: Science App. International Corp

Parameter: Filter Bag Prep

Client Project: NBF

Matrix: (Filter bag)/tissue/other

Sample Wet Weights.

AC = 291.78g	AD = 347.51g	AE = 231.60g	AF = 285.20g
AG = 331.46g	AH = 239.58g	AI = 321.33g	AJ = 198.12g
AK = 369.42g	AL = 175.14g	AM = 257.81g	AN = 283.09g

Sample Dry Weights.

AC = 105.33g	AD = 116.54g	AE = 70.72g	AF = 126.03g
AG = ~~88.12~~ 79.47g	AH = 78.73g	AI = 89.85g	AJ = 87.77g
AK = 88.12g	AL = 81.29g	AM = 84.98g	AN = 75.56g

Prep Time:	Analyst/Date:
12:15-13:15 AC 5-27-10 11:15-13:05 AC 5-28-10 11:15-12:25 AK 6-1-10	

Special Instructions:

(8270) PNA Filter Bag:

1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Cut off plastic rings and record weights on prep sheet. 4. Record wet weights without plastic rings and splits on prep sheet. 5. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags. 6. Record "prep time" on prep sheet. 7. Follow extraction instructions on bench sheet.

PCB Filter Bag:

1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Samples are dried for (2 days) by attaching them to a hood (split open in a tube shape and wrapped in aluminum foil). 4. Re-weigh dried samples and record weight on prep sheet.
5. Cut off plastic rings and record weights on prep sheet. 6. Record sample dry weights without plastic rings on prep sheet.
7. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags.
8. Record "prep time" on prep sheet. 9. Follow extraction instructions on bench sheet.

Solids Data Entry Report Checked by: KM Date: 5/26/10
Date: 05/26/10 Data Analyst: MH

Solids Determination performed on 05/25/10 by KM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
QX25	AB	NBF-MH138A-052010-S	0.978	10.144	2.806	19.94
QX25	F	NBF-MH108A-052010-S	0.986	6.290	2.403	26.72
QX25	H	NBF-LS431A-052010-S	0.977	10.273	4.065	33.22
QX25	J	NBF-CB423A-052010-S	0.989	10.099	2.661	18.35
QX25	L	NBF-MH356A-052010-S	0.988	10.110	1.917	10.18
QX25	N	NBF-MH369A-052010-S	0.981	6.318	2.000	19.09
QX25	P	NBF-MH226A-052010-S	0.983	4.669	1.741	20.56
QX25	R	NBF-MH152A-052010-S	0.979	7.814	2.960	28.98
QX25	T	NBF-CB165A-052010-S	0.997	10.145	6.287	57.83
QX25	V	NBF-MH178A-052010-S	0.960	8.277	3.114	29.44
QX25	X	NBF-CB173A-052010-S	0.971	8.222	2.680	23.57
QX25	Z	NBF-MH133A-052010-S	0.971	10.203	4.160	34.54

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 07 **Balance ID:** 068755

Samples in Oven: Date: 5/25/10 Time: 2040 Temp: 103°C Analyst: KM

Removed from Oven: Date: 5/26/10 Time: 1050 Temp: 102°C Analyst: MH

Source of Total Solids Data If From A Different Lab: —

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs[1]
QX25 F	0.986	6.290	2.403	—	✓
" H	0.977	10.273	4.065	—	✓
" J	0.989	10.099	2.661	—	✓
" L	0.988	10.110	1.917	—	✓
" N	0.981	6.318	2.000	—	✓
" P	0.983	4.669	1.741	—	✓
" R	0.979	7.814	2.960	—	✓
" T	0.997	10.145	6.287	—	✓
" V	0.960	8.277	3.114	—	✓
" X	0.971	8.222	2.680	—	✓
" Z	0.971	10.203	4.160	—	✓
" AB	0.978	10.144	2.806	—	✓
		KM			
			5/25/10		

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 16, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: QX53 & QY41

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile QX53/QY41

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QX53, QY41

prepared
by

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: QY41	Turn-around Requested:
ARI Client Company: SAIC	Phone:
Client Contact: Glen Verderar	
Client Project Name: NBF/GTSP Stormwater Sampling	
Client Project #:	Samplers: gs/as/BR/eg

Page: 1	of 1		
Date: 5/27/10	Ice Present?	No. of Coolers:	Cooler Temps:

Sample ID	Date	Time	Matrix	No. Containers	(1) PCBs	(2) TOC	(3) SIM PAH						Notes/Comments
NBF-LS431V-COMPOSITE3 >500	5/27/10	7:00	SOIL	1	X	X	X						See Cheronne for analysis.
NBF-LS431V-COMPOSITE3 500-250	↓	7:10	↓	1	X	X	X						
NBF-LS431V-COMPOSITE3 250-63	↓	7:20	↓	1	X	X	X						
NBF-LS431V-COMPOSITE3 <63	↓	7:45	↓	1	X	X	X						
NBF-LS431V-COMPOSITE4 >500	↓	14:20	↓	1	X	X	X						
NBF-LS431V-COMPOSITE4 500-250	↓	14:25	↓	1	X	X	X						
NBF-LS431V-COMPOSITE4-250-63	↓	14:30	↓	1	X	X	X						
NBF-LS431V-COMPOSITE4 <63	↓	15:00	↓	1	X	X	X						

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Guenna Smith	Printed Name: A Volgardsen	Printed Name:	Printed Name:
	Company: ARI	Company: ARI	Company:	Company:
	Date & Time: 5/27/10 16:30	Date & Time: 5/27/10 1630	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

SAIC
From Science to Solutions
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: _____ Project Mgr: Glen Vedera
Project Name: NBF-GTSP STORMWATER SAMPLING
Project Location: NBF
Sample Collectors: JW, MG
Client Name: ECOLOGY

Sample ID	Depth	Matrix	Date	Time	# of Containers
NBF-LS431V-040310-S		S	04/03/10	1200	4

Analyses / Tests

Shipping Information
Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

Comments
ARCHIVE, DO NOT FREEZE

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 4/5/10 1637	Date/Time: 4/5/10 1637	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ART	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

EXS3 - 00001

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC

Project Name: NBF-GTSP Stw Sampling

COC No(s): _____ (NA)

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

Assigned ARI Job No: QX46

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): 13.1

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90904169

Cooler Accepted by: JP Date: 4/5/10 Time: 1640

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

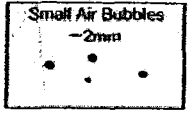
Samples Logged by: JP Date: 4/5/10 Time: 1815

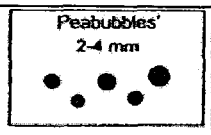
***** Notify Project Manager of discrepancies or concerns *****

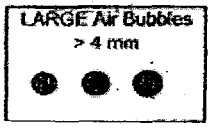
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:







Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

Cooler#: 1	Temperature(°C): 13.1	
Sample ID	**Bottle Count**	**Bottle Type**
NBF-BS431V-040310-5	4	Filter Bag

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: _____ Date: _____ Time: _____

QS24

SAIC
From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: _____ Project Mgr: Glen Vedera
Project Name: NBF - Stanwood
Project Location: _____
Sample Collectors: JD, JN
Client Name: _____

Sample ID	Depth	Matrix	Date	Time	# of Containers	Analyses / Tests: Arsenic	Comments
NBF-CSUBIV-040910-S		Filter	4/9/10	1445	4 Filters	X	Do Not Freeze
NBF-ISUBIA-040910-S		Filter	4/9/10	1800	1 Filter	X	Do Not Freeze
NBF-ISUBIB-040910-S		Filter	4/9/10	1800	1 Filter	X	Do Not Freeze

Shipping Information
Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 4/9/10 1645	Date/Time: 4/9/10 1645	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ART	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

0053 : 0001

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF - Stormwater

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: QS24 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): 7.8 ____ ____ ____ ____ ____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 909416/19

Cooler Accepted by: AV Date: 4/9/10 Time: 1645

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

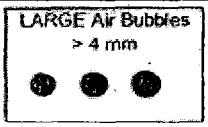
Samples Logged by: AV Date: 4/10/10 Time: 810

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: QX25	Turn-around Requested: Standard	Page: 1 of 3	
ARI Client Company: SAIC	Phone: 425 318 0420	Date: 5/20/10	Ice Present?
Client Contact: Will Hafner		No. of Coolers:	Cooler Temps:
Client Project Name: NBF			
Client Project #:	Samplers: WH/AW/DK		

Sample ID	Date	Time	Matrix	No. Containers	(1) PCB Aroclors	(2) 7471 Mercury	(3) 6010 metals	(4) Grain Size	low level PCB Aroclor	metals total and dissolved	SVOC + SIM SVOC	Hardness, pH Alkalinity	Anions, TOC, DOC, TSS	VOC	Notes/Comments: Analyze Altered solids in order listed if insufficient material
NBF-MH108A-052010-S	5/20/10	11:00	Filter	1	X	X	X	X							
NBF-MH103B-052010-S	5/20/10	↓	Filter	1											Dioxins - dry + send to Access
NBF-MH108-052010-W	5/20/10	↓	Water	1					X	X	X	X	X	X	
~~[illegible]~~	~~5/20/10~~		~~Filter~~		~~X~~	~~X~~	~~X~~	~~X~~							
~~[illegible]~~	~~5/20/10~~		~~Filter~~												~~Dioxins - dry + send to Access~~
NBF-LS431V-052010-S	5/20/10	↓	Filter	4											Archive
NBF-LS431A-052010-S	5/20/10	↓	Filter	1	X	X	X	X							
NBF-LS431B-052010-S	5/20/10	↓	Filter	1											Dioxins - dry + send to Access
NBF-CB423A-052010S	5/20/10	↓	Filter	1	X	X	X	X							
NBF-CB423B-052010	5/20/10	↓	Filter	1											Dioxins - dry + send to Access

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Jonathan Nuwer	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 5/20/10	Date & Time: 5/20/10 1145	Date & Time:	Date & Time:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC
Project Name: NBF
COC No(s): _____ (NA)
Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____
Assigned ARI Job No: QX25
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.)	W (YES)	NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)	8.8 8.3 5.6 4.9	
If cooler temperature is out of compliance fill out form 00070F	Temp Gun ID#: 90877757	

Cooler Accepted by: AV Date: 5/20/10 Time: 1145

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: 5/20/10 ≈1330 Equipment: polychurn Split by: AV/JP

Samples Logged by: AV Date: 5/20/10 Time: _____

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

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
NBF-MH108A-05/10/20-S	NBF-MH108A-052010-S		
NBF-MH133A-05/10/20-S	NBF-MH133DA-052010-S		
NBF-MH133B-05/10/20-S	NBF-MH133DB-052010S		

Additional Notes, Discrepancies, & Resolutions:
Carboys in buckets of ice when brought in. Site water not on C.O.C, being added to another job.
*All dates on filters written 5/20/10, on C.O.C 52010

* Waters within Compliance filters not

By: AV Date: 5/20/10

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

Cooler#: 1	Temperature(°C): 8.3	
Sample ID	**Bottle Count**	**Bottle Type**
NBF-MH108A-05/10/20-S	1	filter
NBF-MH356B-05/20/10-S	1	"
-MH108B-05/20/10-S	1	"
-MH423B-05/20/10-S	1	"
-MH423A-05/20/10-S	1	"
-LS431B-05/20/10-S	1	"
-LS431V-05/20/10-S	~~2~~ 4	"
-LS431A-05/20/10-S	1	"
Cooler#: 1 cont	**Temperature(°C):**	
Sample ID	**Bottle Count**	**Bottle Type**
~~NBF-LS431~~ AV		
NBF-MH356A-05/20/10-S	1	filter
Cooler#: 2	**Temperature(°C): 8.8**	
Sample ID	**Bottle Count**	**Bottle Type**
NBF-CB116SB-05/20/10-S	1	filter
-CB116SA-05/20/10-S	1	"
-MH178B-05/20/10-S	1	"
-MH178A-05/20/10-S	1	"
-CB173A-05/20/10-S	1	"
-MH152-A-05/20/10-S	1	"
-MH369B-05/20/10-S	1	"
-CB173B-05/20/10-S	1	"
Cooler#: 2 cont	**Temperature(°C):**	
Sample ID	**Bottle Count**	**Bottle Type**
NBF-MH152B-05/20/10-S	1	filter
-MH138A-05/20/10-S	1	"
-MH226B-05/20/10-S	1	"
-MH138B-05/20/10-S	1	"
-MH369A-05/20/10-S	1	"
-MH226A-05/20/10-S	1	"
-CB133A-05/20/10-S	1	"
-CB133B-05/20/10-S	1	"

Completed by: AV Date: 5/20/10 Time: 1510

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QU49	Turn-around Requested: Standard	Page: 1 of 4
ARI Client Company: SAIC	Phone: 206 271 4691	Date: 4/27/10 ; Ice Present?
Client Contact: Glen Vedera		No. of Coolers: ; Cooler Temps:
Client Project Name: NBF		
Client Project #:	Samplers: JW/WH/MG/GV	

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

Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors ①	TAPI HG ②	GOLD Metals ③	Grain Size ④	Low level PCB Aroclor	Metals total & dissolved	SVOC & SIM SVOC	Hardness, pH, Alkalinity	Anions, TOC, DOC, TSS		Notes/Comments
															Analyze filtered solids in order listed if insufficient material
NBF-MH108A-042710-S	3/27/10	0900	Filter	1	X	X	X	X							
NBF-MH108B-042710-S	3/27/10	0900	Filter	1											Archive frozen
NBF-MH108-042710-W	3/27/10	0900	Water	1					X	X	X	X	X		
NBF-MH434B-042710-S	3/27/10	1130	Filter	1											Archive frozen
NBF-MH434A-042710-S	3/27/10	1130	Filter	1	X	X	X	X							
NBF-LS431V-042710-S	3/27/10	1100	Filter	4											Archive
NBF-LS431A-042710-S	3/27/10	1015	Filter	1	X	X	X	X							
NBF-LS431B-042710-S	3/27/10	1015	Filter	1											Archive frozen
NBF-CB423A-042710-S	3/27/10	1150	Filter	1	X	X	X	X							
NBF-CB423B-042710-S	3/27/10	1150	Filter	1											Archive frozen

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) J. Peterson	(Signature)	(Signature)
	Printed Name: Julie Werter	Printed Name: J. Peterson	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 4/27/10 1720	Date & Time: 4/27/10 1720	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier (Hand) Delivered Other: _____

Assigned ARI Job No: QU49 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)..... 5.9 4.8 4.6 3.9 ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941609

Cooler Accepted by: JP Date: 4/27/10 Time: 1720

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: 4 _____ Equipment: Polypropylene churn Split by: JP

Samples Logged by: JP Date: 4/27/10 Time: 1900

***** 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:

The whole 1st page of the Chain of Custody has the date as 3/27/10, but IDs have -042710- as part of the ID. I assumed they ment 4/27/10

By: JP Date: 4/28/10

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"	
Peabubbles → "pb"	
Large → "lg"	
Headspace → "hs"	

QU84

SAIC From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.:
Project Mgr: Glen Vedera
Project Name: NBF-GTSP Stormwater Sampling
Project Location: North Boeing Field
Sample Collectors: J. Nuwer
Client Name: Ecology

Shipping Information
Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

Sample ID	Depth	Matrix	Date	Time	# of Containers	Analyses / Tests: Archive										Comments
NBF-LS431A-043010-S		Filter	4/30/10		1 Filter	X										Size fractionate
NBF-LS431B-043010-S		Filter	4/30/10		1 Filter	X										↓
NBF-LS431V-043010-S		Filter	4/30/10		4 Filters	X										↓

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Date/Time: 4/30/10 13:28	Date/Time: 4/30/10 1335	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ARI	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF-GTSP Stormwater

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: QU84 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)..... 18.2 ____ ____ ____ ____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941607

Cooler Accepted by: AV Date: 4/30/10 Time: 1335

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

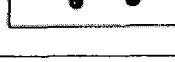
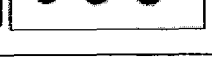
Samples Logged by: _____ Date: 4/30/10 Time: 1352

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QV42	Turn-around Requested: -	Page: 1 of 1	
ARI Client Company: SAIC	Phone:	Date: 5/5/10	Ice Present? Y
Client Contact: Glen Vedera 206 271 4641		No. of Coolers: 2	Cooler Temps: 4.6, 4.1
Client Project Name: NBF			
Client Project #:	Samplers: JW/GV		

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

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Archive	Notes/Comments
NBF-LS431V-050510-S	5/5/10	1505	Filter	4	X	Do Not Freeze
NBF-LS431A-050510-S	↓	1515	↓	1	X	↓
NBF-LS431B-050510-S	↓	1515	↓	1	X	

5/5/10

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Julie Worster	Printed Name: C. OREIRO	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 5/5/10 1545	Date & Time: 5/5/10 1545	Date & Time:	Date & Time:

0533.0910

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: QV42 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) 4.0 4.1		
If cooler temperature is out of compliance fill out form 00070F	Temp Gun ID#: 90941160 19	

Cooler Accepted by: AV Date: 5/5/10 Time: 1545

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

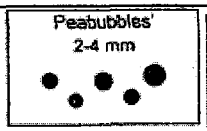
Samples Logged by: JW Date: 5/5/10 Time: 1600

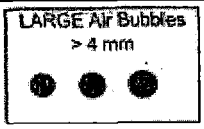
***** Notify Project Manager of discrepancies or concerns *****

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:





Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Subject: RE: PCB samples by grain size
From: "Hafner, William D." <WILLIAM.D.HAFNER@saic.com>
Date: Wed, 12 May 2010 17:26:51 -0700
To: "Cheronne Oreiro" <cheronneo@arilabs.com>

You are right. I'm glad you're paying attention! I'm not sure how I ended up with QQ78 on my list in the wrong spot.

The first composite should have two sets of four filters from:
QR46
QS24
The second should have three sets:
QU49
QU84
QV42

Does this make sense. Do you think there will be enough material in the first composite for 4 grain size fractions?

Will

-----Original Message-----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Wednesday, May 12, 2010 4:58 PM
To: Hafner, William D.
Subject: Re: PCB samples by grain size

Hi Will,

ARI job QQ78 was the job number where we composited and scraped filter-bags from QQ31, QQ37, and QQ60. The composite was re-logged under

QR00 and the size fraction samples were logged under QR70.
The filters that were collected on 3/26/10 were under QQ31. Are you maybe thinking of another job number?
-Cheronne

Cheronne Oreiro
Project Manager
Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168-3240
cheronneo@arilabs.com
(206)-695-6214

Hafner, William D. wrote:

> Cheronne,
>
> We're going to analyze rest of the filters from LS431V the same way as

QR70.

Please combine the solids from these three batches into one composite:

LS431V-032610-S QQ78

LS431V-040310-S QR46

LS431V-040910-S QS24

And filters from these three batches into another:

LS431V-042710-S QU49

LS431V-043010-S QU84

LS431V-050510-S QV42

Again, the grain sizes are:

<63 um

63-250 um

250-500 um

500 um

All grain size fractions from both composites will be analyzed for PCB Aroclors and TOC.

Whichever composite has the most solids analyze for PAH in each fraction.

Call if you have any questions.

Thanks,

Will

***William Hafner, Ph.D.* | SAIC

Environmental Chemist | Infrastructure, Logistics, and Product Solutions Group

phone: 425.482.3327 | mobile: 425.318.0420

email: hafnerw@saic.com

Subject: RE: QW33 and QW34 Receipt
From: "Hafner, William D." <WILLIAM.D.HAFNER@saic.com>
Date: Fri, 21 May 2010 10:13:38 -0700
To: "Cheronne Oreiro" <cheronneo@arilabs.com>

Cheronne,
Please combine the four filters from LS431V-052010-S with the composite QW33 and analyze Aroclors by grain size fractions.

The rest of the filters that were brought in yesterday will be scraped for grain size and metals, and the whole bag analyzed for PCBs as we talked about.

I'll work on getting a Task 3.4 SOW out this afternoon.
Thanks,
Will

-----Original Message-----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Friday, May 21, 2010 9:48 AM
To: Hafner, William D.
Subject: QW33 and QW34 Receipt

--
Cheronne Oreiro
Project Manager
Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168-3240
cheronneo@arilabs.com
(206)-695-6214

Case Narrative

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QX53, QY41

prepared
by

Analytical Resources, Inc.

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job No.: QX53 & QY41

Sample Receipt

(NBF-LS431V-COMPOSITE4)
One filter-bag sample was received on April 5, 2010 under ARI job QR46. One filter-bag sample was received on April 9, 2010 as part of a larger shipment under ARI job QS24. One filter-bag sample was received on May 20, 2010 as part of a larger shipment under ARI job QX25. All filter-bags were archived unfrozen upon receipt. For details regarding sample receipt, please refer to the Cooler Receipt Forms.

On May 12, 2010, SAIC requested that two of the filter-bag samples from ARI jobs QR46 and QS24 be removed from archive. The samples were re-logged under ARI job QW33. Solid material was scraped from each filter-bag and composited to make one sample. This composite sample was re-logged under ARI job QW82 as sample **NBF-LS431V-COMPOSITE2**.

On May 21, 2010, SAIC requested that the filter-bag from ARI job QX25 be removed from archive. The sample was re-logged under ARI job QX41. Solid material was scraped from each filter-bag and volume was added to sample **NBF-LS431V-COMPOSITE2** to make sample **NBF-LS431V-COMPOSITE4**.

(NBF-LS431V-COMPOSITE3)
One filter-bag sample was received on April 27, 2010 as part of a larger shipment under ARI job QU49. One filter-bag sample was received on April 30, 2010 as part of a larger shipment under ARI job QU84. One filter-bag sample was received on May 5, 2010 as part of a larger shipment under ARI job QV42. All filter-bags were archived unfrozen upon receipt. For details regarding sample receipt, please refer to the Cooler Receipt Forms.

On May 12, 2010, SAIC requested the three filter-bag samples from ARI job QU49, QU84, and QV42 be removed from archive. The samples were re-logged under ARI job QW34. Solid material was scraped from each filter-bag and composited to make one sample. This composite sample was re-logged under ARI job QW88 as sample **NBF-LS431V-COMPOSITE3**.

Both composite samples (**NBF-LS431V-COMPOSITE3** and **NBF-LS431V-COMPOSITE4**) and associated site water were logged under ARI job QX53 and submitted to the geotechnical laboratory. The composite samples were separated into specific size fractions. The size fractions include >500µm, 500-250µm, 250-63µm, and <63µm. A Geotechnical laboratory-specific Case Narrative follows.

The four size fractions were labeled as four samples for each composite and logged under ARI job QY41. The size fraction samples were analyzed for PCBs, SIM PAHs, and TOC, as requested.

SIM PAH by SW8270D

The samples were initially screened to determine if there was a response that would require modification of the extraction process. Based on the screen, initial extraction weights were reduced for samples **NBF-LS431V-Composite3 <63** and **NBF-LS431V-Composite4 <63**. The samples were extracted and analyzed within recommended holding times, using internal standard methods.

Initial calibrations were within method requirements.

The continuing calibration of Benzo(g,h,i)perylene was outside the 20% control limit high for the 6/10/10 analysis. All associated results for this compound have been flagged with a "Q" qualifier on the date of analysis. No further corrective action was required.

The internal standard areas of Perylene-d12 were outside the control limits high for samples **NBF-LS431V-Composite3 250-63** and **NBF-LS431V-Composite3 <63**. The samples were re-analyzed at dilutions and all internal standard areas were within control limits. Both sets of data have been reported for review. No further corrective action was required.

The internal standard area of Perylene-d12 was outside the control limits high for sample **NBF-LS431V-Composite4 <63**. The sample was re-analyzed and the internal standard area of Perylene-d12 was outside control limits high again. Both sets of data have been reported for review. No further corrective action was required.

The surrogate percent recovery of d14-Dibenzo(a,h)anthracene was outside the control limits high for sample **NBF-LS431V-Composite3>500**. The sample was re-analyzed at a dilution and the surrogate percent recovery was outside control limits high again. No further corrective action was required.

The surrogate percent recovery of d14-Dibenz(a,h)anthracene was outside the control limits high for sample **NBF-LS431V-Composite4 >500**. The sample was re-analyzed at a dilution and the surrogate spike was undetected. No further corrective action was required.

The method blank was clean at the reporting limit. The LCS percent recoveries were within control limits.

Several matrix spike and matrix spike duplicate percent recoveries were outside the advisory control limits for sample **NBF-LS431V-Composite4 500-250**. No corrective action is required for matrix QC.

Aroclor PCBs by SW8082

The samples were initially screened to determine if there was a response that would require modification of the extraction process. Based on the screen, initial extraction weights were reduced for samples **NBF-LS431V-Composite3>500**, **NBF-LS431V-Composite <63**, and **NBF-LS431V-Composite4 <63**. The samples were extracted and analyzed within recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS percent recoveries were within control limits.

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

The undetected results for Aroclor 1248 were raised and "Y"-flagged due to interference from the matrix.

General Chemistry Parameters (TOC/TS)

The samples were prepared and analyzed within method recommended holding times.

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

The SRM percent recovery was within limits.

The matrix spike percent recovery and replicate RSDs were within control limits.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science Applications International Corp. **ARI Project No.:** QX53

Client Project No.: NBF/GTSP Stormwater Sampling

Case Narrative

1. Two composite samples were submitted for sample preparation for chemical analysis on May 21, 2010, and were in good condition. The sample preparation was submitted as separation of the composite into client specified size fractions. The fractions include >500µm, 500-250µm, 250-63µm, and <63µm sizes. Site water was provided by the client in a 20L HDPE carboy.
2. The samples were separated by wet-washing the sediment over stainless steel sieves of the before-mentioned sizes with site water. Sediment suspended in site water that passed the 63µm sieve was collected by glass funnel into glass centrifuge bottles. The collected water sample was then centrifuged at 1000 x g for 30 minutes. The site water was decanted to be reused in the washing process. The washed sediment retained at each size fraction was collected and deposited into a clean 32oz glass jar.
3. All equipment used in the size fractionation process was decontaminated prior to use. The decontamination process includes a Citranox detergent wash, a 5% nitric acid soak, three deionized water rinses, air drying, and two methylene chloride rinses. The equipment was allowed to air dry in a fume hood to allow all solvents to evaporate.
4. There were no further anomalies in the samples or test method.

Approved by: _____ Date: 5/27/10
Title: *Geotechnical Laboratory Manager*

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified [1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Matrix	Water		Soil	
Sample Volume / Final Volume	**500 mL to 0.5 mL**		**7.5 g / 0.5 mL**	
	Control Limits	**ME Limits [2]**	**Control Limits**	**ME Limits [2]**
LCS Spike Recovery [6]				
Napthalene	39 - **100**	30 - 102	37 - **100**	27 - 107
2-Methylnapthalene	39 - **100**	31 - **100**	37 - **100**	28 - **100**
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	37 - 100	27 - 111	35 - **100**	26 - 102
Acenapthene	42 - **100**	33 - 107	39 - **100**	31 - **100**
Dibenzofuran	46 - **100**	38 - 101	39 - **100**	31 - **100**
Fluorene	49 - 101	40 - 110	42 - **100**	33 - 106
Phenanthrene	55 - 101	47 - 109	47 - **100**	38 - 108
Anthracene	47 - 102	38 - 111	41 - 106	30 - 117
Fluoranthene	60 - 106	52 - 114	52 - 109	43 - 119
Pyrene	55 - 110	46 - 119	47 - 111	36 - 122
Benz(a)anthracene	56 - 104	48 - 112	47 - 114	36 - 125
Chrysene	58 - 104	50 - 112	51 - 106	42 - 115
Benzo(b)fluoranthene	51 - 126	39 - 139	52 - 114	42 - 124
Benzo(k)fluoranthene	55 - 123	44 - 134	48 - 117	37 - 129
Benzo(a)pyrene	32 - 110	19 - 123	44 - 111	33 - 122
Indeno(1,2,3-cd)pyrene	50 - 114	39 - 125	41 - 114	29 - 126
Dibenzo(a,h)anthracene	42 - 121	29 - 134	42 - 116	30 - 128
Benzo(g,h,i)perylene	50 - 113	40 - 124	37 - 115	27 - 107
MB / LCS Surrogate Recovery				
d10-2-Methylnaphthalene	36 - 101	(4)	35 - **100**	(4)
d14-Dibenzo(a,h)anthracene	42 - 121	(4)	37 - 120	(4)
Sample Surrogate Recovery				
d10-2-Methylnaphthalene	30 - 106	(4)	34 - **100**	(4)
d14-Dibenzo(a,h)anthracene	**10** - 130	(4)	**10** - 117	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/31/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Spike Recovery Control Limits - Analysis of PCB / Aroclors in Soil & Sediment Samples - EPA SW-846 Method 8082

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	Routine Analysis	PSDDA	Low Level	Low level	Soxhlet Extraction	Medium Level
Typical Reporting Limit (µg/kg):	**33**	**20**	**10**	**4**	**100**	**800**
Nominal Sample Wet Weight (g):	**12**	**25**	**25**	**25**	**10**	**5**
Final Extract Volume (mL):	**4**	**5**	**2.5**	**1**	**10**	**40**
LCS Spike Recovery [1,2]						
Aroclor 1016	48 - 106	52 - 101	53 - **100**	37 - 106	30 - 160[3]	59 - 108
Aroclor 1260	50 - 121	52 - 126	58 - 112	50 - 116	30 - 160[3]	43 - 177
Method Blank / LCS Surrogate Recovery						
Tetrachloro-*meta*-xylene (TCMX)	46 - 111	47 - 110	43 - 108	35 - 100	30 - 160[3]	49 - 110
Decachlorobiphenyl	51 - 112	48 - 119	48 - 118	40 - 109	30 - 160[3]	51 - 127
Sample Surrogate Recovery						
Tetrachloro-*meta*-xylene (TCMX)	50 - 114	46 - 113	35 - 119	38 - 102	30 - 160[3]	28 - 106
Decachlorobiphenyl	42 - 127	40 - 130	33 - 143	34 - 141	30 - 160[3]	22 - 168

(1) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.

Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QX53, QY41

prepared
by

Analytical Resources, Inc.

SIM SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS
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Sample ID: NBF-LS431V-Composite3>500
SAMPLE

Lab Sample ID: QY41A
LIMS ID: 10-12748
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 17:48
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.42 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 3.00
Percent Moisture: 31.7%

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	14	23
91-57-6	**2-Methylnaphthalene**	14	27
90-12-0	1-Methylnaphthalene	14	< 14 U
208-96-8	**Acenaphthylene**	14	20
83-32-9	**Acenaphthene**	14	26
86-73-7	**Fluorene**	14	40
85-01-8	**Phenanthrene**	14	270
120-12-7	**Anthracene**	14	84
206-44-0	**Fluoranthene**	14	1,200
129-00-0	**Pyrene**	14	1,100
56-55-3	**Benzo(a)anthracene**	14	590
218-01-9	**Chrysene**	14	810
205-99-2	**Benzo(b)fluoranthene**	14	680
207-08-9	**Benzo(k)fluoranthene**	14	680
50-32-8	**Benzo(a)pyrene**	14	910
193-39-5	**Indeno(1,2,3-cd)pyrene**	14	610
53-70-3	**Dibenz(a,h)anthracene**	14	260
191-24-2	**Benzo(g,h,i)perylene**	14	730
132-64-9	**Dibenzofuran**	14	20

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	71.0%
d14-Dibenzo(a,h)anthracen	121%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: NBF-LS431V-Composite3>500
DILUTION

Lab Sample ID: QY41A
LIMS ID: 10-12748
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/08/10 18:27
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.42 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 10.0
Percent Moisture: 31.7%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	48	< 48 U
91-57-6	2-Methylnaphthalene	48	< 48 U
90-12-0	1-Methylnaphthalene	48	< 48 U
208-96-8	Acenaphthylene	48	< 48 U
83-32-9	Acenaphthene	48	< 48 U
86-73-7	Fluorene	48	< 48 U
85-01-8	**Phenanthrene**	**48**	**300**
120-12-7	**Anthracene**	**48**	**96**
206-44-0	**Fluoranthene**	**48**	**1,300**
129-00-0	**Pyrene**	**48**	**1,200**
56-55-3	**Benzo(a)anthracene**	**48**	**650**
218-01-9	**Chrysene**	**48**	**920**
205-99-2	**Benzo(b)fluoranthene**	**48**	**740**
207-08-9	**Benzo(k)fluoranthene**	**48**	**740**
50-32-8	**Benzo(a)pyrene**	**48**	**1,000**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**48**	**740**
53-70-3	**Dibenz(a,h)anthracene**	**48**	**290**
191-24-2	**Benzo(g,h,i)perylene**	**48**	**870**
132-64-9	Dibenzofuran	48	< 48 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	73.3%
d14-Dibenzo(a,h)anthracen	147%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: NBF-LS431V-Composite3 500-250
SAMPLE

Lab Sample ID: QY41B
LIMS ID: 10-12749
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 18:09
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.55 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 27.5%

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**4.7**	**6.6**
91-57-6	2-Methylnaphthalene	4.7	< 4.7 U
90-12-0	1-Methylnaphthalene	4.7	< 4.7 U
208-96-8	Acenaphthylene	4.7	< 4.7 U
83-32-9	**Acenaphthene**	**4.7**	**6.2**
86-73-7	**Fluorene**	**4.7**	**7.1**
85-01-8	**Phenanthrene**	**4.7**	**68**
120-12-7	**Anthracene**	**4.7**	**17**
206-44-0	**Fluoranthene**	**4.7**	**210**
129-00-0	**Pyrene**	**4.7**	**180**
56-55-3	**Benzo(a)anthracene**	**4.7**	**89**
218-01-9	**Chrysene**	**4.7**	**140**
205-99-2	**Benzo(b)fluoranthene**	**4.7**	**98**
207-08-9	**Benzo(k)fluoranthene**	**4.7**	**98**
50-32-8	**Benzo(a)pyrene**	**4.7**	**100**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**4.7**	**84**
53-70-3	**Dibenz(a,h)anthracene**	**4.7**	**40**
191-24-2	**Benzo(g,h,i)perylene**	**4.7**	**97**
132-64-9	Dibenzofuran	4.7	< 4.7 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	65.3%
d14-Dibenzo(a,h)anthracen	86.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS
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Sample ID: NBF-LS431V-Composite3 250-63
SAMPLE

Lab Sample ID: QY41C
LIMS ID: 10-12750
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 18:30
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.14 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 43.9%

CAS Number	Analyte	RL	Result	
91-20-3	Naphthalene	4.9	12	
91-57-6	2-Methylnaphthalene	4.9	9.9	
90-12-0	1-Methylnaphthalene	4.9	6.4	
208-96-8	Acenaphthylene	4.9	5.4	
83-32-9	Acenaphthene	4.9	16	
86-73-7	Fluorene	4.9	18	
85-01-8	Phenanthrene	4.9	260	
120-12-7	Anthracene	4.9	31	
206-44-0	Fluoranthene	4.9	730	E
129-00-0	Pyrene	4.9	590	E
56-55-3	Benzo(a)anthracene	4.9	230	
218-01-9	Chrysene	4.9	540	E
205-99-2	Benzo(b)fluoranthene	4.9	300	
207-08-9	Benzo(k)fluoranthene	4.9	300	
50-32-8	Benzo(a)pyrene	4.9	310	
193-39-5	Indeno(1,2,3-cd)pyrene	4.9	250	
53-70-3	Dibenz(a,h)anthracene	4.9	96	
191-24-2	Benzo(g,h,i)perylene	4.9	340	
132-64-9	Dibenzofuran	4.9	13	

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	71.3%
d14-Dibenzo(a,h)anthracen	86.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS
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Sample ID: NBF-LS431V-Composite3 250-63
DILUTION

Lab Sample ID: QY41C
LIMS ID: 10-12750
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/08/10 18:48
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.14 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 3.00
Percent Moisture: 43.9%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	15	< 15 U
91-57-6	2-Methylnaphthalene	15	< 15 U
90-12-0	1-Methylnaphthalene	15	< 15 U
208-96-8	Acenaphthylene	15	< 15 U
83-32-9	**Acenaphthene**	**15**	**16**
86-73-7	**Fluorene**	**15**	**18**
85-01-8	**Phenanthrene**	**15**	**290**
120-12-7	**Anthracene**	**15**	**36**
206-44-0	**Fluoranthene**	**15**	**800**
129-00-0	**Pyrene**	**15**	**590**
56-55-3	**Benzo(a)anthracene**	**15**	**250**
218-01-9	**Chrysene**	**15**	**550**
205-99-2	**Benzo(b)fluoranthene**	**15**	**390**
207-08-9	**Benzo(k)fluoranthene**	**15**	**390**
50-32-8	**Benzo(a)pyrene**	**15**	**380**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**15**	**320**
53-70-3	**Dibenz(a,h)anthracene**	**15**	**130**
191-24-2	**Benzo(g,h,i)perylene**	**15**	**430**
132-64-9	Dibenzofuran	15	< 15 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	70.0%
d14-Dibenzo(a,h)anthracen	89.0%

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Sample ID: NBF-LS431V-Composite3 <63
SAMPLE

Lab Sample ID: QY41D
LIMS ID: 10-12751
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/08/10 19:09
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 4.72 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 3.00
Percent Moisture: 85.7%

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**32**	**41**
91-57-6	2-Methylnaphthalene	32	< 32 U
90-12-0	1-Methylnaphthalene	32	< 32 U
208-96-8	Acenaphthylene	32	< 32 U
83-32-9	Acenaphthene	32	< 32 U
86-73-7	Fluorene	32	< 32 U
85-01-8	**Phenanthrene**	**32**	**660**
120-12-7	**Anthracene**	**32**	**60**
206-44-0	**Fluoranthene**	**32**	**2,000**
129-00-0	**Pyrene**	**32**	**1,400**
56-55-3	**Benzo(a)anthracene**	**32**	**420**
218-01-9	**Chrysene**	**32**	**1,800**
205-99-2	**Benzo(b)fluoranthene**	**32**	**1,000**
207-08-9	**Benzo(k)fluoranthene**	**32**	**1,000**
50-32-8	**Benzo(a)pyrene**	**32**	**790**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**32**	**810**
53-70-3	**Dibenz(a,h)anthracene**	**32**	**270**
191-24-2	**Benzo(g,h,i)perylene**	**32**	**1,100**
132-64-9	**Dibenzofuran**	**32**	**35**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	75.0%
d14-Dibenzo(a,h)anthracen	96.0%

ANALYTICAL RESOURCES INCORPORATED

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PNAs by SIM SW8270D-SIM GC/MS
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Sample ID: NBF-LS431V-Composite3 <63
DILUTION

Lab Sample ID: QY41D
LIMS ID: 10-12751
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/10/10 17:13
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 4.72 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 10.0
Percent Moisture: 85.7%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	110	< 110 U
91-57-6	2-Methylnaphthalene	110	< 110 U
90-12-0	1-Methylnaphthalene	110	< 110 U
208-96-8	Acenaphthylene	110	< 110 U
83-32-9	Acenaphthene	110	< 110 U
86-73-7	Fluorene	110	< 110 U
85-01-8	**Phenanthrene**	**110**	**740**
120-12-7	Anthracene	110	< 110 U
206-44-0	**Fluoranthene**	**110**	**2,100**
129-00-0	**Pyrene**	**110**	**1,600**
56-55-3	**Benzo(a)anthracene**	**110**	**480**
218-01-9	**Chrysene**	**110**	**1,900**
205-99-2	**Benzo(b)fluoranthene**	**110**	**1,200**
207-08-9	**Benzo(k)fluoranthene**	**110**	**1,200**
50-32-8	**Benzo(a)pyrene**	**110**	**850**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**110**	**960**
53-70-3	**Dibenz(a,h)anthracene**	**110**	**320**
191-24-2	**Benzo(g,h,i)perylene**	**110**	**1,200 Q**
132-64-9	Dibenzofuran	110	< 110 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	73.3%
d14-Dibenzo(a,h)anthracen	113%

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Sample ID: NBF-LS431V-Composite4 >500
SAMPLE

Lab Sample ID: QY41E
LIMS ID: 10-12752
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/08/10 19:30
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.29 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 10.0
Percent Moisture: 31.7%

CAS Number	Analyte	RL	Result	
91-20-3	Naphthalene	49	1,400	
91-57-6	2-Methylnaphthalene	49	540	
90-12-0	1-Methylnaphthalene	49	560	
208-96-8	Acenaphthylene	49	160	
83-32-9	Acenaphthene	49	1,900	
86-73-7	Fluorene	49	2,800	
85-01-8	Phenanthrene	49	25,000	E
120-12-7	Anthracene	49	3,900	
206-44-0	Fluoranthene	49	30,000	ES
129-00-0	Pyrene	49	26,000	ES
56-55-3	Benzo(a)anthracene	49	12,000	E
218-01-9	Chrysene	49	12,000	E
205-99-2	Benzo(b)fluoranthene	49	8,200	E
207-08-9	Benzo(k)fluoranthene	49	8,200	E
50-32-8	Benzo(a)pyrene	49	12,000	E
193-39-5	Indeno(1,2,3-cd)pyrene	49	7,200	E
53-70-3	Dibenz(a,h)anthracene	49	3,200	
191-24-2	Benzo(g,h,i)perylene	49	8,300	E
132-64-9	Dibenzofuran	49	1,600	

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	80.0%
d14-Dibenzo(a,h)anthracen	190%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: NBF-LS431V-Composite4 >500
DILUTION

Lab Sample ID: QY41E
LIMS ID: 10-12752
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/08/10 19:51
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.29 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 100
Percent Moisture: 31.7%

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	490	1,300
91-57-6	**2-Methylnaphthalene**	490	490
90-12-0	**1-Methylnaphthalene**	490	490
208-96-8	Acenaphthylene	490	< 490 U
83-32-9	**Acenaphthene**	490	1,900
86-73-7	**Fluorene**	490	2,700
85-01-8	**Phenanthrene**	490	24,000
120-12-7	**Anthracene**	490	3,900
206-44-0	**Fluoranthene**	490	31,000
129-00-0	**Pyrene**	490	24,000
56-55-3	**Benzo(a)anthracene**	490	11,000
218-01-9	**Chrysene**	490	12,000
205-99-2	**Benzo(b)fluoranthene**	490	8,100
207-08-9	**Benzo(k)fluoranthene**	490	8,100
50-32-8	**Benzo(a)pyrene**	490	11,000
193-39-5	**Indeno(1,2,3-cd)pyrene**	490	7,100
53-70-3	**Dibenz(a,h)anthracene**	490	3,200
191-24-2	**Benzo(g,h,i)perylene**	490	8,100
132-64-9	**Dibenzofuran**	490	1,500

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	D
d14-Dibenzo(a,h)anthracen	D

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Sample ID: NBF-LS431V-Composite4 500-250
SAMPLE

Lab Sample ID: QY41F
LIMS ID: 10-12753
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 19:32
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.43 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 26.6%

CAS Number	Analyte	RL	Result	
91-20-3	Naphthalene	4.8	7.2	
91-57-6	2-Methylnaphthalene	4.8	6.7	
90-12-0	1-Methylnaphthalene	4.8	8.6	
208-96-8	Acenaphthylene	4.8	6.7	
83-32-9	Acenaphthene	4.8	28	
86-73-7	Fluorene	4.8	28	
85-01-8	Phenanthrene	4.8	290	
120-12-7	Anthracene	4.8	60	
206-44-0	Fluoranthene	4.8	490	E
129-00-0	Pyrene	4.8	380	
56-55-3	Benzo(a)anthracene	4.8	190	
218-01-9	Chrysene	4.8	250	
205-99-2	Benzo(b)fluoranthene	4.8	160	
207-08-9	Benzo(k)fluoranthene	4.8	160	
50-32-8	Benzo(a)pyrene	4.8	200	
193-39-5	Indeno(1,2,3-cd)pyrene	4.8	140	
53-70-3	Dibenz(a,h)anthracene	4.8	62	
191-24-2	Benzo(g,h,i)perylene	4.8	160	
132-64-9	Dibenzofuran	4.8	12	

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	61.7%
d14-Dibenzo(a,h)anthracen	100%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: NBF-LS431V-Composite4 500-250 DILUTION

Lab Sample ID: QY41F
LIMS ID: 10-12753
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/08/10 20:12
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.43 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 3.00
Percent Moisture: 26.6%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	14	< 14 U
91-57-6	2-Methylnaphthalene	14	< 14 U
90-12-0	1-Methylnaphthalene	14	< 14 U
208-96-8	Acenaphthylene	14	< 14 U
83-32-9	**Acenaphthene**	**14**	**29**
86-73-7	**Fluorene**	**14**	**29**
85-01-8	**Phenanthrene**	**14**	**300**
120-12-7	**Anthracene**	**14**	**63**
206-44-0	**Fluoranthene**	**14**	**540**
129-00-0	**Pyrene**	**14**	**420**
56-55-3	**Benzo(a)anthracene**	**14**	**200**
218-01-9	**Chrysene**	**14**	**270**
205-99-2	**Benzo(b)fluoranthene**	**14**	**170**
207-08-9	**Benzo(k)fluoranthene**	**14**	**170**
50-32-8	**Benzo(a)pyrene**	**14**	**200**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**14**	**140**
53-70-3	**Dibenz(a,h)anthracene**	**14**	**62**
191-24-2	**Benzo(g,h,i)perylene**	**14**	**160**
132-64-9	Dibenzofuran	14	< 14 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	62.0%
d14-Dibenzo(a,h)anthracen	106%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: NBF-LS431V-Composite4 250-63
SAMPLE

Lab Sample ID: QY41G
LIMS ID: 10-12754
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 20:35
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.93 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 33.5%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.6	9.6
91-57-6	2-Methylnaphthalene	4.6	5.5
90-12-0	1-Methylnaphthalene	4.6	< 4.6 U
208-96-8	Acenaphthylene	4.6	5.0
83-32-9	Acenaphthene	4.6	11
86-73-7	Fluorene	4.6	14
85-01-8	Phenanthrene	4.6	210
120-12-7	Anthracene	4.6	25
206-44-0	Fluoranthene	4.6	640 E
129-00-0	Pyrene	4.6	460 E
56-55-3	Benzo(a)anthracene	4.6	180
218-01-9	Chrysene	4.6	400
205-99-2	Benzo(b)fluoranthene	4.6	270
207-08-9	Benzo(k)fluoranthene	4.6	270
50-32-8	Benzo(a)pyrene	4.6	280
193-39-5	Indeno(1,2,3-cd)pyrene	4.6	220
53-70-3	Dibenz(a,h)anthracene	4.6	87
191-24-2	Benzo(g,h,i)perylene	4.6	260
132-64-9	Dibenzofuran	4.6	8.7

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	66.0%
d14-Dibenzo(a,h)anthracen	99.7%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: NBF-LS431V-Composite4 250-63
DILUTION

Lab Sample ID: QY41G
LIMS ID: 10-12754
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/08/10 20:33
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.93 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 3.00
Percent Moisture: 33.5%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	14	< 14 U
91-57-6	2-Methylnaphthalene	14	< 14 U
90-12-0	1-Methylnaphthalene	14	< 14 U
208-96-8	Acenaphthylene	14	< 14 U
83-32-9	Acenaphthene	14	< 14 U
86-73-7	**Fluorene**	**14**	**14**
85-01-8	**Phenanthrene**	**14**	**210**
120-12-7	**Anthracene**	**14**	**26**
206-44-0	**Fluoranthene**	**14**	**600**
129-00-0	**Pyrene**	**14**	**440**
56-55-3	**Benzo(a)anthracene**	**14**	**180**
218-01-9	**Chrysene**	**14**	**400**
205-99-2	**Benzo(b)fluoranthene**	**14**	**280**
207-08-9	**Benzo(k)fluoranthene**	**14**	**280**
50-32-8	**Benzo(a)pyrene**	**14**	**270**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**14**	**230**
53-70-3	**Dibenz(a,h)anthracene**	**14**	**95**
191-24-2	**Benzo(g,h,i)perylene**	**14**	**280**
132-64-9	Dibenzofuran	14	< 14 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	64.0%
d14-Dibenzo(a,h)anthracen	108%

ANALYTICAL RESOURCES INCORPORATED

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PNAs by SIM SW8270D-SIM GC/MS
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Sample ID: NBF-LS431V-Composite4 <63
SAMPLE

Lab Sample ID: QY41H
LIMS ID: 10-12755
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 20:56
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 4.24 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 86.1%

CAS Number	Analyte	RL	Result	
91-20-3	Naphthalene	12	48	
91-57-6	2-Methylnaphthalene	12	21	
90-12-0	1-Methylnaphthalene	12	12	
208-96-8	Acenaphthylene	12	14	
83-32-9	Acenaphthene	12	27	
86-73-7	Fluorene	12	37	
85-01-8	Phenanthrene	12	900	
120-12-7	Anthracene	12	64	
206-44-0	Fluoranthene	12	2,900	E
129-00-0	Pyrene	12	1,800	E
56-55-3	Benzo(a)anthracene	12	430	
218-01-9	Chrysene	12	2,500	E
205-99-2	Benzo(b)fluoranthene	12	1,000	
207-08-9	Benzo(k)fluoranthene	12	1,000	
50-32-8	Benzo(a)pyrene	12	860	M
193-39-5	Indeno(1,2,3-cd)pyrene	12	660	
53-70-3	Dibenz(a,h)anthracene	12	200	
191-24-2	Benzo(g,h,i)perylene	12	820	
132-64-9	Dibenzofuran	12	48	

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	73.3%
d14-Dibenzo(a,h)anthracen	70.7%

ANALYTICAL RESOURCES INCORPORATED

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PNAs by SIM SW8270D-SIM GC/MS
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Sample ID: NBF-LS431V-Composite4 <63
DILUTION

Lab Sample ID: QY41H
LIMS ID: 10-12755
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/08/10 20:54
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 4.24 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 3.00
Percent Moisture: 86.1%

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**35**	**53**
91-57-6	2-Methylnaphthalene	35	< 35 U
90-12-0	1-Methylnaphthalene	35	< 35 U
208-96-8	Acenaphthylene	35	< 35 U
83-32-9	Acenaphthene	35	< 35 U
86-73-7	**Fluorene**	**35**	**39**
85-01-8	**Phenanthrene**	**35**	**930**
120-12-7	**Anthracene**	**35**	**64**
206-44-0	**Fluoranthene**	**35**	**3,000**
129-00-0	**Pyrene**	**35**	**1,800**
56-55-3	**Benzo(a)anthracene**	**35**	**510**
218-01-9	**Chrysene**	**35**	**2,400**
205-99-2	**Benzo(b)fluoranthene**	**35**	**1,400**
207-08-9	**Benzo(k)fluoranthene**	**35**	**1,400**
50-32-8	**Benzo(a)pyrene**	**35**	**990**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**35**	**1,000**
53-70-3	**Dibenz(a,h)anthracene**	**35**	**330**
191-24-2	**Benzo(g,h,i)perylene**	**35**	**1,400**
132-64-9	**Dibenzofuran**	**35**	**42**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	72.0%
d14-Dibenzo(a,h)anthracen	113%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	MNP	DBA	TOT OUT
NBF-LS431V-Composite3>500	71.0%	121%*	1
NBF-LS431V-Composite3>500 DL	73.3%	147%*	1
NBF-LS431V-Composite3 500-250	65.3%	86.3%	0
NBF-LS431V-Composite3 250-63	71.3%	86.0%	0
NBF-LS431V-Composite3 250-63	70.0%	89.0%	0
NBF-LS431V-Composite3 <63	75.0%	96.0%	0
NBF-LS431V-Composite3 <63 DL	73.3%	113%	0
NBF-LS431V-Composite4 >500	80.0%	190%*	1
NBF-LS431V-Composite4 >500 DL	D	D	0
MB-060210	64.7%	84.7%	0
LCS-060210	59.0%	87.3%	0
NBF-LS431V-Composite4 500-250	61.7%	100%	0
NBF-LS431V-Composite4 500-250	62.0%	106%	0
NBF-LS431V-Composite4 500-250	69.3%	92.7%	0
NBF-LS431V-Composite4 500-250	65.3%	103%	0
NBF-LS431V-Composite4 250-63	66.0%	99.7%	0
NBF-LS431V-Composite4 250-63	64.0%	108%	0
NBF-LS431V-Composite4 <63	73.3%	70.7%	0
NBF-LS431V-Composite4 <63 DL	72.0%	113%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(35-100)	(34-100)
(DBA) = d14-Dibenzo(a,h)anthracene	(37-120)	(10-117)

Prep Method: SW3550B
Log Number Range: 10-12748 to 10-12755

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-LS431V-Composite4 500-250
MATRIX SPIKE

Lab Sample ID: QY41F
LIMS ID: 10-12753
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted MS/MSD: 06/02/10

Date Analyzed MS: 06/05/10 19:53
MSD: 06/05/10 20:14
Instrument/Analyst MS: NT8/VTS
MSD: NT8/VTS

Sample Amount MS: 10.3 g-dry-wt
MSD: 10.8 g-dry-wt
Final Extract Volume MS: 0.50 mL
MSD: 0.50 mL
Dilution Factor MS: 1.00
MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Naphthalene	7.2	94.1	145	59.9%	77.6	139	50.6%	19.2%
2-Methylnaphthalene	6.7	113	145	73.3%	91.1	139	60.7%	21.5%
1-Methylnaphthalene	8.6	104	145	65.8%	90.1	139	58.6%	14.3%
Acenaphthylene	6.7	92.6	145	59.2%	103	139	69.3%	10.6%
Acenaphthene	27.8	112	145	58.1%	111	139	59.9%	0.9%
Fluorene	27.8	116	145	60.8%	115	139	62.7%	0.9%
Phenanthrene	287	233	145	NA	174	139	NA	NA
Anthracene	59.9	129	145	47.7%	120	139	43.2%	7.2%
Fluoranthene	493 E	371	145	NA	346	139	NA	NA
Pyrene	382	294	145	NA	296	139	NA	NA
Benzo(a)anthracene	190	194	145	2.8%	211	139	15.1%	8.4%
Chrysene	254	237	145	NA	268	139	10.1%	NA
Benzo(b)fluoranthene	162	182	145	13.8%	197	139	25.2%	7.9%
Benzo(k)fluoranthene	162	182	145	13.8%	197	139	25.2%	7.9%
Benzo(a)pyrene	195	197	145	1.4%	211	139	11.5%	6.9%
Indeno(1,2,3-cd)pyrene	138	190	145	35.9%	204	139	47.5%	7.1%
Dibenz(a,h)anthracene	62.3	146	145	57.7%	159	139	69.6%	8.5%
Benzo(g,h,i)perylene	159	211	145	35.9%	229	139	50.4%	8.2%
Dibenzofuran	11.5	99.4	145	60.6%	103	139	65.8%	3.6%

Reported in µg/kg (ppb)

NA-No recovery due to high concentration of analyte in original sample, calculated negative recovery, or undetected spike.
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: NBF-LS431V-Composite4 500-250
MATRIX SPIKE

Lab Sample ID: QY41F
LIMS ID: 10-12753
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 19:53
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.31 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 26.6%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.8	---
91-57-6	2-Methylnaphthalene	4.8	---
90-12-0	1-Methylnaphthalene	4.8	---
208-96-8	Acenaphthylene	4.8	---
83-32-9	Acenaphthene	4.8	---
86-73-7	Fluorene	4.8	---
85-01-8	Phenanthrene	4.8	---
120-12-7	Anthracene	4.8	---
206-44-0	Fluoranthene	4.8	---
129-00-0	Pyrene	4.8	---
56-55-3	Benzo(a)anthracene	4.8	---
218-01-9	Chrysene	4.8	---
205-99-2	Benzo(b)fluoranthene	4.8	---
207-08-9	Benzo(k)fluoranthene	4.8	---
50-32-8	Benzo(a)pyrene	4.8	---
193-39-5	Indeno(1,2,3-cd)pyrene	4.8	---
53-70-3	Dibenz(a,h)anthracene	4.8	---
191-24-2	Benzo(g,h,i)perylene	4.8	---
132-64-9	Dibenzofuran	4.8	---

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	69.3%
d14-Dibenzo(a,h)anthracen	92.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-LS431V-Composite4 500-250
MATRIX SPIKE DUPLICATE

Lab Sample ID: QY41F
LIMS ID: 10-12753
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 20:14
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.76 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 26.6%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	4.6	---
91-57-6	2-Methylnaphthalene	4.6	---
90-12-0	1-Methylnaphthalene	4.6	---
208-96-8	Acenaphthylene	4.6	---
83-32-9	Acenaphthene	4.6	---
86-73-7	Fluorene	4.6	---
85-01-8	Phenanthrene	4.6	---
120-12-7	Anthracene	4.6	---
206-44-0	Fluoranthene	4.6	---
129-00-0	Pyrene	4.6	---
56-55-3	Benzo(a)anthracene	4.6	---
218-01-9	Chrysene	4.6	---
205-99-2	Benzo(b)fluoranthene	4.6	---
207-08-9	Benzo(k)fluoranthene	4.6	---
50-32-8	Benzo(a)pyrene	4.6	---
193-39-5	Indeno(1,2,3-cd)pyrene	4.6	---
53-70-3	Dibenz(a,h)anthracene	4.6	---
191-24-2	Benzo(g,h,i)perylene	4.6	---
132-64-9	Dibenzofuran	4.6	---

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	65.3%
d14-Dibenzo(a,h)anthracen	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-060210
LAB CONTROL SAMPLE

Lab Sample ID: LCS-060210
LIMS ID: 10-12753
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 06/02/10
Date Analyzed LCS: 06/05/10 17:27
Instrument/Analyst LCS: NT8/VTS

Sample Amount LCS: 10.0 g-dry-wt
Final Extract Volume LCS: 0.50 mL
Dilution Factor LCS: 1.00

Analyte	LCS	Spike Added	Recovery
Naphthalene	87.0	150	58.0%
2-Methylnaphthalene	87.0	150	58.0%
1-Methylnaphthalene	85.0	150	56.7%
Acenaphthylene	84.5	150	56.3%
Acenaphthene	91.0	150	60.7%
Fluorene	93.0	150	62.0%
Phenanthrene	100	150	66.7%
Anthracene	100	150	66.7%
Fluoranthene	118	150	78.7%
Pyrene	116	150	77.3%
Benzo(a)anthracene	121	150	80.7%
Chrysene	121	150	80.7%
Benzo(b)fluoranthene	102	150	68.0%
Benzo(k)fluoranthene	102	150	68.0%
Benzo(a)pyrene	99.5	150	66.3%
Indeno(1,2,3-cd)pyrene	118	150	78.7%
Dibenz(a,h)anthracene	118	150	78.7%
Benzo(g,h,i)perylene	120	150	80.0%
Dibenzofuran	85.0	150	56.7%

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	59.0%
d14-Dibenzo(a,h)anthracen	87.3%

4B

BLANK NO.

SEMIVOLATILE METHOD BLANK SUMMARY

QY41MBS1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: QY41 Project: NBF/GTSP STORMWATER

Lab File ID: QY41MB Date Extracted: 06/02/10

Instrument ID: NT8 Date Analyzed: 06/05/10

Matrix: SOLID Time Analyzed: 1706

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QY41LCSS1	QY41LCSS1	QY41SB	06/05/10
02	NBF-LS431V-COMPO	QY41A	QY41A	06/05/10
03	NBF-LS431V-COMPO	QY41B	QY41B	06/05/10
04	NBF-LS431V-COMPO	QY41C	QY41C	06/05/10
05	NBF-LS431V-COMPO	QY41F	QY41F	06/05/10
06	NBF-LS431V-COMP	QY41FMS	QY41FMS	06/05/10
07	NBF-LS431V-COMP	QY41FMSD	QY41FMSD	06/05/10
08	NBF-LS431V-COMPO	QY41G	QY41G	06/05/10
09	NBF-LS431V-COMPO	QY41H	QY41H	06/05/10
10	NBF-LS431V-COMPO	QY41A	QY41ADL	06/08/10
11	NBF-LS431V-COMPO	QY41C	QY41CDL	06/08/10
12	NBF-LS431V-COMPO	QY41D	QY41DDL	06/08/10
13	NBF-LS431V-COMPO	QY41E	QY41E2	06/08/10
14	NBF-LS431V-COMPO	QY41E	QY41EDL	06/08/10
15	NBF-LS431V-COMPO	QY41F	QY41FDL	06/08/10
16	NBF-LS431V-COMPO	QY41G	QY41GDL	06/08/10
17	NBF-LS431V-COMPO	QY41H	QY41HDL	06/08/10
18	NBF-LS431V-COMPO	QY41D	QY41DDL	06/10/10
19				
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29				
30				

FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: MB-060210
METHOD BLANK

Lab Sample ID: MB-060210
LIMS ID: 10-12753
Matrix: Soil
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 17:06
Instrument/Analyst: NT8/VTS
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.00 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	5.0	< 5.0 U
90-12-0	1-Methylnaphthalene	5.0	< 5.0 U
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	Acenaphthene	5.0	< 5.0 U
86-73-7	Fluorene	5.0	< 5.0 U
85-01-8	Phenanthrene	5.0	< 5.0 U
120-12-7	Anthracene	5.0	< 5.0 U
206-44-0	Fluoranthene	5.0	< 5.0 U
129-00-0	Pyrene	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	5.0	< 5.0 U
218-01-9	Chrysene	5.0	< 5.0 U
205-99-2	Benzo(b)fluoranthene	5.0	< 5.0 U
207-08-9	Benzo(k)fluoranthene	5.0	< 5.0 U
50-32-8	Benzo(a)pyrene	5.0	< 5.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	< 5.0 U
53-70-3	Dibenz(a,h)anthracene	5.0	< 5.0 U
191-24-2	Benzo(g,h,i)perylene	5.0	< 5.0 U
132-64-9	Dibenzofuran	5.0	< 5.0 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	64.7%
d14-Dibenzo(a,h)anthracen	84.7%

PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite3>500
SAMPLE

Lab Sample ID: QY41A
LIMS ID: 10-12748
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 17:05
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 8.31 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 31.7%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	48	< 48 U
53469-21-9	Aroclor 1242	48	< 48 U
12672-29-6	Aroclor 1248	190	< 190 Y
11097-69-1	**Aroclor 1254**	**48**	**710**
11096-82-5	**Aroclor 1260**	**48**	**210**
11104-28-2	Aroclor 1221	48	< 48 U
11141-16-5	Aroclor 1232	48	< 48 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	84.4%
Tetrachlorometaxylene	81.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite3 500-250
SAMPLE

Lab Sample ID: QY41B
LIMS ID: 10-12749
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 17:28
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.7 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 27.5%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	32	< 32 U
53469-21-9	Aroclor 1242	32	< 32 U
12672-29-6	Aroclor 1248	63	< 63 Y
11097-69-1	**Aroclor 1254**	**32**	**150**
11096-82-5	**Aroclor 1260**	**32**	**61**
11104-28-2	Aroclor 1221	32	< 32 U
11141-16-5	Aroclor 1232	32	< 32 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	93.4%
Tetrachlorometaxylene	84.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite3 250-63
SAMPLE

Lab Sample ID: QY41C
LIMS ID: 10-12750
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 18:39
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.5 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 43.9%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	32	< 32 U
53469-21-9	Aroclor 1242	32	< 32 U
12672-29-6	Aroclor 1248	160	< 160 Y
11097-69-1	**Aroclor 1254**	**32**	**300**
11096-82-5	**Aroclor 1260**	**32**	**100**
11104-28-2	Aroclor 1221	32	< 32 U
11141-16-5	Aroclor 1232	32	< 32 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	82.8%
Tetrachlorometaxylene	80.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite3 <63
SAMPLE

Lab Sample ID: QY41D
LIMS ID: 10-12751
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 19:50
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 9.17 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 85.7%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	44	< 44 U
53469-21-9	Aroclor 1242	44	< 44 U
12672-29-6	Aroclor 1248	330	< 330 Y
11097-69-1	**Aroclor 1254**	**44**	**600**
11096-82-5	**Aroclor 1260**	**44**	**180**
11104-28-2	Aroclor 1221	44	< 44 U
11141-16-5	Aroclor 1232	44	< 44 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	76.4%
Tetrachlorometaxylene	77.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite4 >500
SAMPLE

Lab Sample ID: QY41E
LIMS ID: 10-12752
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 20:14
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.6 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 31.7%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	32	< 32 U
53469-21-9	Aroclor 1242	32	< 32 U
12672-29-6	Aroclor 1248	320	< 320 Y
11097-69-1	**Aroclor 1254**	**32**	**1,100**
11096-82-5	**Aroclor 1260**	**32**	**260**
11104-28-2	Aroclor 1221	32	< 32 U
11141-16-5	Aroclor 1232	32	< 32 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	98.8%
Tetrachlorometaxylene	84.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite4 500-250
SAMPLE

Lab Sample ID: QY41F
LIMS ID: 10-12753
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 20:37
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.6 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 26.6%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	32	< 32 U
53469-21-9	Aroclor 1242	32	< 32 U
12672-29-6	Aroclor 1248	64	< 64 Y
11097-69-1	**Aroclor 1254**	**32**	**170**
11096-82-5	**Aroclor 1260**	**32**	**71**
11104-28-2	Aroclor 1221	32	< 32 U
11141-16-5	Aroclor 1232	32	< 32 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	97.4%
Tetrachlorometaxylene	85.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite4 250-63
SAMPLE

Lab Sample ID: QY41G
LIMS ID: 10-12754
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 21:01
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.9 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 33.5%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	31	< 31 U
53469-21-9	Aroclor 1242	31	< 31 U
12672-29-6	Aroclor 1248	160	< 160 Y
11097-69-1	**Aroclor 1254**	**31**	**390**
11096-82-5	**Aroclor 1260**	**31**	**140**
11104-28-2	Aroclor 1221	31	< 31 U
11141-16-5	Aroclor 1232	31	< 31 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.0%
Tetrachlorometaxylene	84.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite4 <63
SAMPLE

Lab Sample ID: QY41H
LIMS ID: 10-12755
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 21:24
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 7.27 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 86.1%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	55	< 55 U
53469-21-9	Aroclor 1242	55	< 55 U
12672-29-6	Aroclor 1248	410	< 410 Y
11097-69-1	**Aroclor 1254**	**55**	**980**
11096-82-5	**Aroclor 1260**	**55**	**300**
11104-28-2	Aroclor 1221	55	< 55 U
11141-16-5	Aroclor 1232	55	< 55 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	86.8%
Tetrachlorometaxylene	78.4%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
NBF-LS431V-Composite3>500	84.4%	42-127	81.6%	50-114	0
MB-060210	86.2%	51-112	64.8%	46-111	0
LCS-060210	87.5%	51-112	62.2%	46-111	0
NBF-LS431V-Composite3 500-	93.4%	42-127	84.9%	50-114	0
NBF-LS431V-Composite3 500- MS	92.4%	42-127	82.6%	50-114	0
NBF-LS431V-Composite3 500- MSD	92.5%	42-127	82.0%	50-114	0
NBF-LS431V-Composite3 250-	82.8%	42-127	80.4%	50-114	0
NBF-LS431V-Composite3 <63	76.4%	42-127	77.8%	50-114	0
NBF-LS431V-Composite4 >500	98.8%	42-127	84.0%	50-114	0
NBF-LS431V-Composite4 500-	97.4%	42-127	85.9%	50-114	0
NBF-LS431V-Composite4 250-	92.0%	42-127	84.0%	50-114	0
NBF-LS431V-Composite4 <63	86.8%	42-127	78.4%	50-114	0

Standard Sonication Control Limits
Prep Method: SW3550B
Log Number Range: 10-12748 to 10-12755

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite3 500-250
MS/MSD

Lab Sample ID: QY41B
LIMS ID: 10-12749
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted MS/MSD: 06/02/10

Date Analyzed MS: 06/05/10 17:52
MSD: 06/05/10 18:16
Instrument/Analyst MS: ECD7/JGR
MSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount MS: 12.6 g-dry-wt
MSD: 12.7 g-dry-wt
Final Extract Volume MS: 4.0 mL
MSD: 4.0 mL
Dilution Factor MS: 5.00
MSD: 5.00
Silica Gel: Yes

Percent Moisture: 27.5%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 31.5 U	166	158	105%	163	157	104%	1.8%
Aroclor 1260	60.9	210	158	94.4%	207	157	93.1%	1.4%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite3 500-250
MATRIX SPIKE

Lab Sample ID: QY41B
LIMS ID: 10-12749
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 17:52
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.6 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 27.5%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	32	---
53469-21-9	Aroclor 1242	32	< 32 U
12672-29-6	Aroclor 1248	32	< 32 U
11097-69-1	**Aroclor 1254**	**32**	**200**
11096-82-5	Aroclor 1260	32	---
11104-28-2	Aroclor 1221	32	< 32 U
11141-16-5	Aroclor 1232	32	< 32 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.4%
Tetrachlorometaxylene	82.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431V-Composite3 500-250
MATRIX SPIKE DUP

Lab Sample ID: QY41B
LIMS ID: 10-12749
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/27/10
Date Received: 05/27/10

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 18:16
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.7 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 27.5%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	32	---
53469-21-9	Aroclor 1242	32	< 32 U
12672-29-6	Aroclor 1248	32	< 32 U
11097-69-1	**Aroclor 1254**	**32**	**210**
11096-82-5	Aroclor 1260	32	---
11104-28-2	Aroclor 1221	32	< 32 U
11141-16-5	Aroclor 1232	32	< 32 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.5%
Tetrachlorometaxylene	82.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-060210
LAB CONTROL

Lab Sample ID: LCS-060210
LIMS ID: 10-12749
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 16:41
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.0 g-dry-wt
Final Extract Volume: 4.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	122	167	73.1%
Aroclor 1260	134	167	80.2%

PCB Surrogate Recovery

Decachlorobiphenyl	87.5%
Tetrachlorometaxylene	62.2%

Results reported in µg/kg (ppb)

PCB METHOD BLANK SUMMARY

BLANK NO.

QY41MBS1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QY41
Project: NBF/GTSP STORMWATER

Lab Sample ID: QY41MBS1
Lab File ID: 0605A007

Date Extracted: 06/02/10
Matrix: SOLID

Date Analyzed: 06/05/10
Instrument ID: ECD7

Time Analyzed: 1618
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QY41LCSS1	QY41LCSS1	06/05/10
02	NBF-LS431V-COMPOSIT	QY41A	06/05/10
03	NBF-LS431V-COMPOSIT	QY41A	06/05/10
04	NBF-LS431V-COMP MS	QY41BMS	06/05/10
05	NBF-LS431V-COMP MSD	QY41BMSD	06/05/10
06	NBF-LS431V-COMPOSIT	QY41C	06/05/10
07	NBF-LS431V-COMPOSIT	QY41C	06/05/10
08	NBF-LS431V-COMPOSIT	QY41E	06/05/10
09	NBF-LS431V-COMPOSIT	QY41E	06/05/10
10	NBF-LS431V-COMPOSIT	QY41G	06/05/10
11	NBF-LS431V-COMPOSIT	QY41G	06/05/10

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-060210
METHOD BLANK

Lab Sample ID: MB-060210
LIMS ID: 10-12749
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY41-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 06/02/10
Date Analyzed: 06/05/10 16:18
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 12.0 g
Final Extract Volume: 4.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	6.7	< 6.7 U
53469-21-9	Aroclor 1242	6.7	< 6.7 U
12672-29-6	Aroclor 1248	6.7	< 6.7 U
11097-69-1	Aroclor 1254	6.7	< 6.7 U
11096-82-5	Aroclor 1260	6.7	< 6.7 U
11104-28-2	Aroclor 1221	6.7	< 6.7 U
11141-16-5	Aroclor 1232	6.7	< 6.7 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	86.2%
Tetrachlorometaxylene	64.8%

GENERAL CHEMISTRY ANALYSIS

SAMPLE RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Client ID: NBF-LS431V-Composite3>500
ARI ID: 10-12748 QY41A

Analyte	Date	Method	Units	RL	Sample
Total Solids	05/28/10 052810#1	EPA 160.3	Percent	0.01	68.30
Total Organic Carbon	06/11/10 061110#1	Plumb,1981	Percent	0.020	2.36

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Client ID: NBF-LS431V-Composite3 500-250
ARI ID: 10-12749 QY41B

Analyte	Date	Method	Units	RL	Sample
Total Solids	05/28/10 052810#1	EPA 160.3	Percent	0.01	72.50
Total Organic Carbon	06/11/10 061110#1	Plumb,1981	Percent	0.020	1.02

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Client ID: NBF-LS431V-Composite3 250-63
ARI ID: 10-12750 QY41C

Analyte	Date	Method	Units	RL	Sample
Total Solids	05/28/10 052810#1	EPA 160.3	Percent	0.01	56.10
Total Organic Carbon	06/11/10 061110#1	Plumb,1981	Percent	0.020	3.33

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized: MR
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Client ID: NBF-LS431V-Composite3 <63
ARI ID: 10-12751 QY41D

Analyte	Date	Method	Units	RL	Sample
Total Solids	05/28/10 052810#1	EPA 160.3	Percent	0.01	14.30
Total Organic Carbon	06/11/10 061110#1	Plumb,1981	Percent	0.020	10.2

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized: MB
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Client ID: NBF-LS431V-Composite4 >500
ARI ID: 10-12752 QY41E

Analyte	Date	Method	Units	RL	Sample	
Total Solids	05/28/10 052810#1	EPA 160.3	Percent	0.01	68.30	
Total Organic Carbon	06/11/10 061110#1	Plumb,1981	Percent	0.020	< 0.020	U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized: MB
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Client ID: NBF-LS431V-Composite4 500-250
ARI ID: 10-12753 QY41F

Analyte	Date	Method	Units	RL	Sample
Total Solids	05/28/10 052810#1	EPA 160.3	Percent	0.01	73.40
Total Organic Carbon	06/11/10 061110#1	Plumb,1981	Percent	0.020	1.01

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized: JMP
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Client ID: NBF-LS431V-Composite4 250-63
ARI ID: 10-12754 QY41G

Analyte	Date	Method	Units	RL	Sample
Total Solids	05/28/10 052810#1	EPA 160.3	Percent	0.01	66.50
Total Organic Carbon	06/11/10 061110#1	Plumb,1981	Percent	0.020	0.629

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Client ID: NBF-LS431V-Composite4 <63
ARI ID: 10-12755 QY41H

Analyte	Date	Method	Units	RL	Sample
Total Solids	05/28/10 052810#1	EPA 160.3	Percent	0.01	13.90
Total Organic Carbon	06/11/10 061110#1	Plumb,1981	Percent	0.020	7.85

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: QY41F Client ID: NBF-LS431V-Composite4 500-250						
Total Organic Carbon	06/11/10	Percent	1.01	2.17	1.03	112.6%

REPLICATE RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized: MB
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 05/27/10
Date Received: 05/27/10

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: QY41F Client ID: NBF-LS431V-Composite4 500-250					
Total Solids	05/28/10	Percent	73.40	72.40 73.30	0.8%
Total Organic Carbon	06/11/10	Percent	1.01	1.05 1.04	2.0%

LAB CONTROL RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon Plumb,1981	ICVL	06/11/10	Percent	0.095	0.100	95.0%

METHOD BLANK RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	05/28/10	Percent	< 0.01 U
Total Organic Carbon	06/11/10	Percent	< 0.020 U

STANDARD REFERENCE RESULTS-CONVENTIONALS
QY41-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 06/16/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST #8704	06/11/10	Percent	3.09	3.35	92.2%

TOTAL SOLIDS

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET DATE: 5/28/2010

SOLIDS *(dry at 104 (12-24 hr) then combust at 550 (30 min))* ANALYST: CDE 17:35

Instrumentation ***Drying Ovens:*** 12 ***Analytical Balance:*** 1123230597

Muffle Furnace: N/A

Batch drying time			*TS (%) calculated as:*	*TVS (mg/kg dry wt) calculated as:*
record times as mm/dd/yy hh:mm			*Final dry wt (g) = (Dry Wt - Tare Wt)*	*Final ash wt (g) = (min ash wt - tare wt)*
5/28/2010 17:35	date/time in oven	CDE	*TS = (Final Dry Wt)/ (grams Sample-Tare)*	*TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000*
5/29/2010 14:37	date/time out	CDE		*if ash wt > dry wt, "Chk for Err"*
elapsed hrs =	21.0			*if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000*

	Cal Weight ID	CV-02	CV-02	CV-02	CV-02				CV-02	CV-02				
	Date & Time	5/28/10 16:26	5/28/10 15:32	5/29/10 14:54										
Cal Wt (g)	10.0000	10.0000	10.0000	10.0000										
	record weights to 4 places	*Cal OK!*	*Cal OK!*	*Cal OK!*										

SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams) 1			dry Wt (g)	**TS (%)**	ASH WT 550C (grams) 1	2		Ash Wt (g)	**TVS (mg/kg)**	**(%)**
Blank		0.0000	1.0798	1.0797			0.00							
QX90 A2		4.4768	1.1094	3.7347			2.63	**78.0%**						
QX90 A2 dup		4.3356	1.1048	3.6235			2.52	**78.0%**						
							RPD =	0.00%				RPD =	NA	
QX90 A2 trp		4.3555	1.0924	3.6362			2.54	**78.0%**						
							RSD =	0.00%				RSD =	NA	
QX99 A1		8.5398	1.1342	2.6699			1.54	**20.7%**						
QX99 B1		6.1968	1.1000	4.4554			3.36	**65.8%**						
QX99 C1		6.7516	1.1135	5.2285			4.12	**73.0%**						
QX99 D1		6.4024	1.1032	5.2894			4.19	**79.0%**						
QX99 D1 dup		6.0326	1.0897	5.0225			3.93	**79.6%**						
							RPD =	0.72%				RPD =	NA	
QX99 D1 trp		6.5273	1.1179	5.4150			4.30	**79.4%**						
							RSD =	0.38%				RSD =	NA	
QY41 A1		3.6213	1.0998	2.8225			1.72	**68.3%**						
QY41 B1		3.4403	1.0954	2.7965			1.70	**72.5%**						
QY41 C1		3.5800	1.1010	2.4912			1.39	**56.1%**						
QY41 D1		3.6535	1.1153	1.4777			0.36	**14.3%**						
QY41 E1		4.6564	1.0807	3.5237			2.44	**68.3%**						
QY41 F1		3.5773	1.1064	2.9193			1.81	**73.4%**						
QY41 F1 dup		3.4124	1.0993	2.7733			1.67	**72.4%**						
							RPD =	1.37%				RPD =	NA	

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET DATE: 5/28/2010

SOLIDS *(dry at 104 (12-24 hr) then combust at 550 (30 min))* ANALYST: CDE 17:35

Instrumentation ***Drying Ovens:*** 12 ***Analytical Balance:*** 1123230597

Muffle Furnace: N/A

Batch drying time

record times as mm/dd/yy hh:mm

5/28/2010 17:35 date/time in oven CDE

5/29/2010 14:37 date/time out CDE

elapsed hrs = 21.0

TS (%) calculated as:
Final dry wt (g) = (Dry Wt - Tare Wt)
TS = (Final Dry Wt)/ (grams Sample-Tare)

TVS (mg/kg dry wt) calculated as:
Final ash wt (g) = (min ash wt - tare wt)
*TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000*
if ash wt > dry wt, "Chk for Err"
*if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000*

	Cal Weight ID	CV-02	CV-02	CV-02	CV-02				CV-02	CV-02			
	Date & Time	5/28/10 16:26	5/28/10 15:32	5/29/10 14:54									
Cal Wt (g)	10.0000	10.0000	10.0000	10.0000									
	record weights to 4 places	*Cal OK!*	*Cal OK!*	*Cal OK!*									

SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams) 1			dry Wt (g)	**TS (%)**	ASH WT 550C (grams) 1	2		Ash Wt (g)	**TVS (mg/kg)**	**(%)**
QY41 F1 trp		3.3912	1.0930	2.7774			1.68	**73.3%**						
							RSD =	0.76%				RSD =	NA	
QY41 G1		4.6074	1.0897	3.4303			2.34	**66.5%**						
QY41 H1		3.7679	1.0882	1.4608			0.37	**13.9%**						

Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 14, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: QY59

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile QY59

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QY59

prepared
by

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: QY59	Turn-around Requested: Standard
ARI Client Company: SAIC	Phone: (206) 271 4691
Client Contact: Glen Vedera	
Client Project Name: NBF/GTSP Stormwater Sampling	
Client Project #:	Samplers: MG, AW

Page: 1 of 1	
Date: 05/28/10	Ice Present?
No. of Coolers:	Cooler Temps:

Sample ID	Date	Time	Matrix	No. Containers	① PCB Aroclors	② 7471 Hg	③ 6010 Metals	④ Grain Size	Notes/Comments
									Analyze filtered solids in order listed if insufficient material
NBF-MH434A-052810-S	05/28/10	2020	sediment	1 filter	X	X	X	X	
NBF-MH434B-052810-S	05/28/10	2020	sediment	1 filter					Archive - Do Not Freeze
NBF-MH433A-052810-S (423 JO 6/1/10)	05/28/10	2040	sediment	1 filter	X	X	X	X	
NBF-MH432B-052810-S (423 JO 6/1/10)	05/28/10	2040	sediment	1 filter					Archive - Do Not Freeze
NBF-LS431A-052810-S	05/28/10	2050	sediment	1 filter	X	X	X	X	
NBF-LS431B-052810-S	05/28/10	2050	sediment	1 filter					Archive - Do Not Freeze

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Julie Warter	Printed Name: Rich Hudson	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 6/1/10 1040	Date & Time: 6/1/10 1040	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF/GTSP Stormwater Samp

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: QY59 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)		10.0

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941619

Cooler Accepted by: _____ Date: 6/1/10 Time: 1130

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

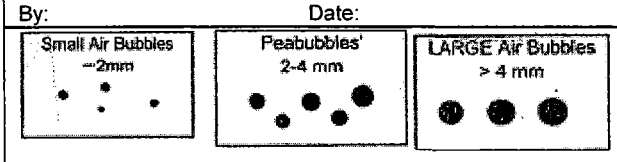
Samples Logged by: AV Date: 6/1/10 Time: 1215

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

QY59 : 00004

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

Cooler#: 1	Temperature(°C): 10.0	
Sample ID	**Bottle Count**	**Bottle Type**
NBF-MH434A-052810-S	1	1 filterbag
NBF-MH434B-052810-S	1	"
NBF-MH423A-052810-S	1	"
NBF-MH423B-052810-S	1	"
NBF-LS431A-052810-S	1	"
NBF-LS431B-052810-S	1	"

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: AV Date: 5/1/10 Time: 1217

Case Narrative

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QY59

prepared
by

Analytical Resources, Inc.

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job No.: QY59

Sample Receipt

Six filter-bag samples were received on June 1, 2010 under ARI job QY59. The cooler temperature measured by IR thermometer following ARI SOP was 10.0°C. Select samples were archived (not frozen) upon receipt. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods. Please note the plastic rings were removed before extracting the filter-bag samples.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

The undetected results for Aroclor 1248 were raised and "Y"-flagged due to interference from the matrix.

Total Metals and Mercury

Two to twenty grams of solid material were removed from select filter-bag samples to be analyzed for metals and mercury. All samples were digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery of zinc fell outside the control limits low for sample **NBF-MH434A-052810-S**. The sample concentration for copper exceeded the spike concentration by a factor of four or more. No corrective action was required.

The duplicate RPDs of chromium and mercury were outside the control limits high for sample **NBF-MH434A-052810-S**. All relevant data have been flagged with a "*" qualifier on the appropriate Form VI. No further corrective action was required.

Geotechnical Parameters

Approximately twenty-one grams of solid material was removed from sample **NBF-MH434A-052810-S** to be analyzed by the geotechnical laboratory. A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science App. International Corp. **ARI Project No.:** QY59

Client Project: NBF/GTSP Stormwater Sampling

Case Narrative

1. One sample was received on June 1, 2010.
2. The sample was submitted for grain size analysis by means of X-ray diffraction using a Sedigraph 5120. The values are calculated using Stokes' Law of sedimentation and Beer's law of extinction. The sample was submitted with limited sample volume, and there was not enough sample to split a triplicate.
3. The standard operating procedure calls for the sample to be measured on the #4 (4750 µm) sieve, down to the 0.1 µm particle size with the Sedigraph 5120. If there were no particles measured at these extremes, the data is not included in the report.
4. The sample contained a percentage of organic material. Organic material does not absorb X-rays, and is not included in the fine portion of the analysis.
5. The data is provided in summary tables and plot.
6. There were no noted anomalies in the samples or methods on this project.

Approved by: _____ Date: June 8, 2010
Lead Technician

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

5/29/2010

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1732-2	ABN	100/150	MEOH	07/30/10
B	1633-3	SIM PNA	15/75	MEOH	08/12/10
C	1705-4	SIM ABN	25/37.5	MEOH	07/30/10
D	1689-2	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1634-1	LOW S. PNA	1.5	MEOH	08/12/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1740-1	TPH	450	MECL2	12/11/10
P	1707-4	HCID	2250	MECL2	07/02/10
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					
#project specific					
Y					
Z					

LCS SOLUTIONS

5/29/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#		BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1667-1	LOW PEST	0.2/0.4/2	ACETONE	06/26/10
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1738-2	ABN	100	ACETONE	01/31/11
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1730-2	TPHD	15000	ACETONE	04/26/11
12	1698-1	ABN BASE	200	MEOH	07/24/10
13	1716-2	LOW PCB	2	ACETONE	03/30/11
14	1730-1	LOW ABN ACID	10/20	MEOH	07/14/10
15	1726-3	SIM PNA	15/75	MEOH	10/07/10
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18	1726-4	LOW SIM PNA	1.5	ACETONE	10/07/10
19	1685-3	AK103	7500	ACETONE	09/03/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1725-1	SKY/BHT	100	MEOH	03/18/11
22	1728-1	HERB	12.5/12500	MEOH	10/20/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#		DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#	1684-1	ADD. PEST	4	ACETONE	03/25/10
29#		DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

5/29/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Summary of Laboratory Control Limits

Default limits of 30-160% recovery and 30% RPD apply for all organic analytes when laboratory generated control limits are not available on ARI's web site. Default limits for all inorganic analytes are 75-125% recovery and 25% RPD.

ARI's laboratory generated Quality Control Limits may be superseded by project specific data quality objectives (DQO) provided by ARI's clients. The use of project specific DQO must be approved by ARI's Laboratory and QA Program Managers.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF/GTSP Stormwater Sampling

ARI JOB NO: QY59

prepared
by

Analytical Resources, Inc.

PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH434A-052810-S
SAMPLE

Lab Sample ID: QY59A
LIMS ID: 10-12895
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/28/10
Date Received: 06/01/10

Date Extracted: 06/07/10
Date Analyzed: 06/10/10 13:57
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 20.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.0	< 2.0 U
53469-21-9	Aroclor 1242	2.0	< 2.0 U
12672-29-6	Aroclor 1248	8.0	< 8.0 Y
11097-69-1	**Aroclor 1254**	**2.0**	**8.6**
11096-82-5	**Aroclor 1260**	**2.0**	**7.2**
11104-28-2	Aroclor 1221	2.0	< 2.0 U
11141-16-5	Aroclor 1232	2.0	< 2.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	108%
Tetrachlorometaxylene	90.7%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH423A-052810-S
SAMPLE

Lab Sample ID: QY59C
LIMS ID: 10-12897
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/28/10
Date Received: 06/01/10

Date Extracted: 06/07/10
Date Analyzed: 06/10/10 14:16
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	4.0	< 4.0 Y
11097-69-1	**Aroclor 1254**	**1.0**	**2.4**
11096-82-5	**Aroclor 1260**	**1.0**	**2.3**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	65.0%
Tetrachlorometaxylene	66.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431A-052810-S
SAMPLE

Lab Sample ID: QY59E
LIMS ID: 10-12899
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/28/10
Date Received: 06/01/10

Date Extracted: 06/07/10
Date Analyzed: 06/10/10 14:35
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 20.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.0	< 2.0 U
53469-21-9	Aroclor 1242	2.0	< 2.0 U
12672-29-6	Aroclor 1248	5.0	< 5.0 Y
11097-69-1	**Aroclor 1254**	**2.0**	**7.0**
11096-82-5	**Aroclor 1260**	**2.0**	**3.0**
11104-28-2	Aroclor 1221	2.0	< 2.0 U
11141-16-5	Aroclor 1232	2.0	< 2.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	95.6%
Tetrachlorometaxylene	67.7%

FORM I

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Filter Bag

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	DCBP	TCMX	TOT OUT
MB-060710	81.5%	66.0%	0
LCS-060710	83.0%	66.0%	0
LCSD-060710	88.5%	69.5%	0
NBF-MH434A-052810-S	108%	90.7%	0
NBF-MH423A-052810-S	65.0%	66.0%	0
NBF-LS431A-052810-S	95.6%	67.7%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A
Log Number Range: 10-12895 to 10-12899

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-060710
LCS/LCSD

Lab Sample ID: LCS-060710
LIMS ID: 10-12895
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/28/10
Date Received: 06/01/10

Date Extracted LCS/LCSD: 06/07/10

Date Analyzed LCS: 06/10/10 13:19
LCSD: 06/10/10 13:38
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1.00 Filter Bag
LCSD: 1.00 Filter Bag
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	2.0	2.5	80.0%	2.1	2.5	84.0%	4.9%
Aroclor 1260	2.0	2.5	80.0%	2.2	2.5	88.0%	9.5%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	83.0%	88.5%
Tetrachlorometaxylene	66.0%	69.5%

Reported in Total µg
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QY59MB1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QY59
Project: NBF/GTSP STORMWATER

Lab Sample ID: QY59MB1
Lab File ID: 0610B006

Date Extracted: 06/07/10
Matrix: SOLID

Date Analyzed: 06/10/10
Instrument ID: ECD5

Time Analyzed: 1301
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QY59LCS1	QY59LCS1	06/10/10
02	QY59LCSD1	QY59LCSD1	06/10/10
03	NBF-MH434A-052810-S	QY59A	06/10/10
04	NBF-MH423A-052810-S	QY59C	06/10/10
05	NBF-LS431A-052810-S	QY59E	06/10/10

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-060710
METHOD BLANK

Lab Sample ID: MB-060710
LIMS ID: 10-12895
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/11/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 06/07/10
Date Analyzed: 06/10/10 13:01
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.1	< 0.1 U
53469-21-9	Aroclor 1242	0.1	< 0.1 U
12672-29-6	Aroclor 1248	0.1	< 0.1 U
11097-69-1	Aroclor 1254	0.1	< 0.1 U
11096-82-5	Aroclor 1260	0.1	< 0.1 U
11104-28-2	Aroclor 1221	0.1	< 0.1 U
11141-16-5	Aroclor 1232	0.1	< 0.1 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	81.5%
Tetrachlorometaxylene	66.0%

METALS ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH434A-052810-S
SAMPLE

Lab Sample ID: QY59B
LIMS ID: 10-12896
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/28/10
Date Received: 06/01/10

Percent Total Solids: 57.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/03/10	6010B	06/07/10	**7440-38-2**	**Arsenic**	8	**39**	
3050B	06/03/10	6010B	06/07/10	**7440-43-9**	**Cadmium**	0.3	**3.4**	
3050B	06/03/10	6010B	06/07/10	**7440-47-3**	**Chromium**	0.8	**65.8**	
3050B	06/03/10	6010B	06/07/10	**7440-50-8**	**Copper**	0.3	**83.3**	
3050B	06/03/10	6010B	06/07/10	**7439-92-1**	**Lead**	3	**219**	
CLP	06/03/10	7471A	06/04/10	**7439-97-6**	**Mercury**	0.03	**0.13**	
3050B	06/03/10	6010B	06/07/10	7440-22-4	Silver	0.5	0.5	U
3050B	06/03/10	6010B	06/07/10	**7440-66-6**	**Zinc**	2	**941**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH423A-052810-S
SAMPLE

Lab Sample ID: QY59D
LIMS ID: 10-12898
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/28/10
Date Received: 06/01/10

Percent Total Solids: 47.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/03/10	6010B	06/07/10	7440-38-2	Arsenic	10	10	U
3050B	06/03/10	6010B	06/07/10	**7440-43-9**	**Cadmium**	0.4	**4.4**	
3050B	06/03/10	6010B	06/07/10	**7440-47-3**	**Chromium**	1	**65**	
3050B	06/03/10	6010B	06/07/10	**7440-50-8**	**Copper**	0.4	**91.7**	
3050B	06/03/10	6010B	06/07/10	**7439-92-1**	**Lead**	4	**88**	
CLP	06/03/10	7471A	06/04/10	**7439-97-6**	**Mercury**	0.04	**0.09**	
3050B	06/03/10	6010B	06/07/10	7440-22-4	Silver	0.6	0.6	U
3050B	06/03/10	6010B	06/07/10	**7440-66-6**	**Zinc**	2	**1,630**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-LS431A-052810-S
SAMPLE

Lab Sample ID: QY59F
LIMS ID: 10-12900
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/28/10
Date Received: 06/01/10

Percent Total Solids: 33.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/03/10	6010B	06/07/10	7440-38-2	Arsenic	40	40	U
3050B	06/03/10	6010B	06/07/10	**7440-43-9**	**Cadmium**	1	**5**	
3050B	06/03/10	6010B	06/07/10	**7440-47-3**	**Chromium**	4	**36**	
3050B	06/03/10	6010B	06/07/10	**7440-50-8**	**Copper**	1	**72**	
3050B	06/03/10	6010B	06/07/10	**7439-92-1**	**Lead**	10	**70**	
CLP	06/03/10	7471A	06/04/10	**7439-97-6**	**Mercury**	0.06	**0.12**	
3050B	06/03/10	6010B	06/07/10	7440-22-4	Silver	2	2	U
3050B	06/03/10	6010B	06/07/10	**7440-66-6**	**Zinc**	7	**491**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH434A-052810-S
MATRIX SPIKE

Lab Sample ID: QY59B
LIMS ID: 10-12896
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/28/10
Date Received: 06/01/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	39	359	337	95.0%	
Cadmium	6010B	3.4	85.5	84.2	97.5%	
Chromium	6010B	65.8	134	84.2	81.0%	
Copper	6010B	83.3	157	84.2	87.5%	
Lead	6010B	219	487	337	79.5%	
Mercury	7471A	0.13	0.43	0.333	90.1%	
Silver	6010B	0.5 U	77.0	84.2	91.4%	
Zinc	6010B	941	981	84.2	47.5%	H

Reported in mg/kg-dry

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH434A-052810-S
DUPLICATE

Lab Sample ID: QY59B
LIMS ID: 10-12896
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 05/28/10
Date Received: 06/01/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	39	36	8.0%	+/- 8	L
Cadmium	6010B	3.4	3.7	8.5%	+/- 20%	
Chromium	6010B	65.8	51.2	25.0%	+/- 20%	*
Copper	6010B	83.3	77.8	6.8%	+/- 20%	
Lead	6010B	219	186	16.3%	+/- 20%	
Mercury	7471A	0.13	0.17	26.7%	+/- 0.03	L*
Silver	6010B	0.5 U	0.5 U	0.0%	+/- 0.5	L
Zinc	6010B	941	1,010	7.1%	+/- 20%	

Reported in mg/kg-dry

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QY59LCS
LIMS ID: 10-12898
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	197	200	98.5%	
Cadmium	6010B	49.2	50.0	98.4%	
Chromium	6010B	50.6	50.0	101%	
Copper	6010B	45.1	50.0	90.2%	
Lead	6010B	192	200	96.0%	
Mercury	7471A	0.51	0.50	102%	
Silver	6010B	49.8	50.0	99.6%	
Zinc	6010B	49	50	98.0%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: QY59MB
LIMS ID: 10-12898
Matrix: Soil
Data Release Authorized:
Reported: 06/08/10

QC Report No: QY59-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/03/10	6010B	06/07/10	7440-38-2	Arsenic	5	5	U
3050B	06/03/10	6010B	06/07/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	06/03/10	6010B	06/07/10	7440-47-3	Chromium	0.5	0.5	U
3050B	06/03/10	6010B	06/07/10	7440-50-8	Copper	0.2	0.2	U
3050B	06/03/10	6010B	06/07/10	7439-92-1	Lead	2	2	U
CLP	06/03/10	7471A	06/04/10	7439-97-6	Mercury	0.02	0.02	U
3050B	06/03/10	6010B	06/07/10	7440-22-4	Silver	0.3	0.3	U
3050B	06/03/10	6010B	06/07/10	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

GEOTECHNICAL ANALYSIS

Science App. International Corp.
NBF/GTSP Stormwater Sampling

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
NBF-MH434A-052810-S	100.0	100.0	99.9	99.8	99.5	99.2	99.1	99.0	82.4	51.4	36.1	22.6	11.9	7.6

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Science App. International Corp.
NBF/GTSP Stormwater Sampling

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
NBF-MH434A-052810-S	0.1	0.1	0.3	0.3	0.1	0.1	16.6	31.0	15.3	13.5	10.7	4.3	7.6	99.0

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Sample: NBF-MH434A-052810-S
Operator: EG
Submitter: SAIC
File: C:\...\QY59\QY59B.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 6/8/2010 11:31:00AM
Reported: 6/8/2010 2:45:10PM
Liquid Visc: 0.7227 mPa·s
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:50 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 117 / 100 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (µm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
971.6	0.042	99.7	0.0	117.76979
917.3	0.125	99.7	0.0	104.96243
866.0	0.208	99.7	0.0	93.54787
817.5	0.291	99.7	0.0	83.37463
771.8	0.374	99.7	0.0	74.30771
728.6	0.457	99.6	0.0	66.22682
687.9	0.540	99.6	0.0	59.02471
649.4	0.623	99.6	0.0	52.60583
613.1	0.706	99.6	0.0	46.88500
578.8	0.789	99.6	0.0	41.78630
546.4	0.872	99.5	0.0	37.24208
515.8	0.955	99.5	0.0	33.19204
487.0	1.038	99.5	0.0	29.58243
459.7	1.121	99.5	0.0	26.36537
434.0	1.204	99.5	0.0	23.49816
409.7	1.287	99.4	0.0	20.94276
386.8	1.370	99.4	0.0	18.66525
365.2	1.453	99.4	0.0	16.63542
344.7	1.536	99.4	0.0	14.82634
325.5	1.619	99.3	0.0	13.21399
307.3	1.702	99.3	0.0	11.77698
290.1	1.786	99.3	0.0	10.49624
273.8	1.869	99.3	0.0	9.35479
258.5	1.952	99.3	0.0	8.33746
244.1	2.035	99.2	0.0	7.43077
230.4	2.118	99.2	0.0	6.62268
217.5	2.201	99.2	0.0	5.90247
205.4	2.284	99.2	0.0	5.26058
193.9	2.367	99.2	0.0	4.68850
183.0	2.450	99.2	0.0	4.17863
172.8	2.533	99.1	0.0	3.72421
163.1	2.616	99.1	0.0	3.31920
154.0	2.699	99.1	0.0	2.95824
145.4	2.782	99.1	0.0	2.63654
137.2	2.865	99.1	0.0	2.34982
129.6	2.948	99.1	0.0	2.09428
122.3	3.031	99.1	0.0	1.86653
115.5	3.114	99.1	0.0	1.66354
109.0	3.197	99.1	0.0	1.48263
102.9	3.280	99.1	0.0	1.32140

Sample: NBF-MH434A-052810-S
Operator: EG
Submitter: SAIC
File: C:\...\QY59\QY59B.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 6/8/2010 11:31:00AM
Reported: 6/8/2010 2:45:10PM
Liquid Visc: 0.7227 mPa·s
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:50 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 117 / 100 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (µm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
97.16	3.363	99.1	0.0	1.17770
91.73	3.447	99.1	0.0	1.04962
86.60	3.530	99.1	0.0	0.93548
81.75	3.613	99.1	0.0	0.83375
77.18	3.696	99.1	0.0	0.74308
72.86	3.779	99.1	0.0	0.66227
68.79	3.862	99.0	0.0	0.59025
64.94	3.945	99.0	0.0	0.52606
61.31	4.028	99.0	0.0	0.46885
57.88	4.111	99.0	0.0	0.41786
54.64	4.194	98.7	0.3	0.37242
51.58	4.277	97.9	0.8	0.33192
48.70	4.360	96.9	0.9	0.29582
45.97	4.443	95.8	1.1	0.26365
43.40	4.526	94.5	1.3	0.23498
40.97	4.609	93.1	1.5	0.20943
38.68	4.692	91.3	1.7	0.18665
36.52	4.775	89.4	2.0	0.16635
34.47	4.858	87.1	2.2	0.14826
32.55	4.941	84.6	2.5	0.13214
30.73	5.024	82.0	2.7	0.11777
29.01	5.107	79.1	2.9	0.10496
27.38	5.191	76.1	3.0	0.09355
25.85	5.274	73.1	3.0	0.08337
24.41	5.357	70.1	3.0	0.07431
23.04	5.440	67.1	3.0	0.06623
21.75	5.523	64.3	2.8	0.05902
20.54	5.606	61.6	2.7	0.05261
19.39	5.689	59.1	2.5	0.04688
18.30	5.772	56.7	2.3	0.04179
17.28	5.855	54.6	2.1	0.03724
16.31	5.938	52.7	1.9	0.03319
15.40	6.021	51.0	1.7	0.02958
14.54	6.104	49.5	1.5	0.02637
13.72	6.187	48.1	1.4	0.02350
12.96	6.270	46.9	1.3	0.02094
12.23	6.353	45.7	1.2	0.01867
11.55	6.436	44.5	1.2	0.01664
10.90	6.519	43.3	1.2	0.01483
10.29	6.602	42.1	1.2	0.01321

Sample: NBF-MH434A-052810-S
Operator: EG
Submitter: SAIC
File: C:\...\QY59\QY59B.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 6/8/2010 11:31:00AM
Reported: 6/8/2010 2:45:10PM
Liquid Visc: 0.7227 mPa·s
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:50 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 117 / 100 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (µm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
9.716	6.685	40.9	1.2	0.01178
9.173	6.768	39.7	1.2	0.01050
8.660	6.851	38.4	1.3	0.00935
8.175	6.935	37.2	1.3	0.00834
7.718	7.018	35.9	1.3	0.00743
7.286	7.101	34.7	1.2	0.00662
6.879	7.184	33.5	1.2	0.00590
6.494	7.267	32.3	1.2	0.00526
6.131	7.350	31.1	1.2	0.00469
5.788	7.433	29.9	1.2	0.00418
5.464	7.516	28.8	1.1	0.00372
5.158	7.599	27.7	1.1	0.00332
4.870	7.682	26.6	1.1	0.00296
4.597	7.765	25.6	1.0	0.00264
4.340	7.848	24.5	1.0	0.00235
4.097	7.931	23.5	1.0	0.00209
3.868	8.014	22.5	1.0	0.00187
3.652	8.097	21.4	1.1	0.00166
3.447	8.180	20.3	1.1	0.00148
3.255	8.263	19.2	1.1	0.00132
3.073	8.346	18.0	1.2	0.00118
2.901	8.429	16.9	1.1	0.00105
2.738	8.512	15.8	1.1	0.00094
2.585	8.595	14.8	1.0	0.00083
2.441	8.679	13.9	0.9	0.00074
2.304	8.762	13.2	0.7	0.00066
2.175	8.845	12.6	0.6	0.00059
2.054	8.928	12.1	0.5	0.00053
1.939	9.011	11.7	0.4	0.00047
1.830	9.094	11.4	0.3	0.00042
1.728	9.177	11.1	0.3	0.00037
1.631	9.260	10.8	0.3	0.00033
1.540	9.343	10.5	0.3	0.00030
1.454	9.426	10.2	0.3	0.00026
1.372	9.509	9.9	0.3	0.00023
1.296	9.592	9.6	0.4	0.00021
1.223	9.675	9.2	0.4	0.00019
1.155	9.758	8.7	0.4	0.00017
1.090	9.841	8.3	0.4	0.00015
1.029	9.924	7.8	0.4	0.00013

Sample: NBF-MH434A-052810-S
Operator: EG
Submitter: SAIC
File: C:\...\QY59\QY59B.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
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Analysis Type: High Speed(Adj)
Run Time: 1:50 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 117 / 100 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (µm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
0.972	10.007	7.4	0.5	0.00012
0.917	10.090	6.9	0.4	0.00010
0.866	10.173	6.5	0.4	0.00009
0.818	10.256	6.1	0.4	0.00008
0.772	10.340	5.6	0.4	0.00007
0.729	10.423	5.2	0.4	0.00007
0.688	10.506	4.8	0.4	0.00006
0.649	10.589	4.5	0.3	0.00005
0.613	10.672	4.2	0.3	0.00005
0.579	10.755	4.0	0.2	0.00004
0.546	10.838	3.9	0.1	0.00004
0.516	10.921	3.8	0.1	0.00003
0.487	11.004	3.8	0.0	0.00003
0.460	11.087	3.9	-0.1	0.00003
0.434	11.170	4.0	-0.1	0.00002
0.410	11.253	4.0	-0.1	0.00002
0.387	11.336	4.0	0.0	0.00002
0.365	11.419	3.9	0.1	0.00002
0.345	11.502	3.7	0.2	0.00001
0.325	11.585	3.4	0.3	0.00001
0.307	11.668	3.0	0.4	0.00001
0.290	11.751	2.5	0.5	0.00001
0.274	11.834	2.1	0.5	0.00001
0.259	11.917	1.6	0.5	0.00001
0.244	12.000	1.1	0.5	0.00001
0.230	12.084	0.7	0.4	0.00001
0.218	12.167	0.3	0.4	0.00001
0.205	12.250	-0.1	0.4	0.00001
0.194	12.333	-0.4	0.3	0.00000
0.183	12.416	-0.7	0.3	0.00000
0.173	12.499	-0.9	0.2	0.00000
0.163	12.582	-1.0	0.1	0.00000
0.154	12.665	-1.0	0.0	0.00000
0.145	12.748	-0.9	-0.1	0.00000
0.137	12.831	-0.7	-0.2	0.00000
0.130	12.914	-0.5	-0.2	0.00000
0.122	12.997	-0.2	-0.2	0.00000
0.115	13.080	0.0	-0.2	0.00000
0.109	13.163	0.0	-0.1	0.00000
0.103	13.246	0.0	0.0	0.00000

Sample: NBF-MH434A-052810-S
Operator: EG
Submitter: SAIC
File: C:\...\QY59\QY59B.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

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Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:50 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 117 / 100 kCnts/s
Reynolds Number: 0.30

Report by Size Table

Low Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Low Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
9500	100.0	0.0	63.00	99.0	0.1
4750	100.0	0.0	31.00	82.4	16.7
2000	99.9	0.1	15.60	51.4	31.0
1000	99.8	0.2	7.800	36.1	15.3
500.0	99.5	0.3	3.900	22.6	13.5
250.0	99.2	0.3	2.000	11.9	10.8
125.0	99.1	0.1	1.000	7.6	4.3

Sample: NBF-MH434A-052810-S
Operator: EG
Submitter: SAIC
File: C:\...\QY59\QY59B.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 6/8/2010 11:31:00AM
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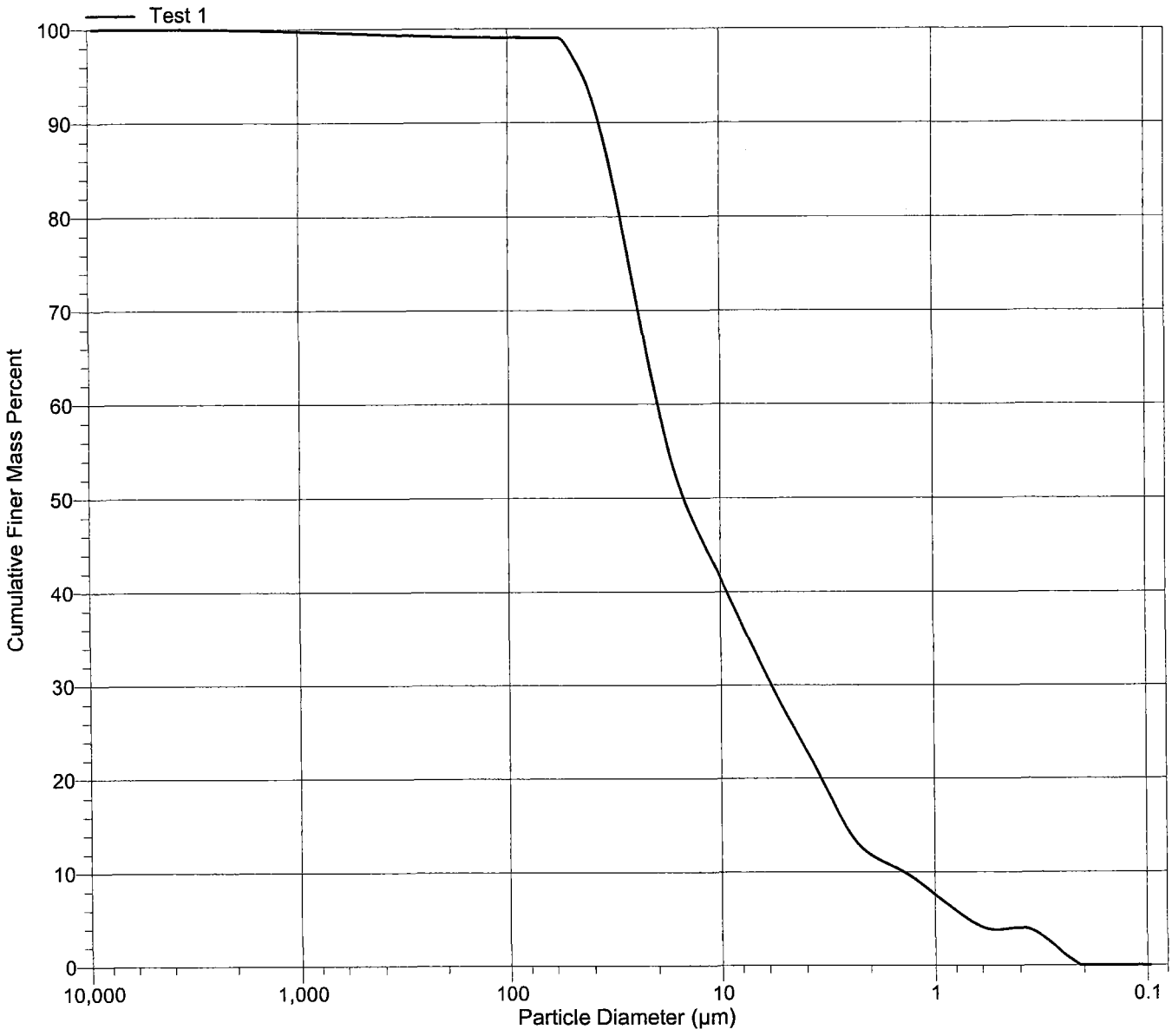
Liquid Visc: 0.7227 mPa·s
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:50 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 117 / 100 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



TOTAL SOLIDS

Solids Data Entry Report Checked by: MH Date: 6/04/10
Date: 06/04/10 Data Analyst: DM

Solids Determination performed on 06/03/10 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
QY59	B	NBF-MH434A-052810-S	0.993	6.112	3.923	57.24
QY59	D	NBF-MH423A-052810-S	0.991	1.791	1.370	47.38
QY59	F	NBF-LS431A-052810-S	0.983	5.401	2.482	33.93

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Prep Sheet Notes

ARI Job No.: QY59

Client ID: Science App. International Corp

Parameter: PCB

Client Project: NBF/GTSP Stormwater Sampling

Matrix: (Filter bag)/tissue/other

PI Sample Wet Weights.
A= 344.65 C* B= 254.80g E* E= 338.66

Metals spit (solids)
A= 19.52g C* B= 2.31g E* E= 7.88

Geotech split (solids)
A= 20.76g C* B= no volume for Geo split AR 06/03/10 E* E= no volume for Geo split AR 06/03/10

Sample Dry Weights (With plastic Ring)
A= 92.59g C= 74.97g E= 76.25g

Plastic Ring Weights
A= 13.43g C= 14.19g E= 14.24g

Sample Dry Weights (without Plastic Ring)
A= 79.16g C= 60.78g E= 62.01g WC 6/7/10

EC analyst, Samples were surrogated at 5X normal level to leave room for possible dilutions. ~~SK~~ 6/7/10

Prep Time: before drying - 1.5 hr After drying - 40mins 6/7/10 WC | Analyst/Date:

Special Instructions:

(8270) PNA Filter Bag:
1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Cut off plastic rings and record weights on prep sheet. 4. Record wet weights without plastic rings and splits on prep sheet. 5. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags. 6. Record "prep time" on prep sheet. 7. Follow extraction instructions on bench sheet.

PCB Filter Bag:
1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Samples are dried for (2 days) by attaching them to a hood (split open in a tube shape and wrapped in aluminum foil). 4. Re-weigh dried samples and record weight on prep sheet.
5. Cut off plastic rings and record weights on prep sheet. 6. Record sample dry weights without plastic rings on prep sheet.
7. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags.
8. Record "prep time" on prep sheet. 9. Follow extraction instructions on bench sheet.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 18, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: QZ03

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile QZ03

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF/GTSP

ARI JOB NO: QZ03

prepared
by

Analytical Resources, Inc.

SAIC
From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: _____ Project Mgr: Glen Vedera
Project Name: NBF / GTSP
Project Location: NBF
Sample Collectors: JN JB GV JW
Client Name: Ecology

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors	Metals & Mercury	Grain Size	Low Level PCB Aroclors	SVOC / SIM SVOC	Pesticides	VOCs	Metals + Hg total / dissolved	Hardness, pH, alkalinity	Anions, TOC, DOC, TSS	Comments
NBF-MH108A-021	110-S	sediment	2/11/10	13:30	1 bag	X	X	X								
NBF-MH108B-021	110-S	sediment	2/11/10	13:30	1 bag											Archive
NBF-LS431A-021	110-S	sediment	2/11/10	14:30	1 bag	X	X	X								
NBF-LS431B-021	110-S	sediment	2/11/10	14:30	1 bag											Archive
NBF-MH108-021	110-W	water	2/11/10	13:30	1 carboy				X	X	X	X	X	X	X	
NBF-LS431-021	110-W	water	2/11/10	14:30	1 carboy				X	X	X	X	X	X	X	
NBF-MH108-021	110-RW	water	2/11/10	13:30	1 bottle											Rinse Water
NBF-LS431-021	110-RW	water	2/11/10	14:30	1 bottle											Rinse Water

Analyses / Tests

Shipping Information

Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

Comments

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 2/11/10	Date/Time: 2/11/10 1520	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ARI	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC
Project Name: NBF Stormwater Sampling
COC No(s): _____ (NA)
Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____
Assigned ARI Job No: QJ167
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)	9.2 8.9 11.9 ___ ___	
If cooler temperature is out of compliance fill out form 00070F	Temp Gun ID#:	90941619

Cooler Accepted by: _____ Date: 2/11/10 Time: 1520

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)	_____	

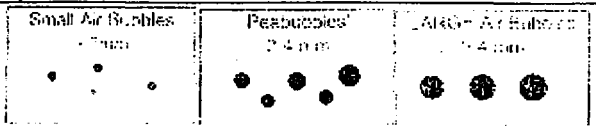
Samples Logged by: JP Date: 2/11/10 Time: 1625

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

Cooler#: 1,2,3 Temperature(°C): 9.2, 8.9, 11.9

Sample ID	Bottle Count	Bottle Type
All samples arrived out of temperature compliance	All	All

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: _____ Date: _____ Time: _____

QQ37

SAIC From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: ______ Project Mgr: Glen Vedera
Project Name: NBF - STSD stormwater sampling
Project Location: NBF
Sample Collectors: JDO, WH
Client Name: Ecology

Sample ID	Depth	Matrix	Date	Time	# of Containers	PCB Aroclors	Metals + Mercury	Grain Size	Low Level PCB Aroclors	SVOC/SIM SVOC	VOCs	Metals + Hg total/diss	hardness, pH, alk	anions, TOC, DOC, TSS	Comments
NBF-LS431A-032910-S		Sediment ~~Water~~	3/29/10	1515	1 filter	X	X	X							
NBF-LS431B-032910-S		Sediment ~~Water~~	3/29/10	1515	1 filter										ARCHIVE
NBF-LS431V-032910		Sediment ~~Water~~	3/29/10	1545	4 filters										ARCHIVE Do not Squeeze
NBF-LS431-032910-W		water	3/29/10	1515	1 carboy				X	X	X	X	X	X	
NBF-MH108A-032910-S ~~NBF-MH108-032910-S~~		Sediment	3/29/10	1630	1 filter	X	X	X							
NBF-MH108B-032910-S		sediment	3/29/10	1630	1 filter										ARCHIVE
NBF-MH108-032910-W		Water	3/29/10	1630	1 carboy				X	X	X	X	X	X	
NBF-LS431-032910-R		water	3/29/10	–	4 1/2 gallons										For rinsing LS431 sampler

[signature] 3/29/10

Shipping Information
Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: J. Peterson	Signature:	Signature:
Date/Time: 3/29/10 1715	Date/Time: 3/29/10 1715	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ACT	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC

Project Name: NBF-GTSP Stormwater Sampling

COC No(s): ______ (NA)

Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: ______

Assigned ARI Job No: QZ03

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 ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90941619

Cooler Accepted by: JP Date: 3/29/10 Time: 1715

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? .... YES (NO)

What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: ______

Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI: ~~NA~~ (YES) Date/Time: 3/29/10 ~~15~~ 1715 Equipment: PDY Split by: JP/AV

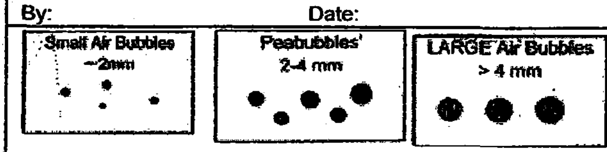
Samples Logged by: JP AV Date: ~~3/29/10~~ 3/30/10 Time: ~~1517~~ 1715 1021

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Subject: PAH analysis
From: "Hafner, William D." <WILLIAM.D.HAFNER@saic.com>
Date: Wed, 2 Jun 2010 16:18:03 -0700
To: "Cheronne Oreiro" <cheronneo@arilabs.com>

Cheronne,

Please analyze the following archived filters for PAH:

Samples MH108B-021110-S and LS431B-021110-S from batch QJ67

Samples MH108B-032910-S and LS431B-032910-S from batch QQ37

Thanks,

Will

William Hafner, Ph.D. | SAIC

Environmental Chemist | Infrastructure, Logistics, and Product Solutions Group

phone: 425.482.3327 | mobile: 425.318.0420

email: hafnerw@saic.com

Case Narrative

prepared
for

Science App. International Corp

Project: NBF/GTSP

ARI JOB NO: QZ03

prepared
by

Analytical Resources, Inc.

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job No.: QZ03

Sample Receipt

Four filter-bags were removed from archive and logged under ARI job QZ03. For details regarding sample receipt, please refer to the Cooler Receipt Form. The samples were analyzed for PAHs, as requested.

PAHs by SW8270D

The samples were extracted and analyzed within recommended holding times, using internal standard methods. Please note the plastic rings were removed before extracting the entire filter-bag.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The continuing calibration of 1-Methylnaphthalene was outside the 20% control limit high 6/17/10 analysis. All associated samples have been flagged with a "Q" qualifier on the date of analysis. No further corrective action was required.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

5/29/2010

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1732-2	ABN	100/150	MEOH	07/30/10
B	1633-3	SIM PNA	15/75	MEOH	08/12/10
C	1705-4	SIM ABN	25/37.5	MEOH	07/30/10
D	1689-2	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1634-1	LOW S. PNA	1.5	MEOH	08/12/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1740-1	TPH	450	MECL2	12/11/10
P	1707-4	HCID	2250	MECL2	07/02/10
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					
#project specific					
Y					
Z					

LCS SOLUTIONS

5/29/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#		BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1667-1	LOW PEST	0.2/0.4/2	ACETONE	06/26/10
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1738-2	ABN	100	ACETONE	01/31/11
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1730-2	TPHD	15000	ACETONE	04/26/11
12	1698-1	ABN BASE	200	MEOH	07/24/10
13	1716-2	LOW PCB	2	ACETONE	03/30/11
14	1730-1	LOW ABN ACID	10/20	MEOH	07/14/10
15	1726-3	SIM PNA	15/75	MEOH	10/07/10
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18	1726-4	LOW SIM PNA	1.5	ACETONE	10/07/10
19	1685-3	AK103	7500	ACETONE	09/03/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1725-1	SKY/BHT	100	MEOH	03/18/11
22	1728-1	HERB	12.5/12500	MEOH	10/20/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#		DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#	1684-1	ADD. PEST	4	ACETONE	03/25/10
29#		DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

5/29/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Prep Sheet Notes

ARI Job No.: QZ03 Client ID: Science App. International Corp

Parameter: 8270 PNA Client Project: NBF/GTSP

Matrix: (Filter bag)/tissue/other

Wet weights: A = 362.92g B = 348.95g C = 364.46g
D = 360.78g

Wet weight without plastic ring: A = ~~319.468-10~~ ~~311.48g~~ 328.34g B = 302.42g
C = 326.98g D = 323.28

Plastic Ring weight: A = ~~28.61g~~ AC 6-8-10 34.01g B = 39.78g C = 37.50g
D = 39.39g

extracts A, C, D - filtered w/ GDX w/ 0.45 filter attached after - ww 6/10/10
extracts C, D could not be concentrated to 2mL for GPC, C was taken to 4mL w/ 1:2 split for GPC
D was taken to 10ml w/ 1:5 split for GPC - ww 6/10/10

extracts C and D were viscus at 0.5mL. C = 1mL For, 0.5mL to lab, D = 2.5mL For, 0.5mL to Lab - ww 6/10/10

Prep Time: 14:00-16:25 (2hrs 25min) | Analyst/Date: AC 6-8-10

Special Instructions:

(8270) PNA Filter Bag:
1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Cut off plastic rings and record weights on prep sheet. 4. Record wet weights without plastic rings and splits on prep sheet. 5. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags. 6. Record "prep time" on prep sheet. 7. Follow extraction instructions on bench sheet.

PCB Filter Bag:
1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Samples are dried for (2 days) by attaching them to a hood (split open in a tube shape and wrapped in aluminum foil). 4. Re-weigh dried samples and record weight on prep sheet.
5. Cut off plastic rings and record weights on prep sheet. 6. Record sample dry weights without plastic rings on prep sheet.
7. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags.
8. Record "prep time" on prep sheet. 9. Follow extraction instructions on bench sheet.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons EPA Method SW-846-8270D [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Matrix	Water		Soil	
Sample Volume / Final Volume	**500 mL to 0.5 mL**		**7.5 g / 0.5 mL**	
LCS Spike Recovery [6]	**Control Limits**	**ME Limits [3]**	**Control Limits**	**ME Limits [3]**
Napthalene	30 - **100**	21 - **100**	37 - **100**	31 - **100**
2-Methylnapthalene	33 - 108	21 - 121	43 - 101	33 - 111
1-Methylnapthalene	34 - **100**	26 - **100**	39 - **100**	32 - **100**
Acenaphthylene	45 - **100**	38 - **100**	44 - **100**	37 - **100**
Acenapthene	40 - **100**	32 - **100**	41 - **100**	35 - **100**
Dibenzofuran	45 - **100**	37 - **100**	44 - **100**	37 - **100**
Fluorene	45 - **100**	37 - 105	49 - **100**	43 - **100**
Phenanthrene	47 - 101	38 - 110	48 - **100**	42 - **100**
Anthracene	47 - **100**	38 - 108	50 - **100**	44 - **100**
Fluoranthene	48 - 110	38 - 120	54 - **100**	47 - 107
Pyrene	48 - 109	38 - 119	41 - 105	30 - 116
Benz(a)anthracene	44 - 105	34 - 115	49 - **100**	42 - 102
Chyrsene	50 - 103	41 - 112	50 - **100**	43 - 101
Benzo(b)fluoranthene	43 - 115	31 - 127	53 - **100**	45 - 107
Benzo(k)fluoranthene	51 - 110	41 - 120	54 - **100**	47 - 104
Benzo(a)pyrene	44 - 107	34 - 118	50 - **100**	42 - 105
Indeno(1,2,3-cd)pyrene	30 - 106	17 - 119	33 - 101	22 - 112
Dibenzo(a,h)anthracene	42 - 103	32 - 113	37 - 104	26 - 115
Benzo(g,h,i)Perylene	42 - 102	32 - 112	33 - 107	21 - 119
MB / LCS Surrogate Recovery		-		
d14-p-Terphenyl	52 - 110	(5)	47 - 112	(5)
2-Fluorobiphenyl	36 - **100**	(5)	40 - **100**	(5)
Sample Surrogate Recovery				
d14-p-Terphenyl	23 - 120	(5)	35 - 112	(5)
2-Fluorobiphenyl	38 - **100**	(5)	34 - **100**	(5)

(1) Control limits calculated using all available spike recovery data from 7/1/07 through 2/27/09.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) **ME** = A marginal exceedance defined in the NELAC Standard (4) as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) Marginal Exceedances are not allowed for surrogate standards.
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF/GTSP

ARI JOB NO: QZ03

prepared
by

Analytical Resources, Inc.

SEMIVOLATILE PAH ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: NBF-MH108B-021110-S
SAMPLE

Lab Sample ID: QZ03A
LIMS ID: 10-13106
Matrix: Filter
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ03-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted: 06/08/10
Date Analyzed: 06/17/10 13:31
Instrument/Analyst: NT4/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 0.5 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**1.5**	**3.7**
91-57-6	**2-Methylnaphthalene**	**1.5**	**7.4**
90-12-0	**1-Methylnaphthalene**	**1.5**	**4.9 Q**
208-96-8	Acenaphthylene	1.5	< 1.5 U
83-32-9	Acenaphthene	1.5	< 1.5 U
86-73-7	**Fluorene**	**1.5**	**1.5**
85-01-8	**Phenanthrene**	**1.5**	**7.3**
120-12-7	Anthracene	1.5	< 1.5 U
206-44-0	**Fluoranthene**	**1.5**	**18**
129-00-0	**Pyrene**	**1.5**	**11**
56-55-3	**Benzo(a)anthracene**	**1.5**	**2.9**
218-01-9	**Chrysene**	**1.5**	**12**
205-99-2	**Benzo(b)fluoranthene**	**1.5**	**8.3**
207-08-9	**Benzo(k)fluoranthene**	**1.5**	**8.3**
50-32-8	**Benzo(a)pyrene**	**1.5**	**5.6**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**1.5**	**4.7**
53-70-3	Dibenz(a,h)anthracene	1.5	< 1.5 U
191-24-2	**Benzo(g,h,i)perylene**	**1.5**	**6.5**
132-64-9	Dibenzofuran	1.5	< 1.5 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	56.9%
2-Fluorobiphenyl	66.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-LS431B-021110-S
SAMPLE

Lab Sample ID: QZ03B
LIMS ID: 10-13107
Matrix: Filter
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ03-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 02/11/10
Date Received: 02/11/10

Date Extracted: 06/08/10
Date Analyzed: 06/11/10 23:24
Instrument/Analyst: NT4/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	0.5	2.5
91-57-6	**2-Methylnaphthalene**	0.5	3.7
90-12-0	**1-Methylnaphthalene**	0.5	2.7
208-96-8	Acenaphthylene	0.5	< 0.5 U
83-32-9	**Acenaphthene**	0.5	4.7
86-73-7	**Fluorene**	0.5	3.7
85-01-8	**Phenanthrene**	0.5	21
120-12-7	**Anthracene**	0.5	4.9
206-44-0	**Fluoranthene**	0.5	31
129-00-0	**Pyrene**	0.5	18
56-55-3	**Benzo(a)anthracene**	0.5	7.7
218-01-9	**Chrysene**	0.5	17
205-99-2	**Benzo(b)fluoranthene**	0.5	12
207-08-9	**Benzo(k)fluoranthene**	0.5	12
50-32-8	**Benzo(a)pyrene**	0.5	9.0
193-39-5	**Indeno(1,2,3-cd)pyrene**	0.5	7.7
53-70-3	**Dibenz(a,h)anthracene**	0.5	2.6
191-24-2	**Benzo(g,h,i)perylene**	0.5	8.0
132-64-9	**Dibenzofuran**	0.5	3.0

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	54.8%
2-Fluorobiphenyl	52.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-LS431B-032910-S
SAMPLE

Lab Sample ID: QZ03C
LIMS ID: 10-13108
Matrix: Filter
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ03-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 06/08/10
Date Analyzed: 06/15/10 00:48
Instrument/Analyst: NT4/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 1.0 mL
Dilution Factor: 5.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**5.0**	**5.0**
91-57-6	2-Methylnaphthalene	5.0	< 5.0 U
90-12-0	1-Methylnaphthalene	5.0	< 5.0 U
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	**Acenaphthene**	**5.0**	**5.7**
86-73-7	**Fluorene**	**5.0**	**7.7**
85-01-8	**Phenanthrene**	**5.0**	**130**
120-12-7	**Anthracene**	**5.0**	**12**
206-44-0	**Fluoranthene**	**5.0**	**310**
129-00-0	**Pyrene**	**5.0**	**190**
56-55-3	**Benzo(a)anthracene**	**5.0**	**55**
218-01-9	**Chrysene**	**5.0**	**200**
205-99-2	**Benzo(b)fluoranthene**	**5.0**	**140**
207-08-9	**Benzo(k)fluoranthene**	**5.0**	**140**
50-32-8	**Benzo(a)pyrene**	**5.0**	**120**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**5.0**	**93**
53-70-3	**Dibenz(a,h)anthracene**	**5.0**	**27**
191-24-2	**Benzo(g,h,i)perylene**	**5.0**	**100**
132-64-9	**Dibenzofuran**	**5.0**	**7.4**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	50.7%
2-Fluorobiphenyl	55.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH108B-032910-S
SAMPLE

Lab Sample ID: QZ03D
LIMS ID: 10-13109
Matrix: Filter
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ03-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 06/08/10
Date Analyzed: 06/12/10 00:30
Instrument/Analyst: NT4/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**2.5**	**4.2**
91-57-6	**2-Methylnaphthalene**	**2.5**	**2.9**
90-12-0	1-Methylnaphthalene	2.5	< 2.5 U
208-96-8	Acenaphthylene	2.5	< 2.5 U
83-32-9	**Acenaphthene**	**2.5**	**4.0**
86-73-7	**Fluorene**	**2.5**	**5.4**
85-01-8	**Phenanthrene**	**2.5**	**110**
120-12-7	**Anthracene**	**2.5**	**11**
206-44-0	**Fluoranthene**	**2.5**	**220 E**
129-00-0	**Pyrene**	**2.5**	**130**
56-55-3	**Benzo(a)anthracene**	**2.5**	**50**
218-01-9	**Chrysene**	**2.5**	**160**
205-99-2	**Benzo(b)fluoranthene**	**2.5**	**110**
207-08-9	**Benzo(k)fluoranthene**	**2.5**	**110**
50-32-8	**Benzo(a)pyrene**	**2.5**	**120**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**2.5**	**79**
53-70-3	**Dibenz(a,h)anthracene**	**2.5**	**25**
191-24-2	**Benzo(g,h,i)perylene**	**2.5**	**86**
132-64-9	**Dibenzofuran**	**2.5**	**6.8**

Reported in Total µg

Semivolatile Surrogate Recovery

d14-p-Terphenyl	52.4%
2-Fluorobiphenyl	49.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH108B-032910-S
DILUTION

Lab Sample ID: QZ03D
LIMS ID: 10-13109
Matrix: Filter
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ03-Science App. International Corp
Project: NBF/GTSP

Date Sampled: 03/29/10
Date Received: 03/29/10

Date Extracted: 06/08/10
Date Analyzed: 06/15/10 01:22
Instrument/Analyst: NT4/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter
Final Extract Volume: 2.5 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	7.5	< 7.5 U
91-57-6	2-Methylnaphthalene	7.5	< 7.5 U
90-12-0	1-Methylnaphthalene	7.5	< 7.5 U
208-96-8	Acenaphthylene	7.5	< 7.5 U
83-32-9	Acenaphthene	7.5	< 7.5 U
86-73-7	Fluorene	7.5	< 7.5 U
85-01-8	**Phenanthrene**	**7.5**	**120**
120-12-7	**Anthracene**	**7.5**	**10**
206-44-0	**Fluoranthene**	**7.5**	**280**
129-00-0	**Pyrene**	**7.5**	**170**
56-55-3	**Benzo(a)anthracene**	**7.5**	**67**
218-01-9	**Chrysene**	**7.5**	**160**
205-99-2	**Benzo(b)fluoranthene**	**7.5**	**120**
207-08-9	**Benzo(k)fluoranthene**	**7.5**	**120**
50-32-8	**Benzo(a)pyrene**	**7.5**	**110**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**7.5**	**87**
53-70-3	**Dibenz(a,h)anthracene**	**7.5**	**32**
191-24-2	**Benzo(g,h,i)perylene**	**7.5**	**99**
132-64-9	Dibenzofuran	7.5	< 7.5 U

Reported in Total µg

Semivolatile Surrogate Recovery

d14-p-Terphenyl	51.8%
2-Fluorobiphenyl	51.0%

ANALYTICAL RESOURCES INCORPORATED

SW8270 PNA SURROGATE RECOVERY SUMMARY

Matrix: Filter

QC Report No: QZ03-Science App. International Corp
Project: NBF/GTSP

Client ID	TER	FBP	TOT OUT
MB-060810	75.6%	47.6%	0
LCS-060810	83.6%	47.2%	0
LCSD-060810	82.4%	51.2%	0
NBF-MH108B-021110-S	56.9%	66.0%	0
NBF-LS431B-021110-S	54.8%	52.5%	0
NBF-LS431B-032910-S	50.7%	55.0%	0
NBF-MH108B-032910-S	52.4%	49.2%	0
NBF-MH108B-032910-S DL	51.8%	51.0%	0

	LCS/MB LIMITS	QC LIMITS
(TER) = d14-p-Terphenyl	(47-112)	(35-112)
(FBP) = 2-Fluorobiphenyl	(40-100)	(34-100)

Prep Method: SW3550B
Log Number Range: 10-13106 to 10-13109

FORM-II SW8270 PNA

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: LCS-060810
LCS/LCSD

Lab Sample ID: LCS-060810
LIMS ID: 10-13106
Matrix: Filter
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ03-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: 02/11/10

Date Extracted LCS/LCSD: 06/08/10

Date Analyzed LCS: 06/11/10 21:43
LCSD: 06/11/10 22:17
Instrument/Analyst LCS: NT4/JZ
LCSD: NT4/JZ
GPC Cleanup: Yes
Silica Gel Cleanup: Yes

Sample Amount LCS: 1.00 g
LCSD: 1.00 g
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Alumina Cleanup: No

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	5.3	12.5	42.4%	5.5	12.5	44.0%	3.7%
2-Methylnaphthalene	5.4	12.5	43.2%	6.1	12.5	48.8%	12.2%
1-Methylnaphthalene	5.6	12.5	44.8%	6.1	12.5	48.8%	8.5%
Acenaphthylene	5.9	12.5	47.2%	6.2	12.5	49.6%	5.0%
Acenaphthene	5.6	12.5	44.8%	5.7	12.5	45.6%	1.8%
Fluorene	6.2	12.5	49.6%	6.2	12.5	49.6%	0.0%
Phenanthrene	7.6	12.5	60.8%	7.3	12.5	58.4%	4.0%
Anthracene	7.4	12.5	59.2%	7.3	12.5	58.4%	1.4%
Fluoranthene	8.1	12.5	64.8%	9.0	12.5	72.0%	10.5%
Pyrene	9.1	12.5	72.8%	9.6	12.5	76.8%	5.3%
Benzo(a)anthracene	8.8	12.5	70.4%	8.6	12.5	68.8%	2.3%
Chrysene	8.9	12.5	71.2%	8.4	12.5	67.2%	5.8%
Benzo(b)fluoranthene	8.4	12.5	67.2%	7.7	12.5	61.6%	8.7%
Benzo(k)fluoranthene	8.4	12.5	67.2%	7.7	12.5	61.6%	8.7%
Benzo(a)pyrene	8.0	12.5	64.0%	7.6	12.5	60.8%	5.1%
Indeno(1,2,3-cd)pyrene	9.6	12.5	76.8%	9.4	12.5	75.2%	2.1%
Dibenz(a,h)anthracene	9.3	12.5	74.4%	9.1	12.5	72.8%	2.2%
Benzo(g,h,i)perylene	9.4	12.5	75.2%	8.8	12.5	70.4%	6.6%
Dibenzofuran	6.4	12.5	51.2%	6.6	12.5	52.8%	3.1%

Semivolatile Surrogate Recovery

	LCS	LCSD
d14-p-Terphenyl	83.6%	82.4%
2-Fluorobiphenyl	47.2%	51.2%

Results reported in Total µg
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QZ03MB1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: QZ03 Project: NBF/GTSP

Lab File ID: 06111014 Date Extracted: 06/08/10

Instrument ID: NT4 Date Analyzed: 06/11/10

Matrix: SOLID Time Analyzed: 2110

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QZ03LCS1	QZ03LCS1	06111015	06/11/10
02	QZ03LCSD1	QZ03LCSD1	06111016	06/11/10
03	NBF-LS431B-02111	QZ03B	06111018	06/11/10
04	NBF-MH108B-03291	QZ03D	06111020	06/12/10
05	NBF-LS431B-03291	QZ03C	06141020	06/15/10
06	NBF-MH108B-03291	QZ03D	06141021	06/15/10
07	NBF-MH108B-02111	QZ03A	06171002	06/17/10
08				
09				
10				
11				
12				
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30				

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: MB-060810
METHOD BLANK

Lab Sample ID: MB-060810
LIMS ID: 10-13106
Matrix: Filter
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ03-Science App. International Corp
Project: NBF/GTSP

Date Sampled: NA
Date Received: NA

Date Extracted: 06/08/10
Date Analyzed: 06/11/10 21:10
Instrument/Analyst: NT4/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 g
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.5	< 0.5 U
91-57-6	2-Methylnaphthalene	0.5	< 0.5 U
90-12-0	1-Methylnaphthalene	0.5	< 0.5 U
208-96-8	Acenaphthylene	0.5	< 0.5 U
83-32-9	Acenaphthene	0.5	< 0.5 U
86-73-7	Fluorene	0.5	< 0.5 U
85-01-8	Phenanthrene	0.5	< 0.5 U
120-12-7	Anthracene	0.5	< 0.5 U
206-44-0	Fluoranthene	0.5	< 0.5 U
129-00-0	Pyrene	0.5	< 0.5 U
56-55-3	Benzo(a)anthracene	0.5	< 0.5 U
218-01-9	Chrysene	0.5	< 0.5 U
205-99-2	Benzo(b)fluoranthene	0.5	< 0.5 U
207-08-9	Benzo(k)fluoranthene	0.5	< 0.5 U
50-32-8	Benzo(a)pyrene	0.5	< 0.5 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.5	< 0.5 U
53-70-3	Dibenz(a,h)anthracene	0.5	< 0.5 U
191-24-2	Benzo(g,h,i)perylene	0.5	< 0.5 U
132-64-9	Dibenzofuran	0.5	< 0.5 U

Reported in Total µg

Semivolatile Surrogate Recovery

d14-p-Terphenyl	75.6%
2-Fluorobiphenyl	47.6%

Analytical Resources, Incorporated
Analytical Chemists and Consultants

June 24, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: QZ07, QZ08, & QZ31

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile QZ07/QZ08/QZ31

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody
Documentation

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QZ07, QZ08, QZ31

prepared
by

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: QZ07	Turn-around Requested: Standard	Page: 1	of 3
ARI Client Company: SAIC	Phone: 206 271 4691	Date: 6/2/10	Ice Present? Y
Client Contact: Glen Vedera		No. of Coolers: 4	Cooler Temps: 4.5, 3.3, 4.3, 3.4
Client Project Name: NBF			
Client Project #:	Samplers:		

Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors (1)	7471 mercury (2)	6010 metals (3)	Grainsize (4)	PAH				Notes/Comments: Analyze filtered solids in order listed if insufficient material
NBF-MH434A-060210-S	06/02/10	2110	solids	1 filter	X	X	X	X					
NBF-MH434B-060210-S	06/02/10	2110	Solids	1 filter					X				~~Archive~~ AJW 6/3/10
NBF-MH356A-060210-S	06/02/10	2120	solids	1 filter	X	X	X	X					
NBF-MH356B-060210-S	06/02/10	2120	Solids	1 filter					X				~~Archive~~ AJW 6/3/10
NBF-LS431A-060210-S	06/02/10	2125	solids	1 filter									
NBF-LS431B-060210-S	06/02/10	2125	Solids	1 filter	X	X	X	X	X				~~Archive~~ AJW 6/3/10
NBF-MH423A-060210-S	06/02/10	2140	solids	1 filter									
NBF-MH423B-060210-S	06/02/10	2140	solids	1 filter					X				~~Archive~~ AJW 6/3/10
NBF-MH369A-060210-S	06/02/10	2145	solids	1 filter	X	X	X	X					
NBF-MH369B-060210-S	06/02/10	2145	Solids	1 filter					X				~~Archive~~ AJW 6/3/10

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Alisa Wells	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Alisa Wells	Printed Name: Jonathon Walter	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 06/03/10 1335	Date & Time: 6/3/10 1335	Date & Time:	Date & Time:

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number:	Turn-around Requested: Standard	Page: 2	of 3
ARI Client Company: SAIC	Phone: 206 271 4691	Date: 6/2/10	Ice Present? Y
Client Contact: Glen Veeler		No. of Coolers: 4	Cooler Temps: 4.5, 3.3, 4.3, 3.4
Client Project Name: NBF			
Client Project #:	Samplers:		

Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors (1)	7471 mercury (2)	6010 metals (3)	Grain Size (4)	low level PCB Aroclor	metals total & dissolved	SVOC + SIM SVOC	hardness, pH, Alkalinity	Anions, TOC, DOI, TSS	PAH	VOC 8240	Notes/Comments
																Analyze filtered solids in order listed if insufficient material
NBF-MH108A-060210-S	06/02/10	2155	Solids	1 filter	X	X	X	X								
NBF-MH108B-060210-S	06/02/10	2155	Solids	1 filter										X		~~Archive~~ ADW 6/3/10
NBF-MH108-060210-W	06/02/10	2155	Water ~~Solids~~	carboy ~~1 filter~~					X	X	X	X	X		X	
NBF-MH226A-060210-S	06/02/10	2210	Solids	1 filter	X	X	X	X								
NBF-MH226B-060210-S	06/02/10	2210	Solids	1 filter										X		~~Archive~~ ADW 6/3/10
NBF-MH133A-060210-S	06/02/10	2220	solids	1 filter	X	X	X	X								
NBF-MH133B-060210-S	06/02/10	2220	Solids	1 filter										X		~~Archive~~ ADW 6/3/10
NBF-MH138A-060210-S	06/02/10	2225	Solids	1 filter	X	X	X	X								
NBF-MH138B-060210-S	06/02/10	2225	solids	1 filter										X		~~Archive~~ ADW 6/3/10
NBF-MH152A-060210-S	06/02/10	2230	Solids	1 filter	X	X	X	X								

Comments/Special Instructions

	Relinquished by	Received by	Relinquished by	Received by
(Signature)	Alisa Wells	[signature]		
Printed Name	Alisa Wells	Jonathan Walter		
Company	SAIL	ARI		
Date & Time	06/03/10 1335	6/3/10 1335		

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number:
Turn-around Requested: Standard
ARI Client Company: SAIC
Phone: 206 271 4691
Client Contact: Glen Vedeler
Client Project Name: NBF
Client Project #:
Samplers:

Page: 3 of 3
Date: 6/2/10
Ice Present? Y
No. of Coolers: 4
Cooler Temps: 4.5, 3.3, 4.3, 3.4

Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors (1)	7471 mercury (2)	6010 metals (3)	Grain size (4)	low level PCB Aroclor	metals total + dissolved	SVOC + SIM SVOC	hardness, pH Alkalinity	Anions, TOC, DOC, TSS	VOC 8260	PAH	Notes/Comments: Analyze filtered solids in order listed if insufficient material
NBF-MH152B-060210-S	06/02/10	2230	Solids	1 filter											X	~~Archive~~ 6/3/10
NBF-CB165A-060210-S	06/02/10	2235	Solids	1 filter	X	X	X	X								~~Archive~~ SO 6/3/10
NBF-CB165B-060210-S	06/02/10	2235	Solids	1 filter											X	~~Archive~~ 6/3/10
NBF-~~MH~~173A-060210-S (CB mBH 6/2/10)	06/02/10	2240	Solids	1 filter	X	X	X	X								
NBF-~~MH~~173B-060210-S (CB mBH 6/2/10)	06/02/10	2240	Solids	1 filter											X	~~Archive~~ 6/3/10
NBF-MH178A-060210-S	06/02/10	2245	Solids	1 filter	X	X	X	X								
NBF-MH178B-060210-S	06/02/10	2245	Solids	1 filter											X	~~Archive~~ APW 6/3/10
NBF-LS431-060210-W	06/02/10	2125	water	1 carboy					X	X	X	X	X	X		

Comments/Special Instructions

	Relinquished by:	Received by:	Relinquished by:	Received by:
(Signature)	Alisa Wells	[signature]		
Printed Name:	Alisa Wells	Jonathon Walter		
Company:	SAIC	ARI		
Date & Time:	06/03/10 1335	6/3/10 1335		

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: QZ07 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)..... 4.5 3.3 4.3 3.4 ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90541619

Cooler Accepted by: JW Date: 6/3/10 Time: 1335

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: 6/3/10 1500 Equipment: polychurn Split by: AV/JP

Samples Logged by: AV Date: 6/3/10 Time: 1620

***** 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:

* had to tip the churn in order to receive sufficient volume.

By: AV Date: 6/3/10

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 06/03/10

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QZ07**

Inquiry Number: NONE
Analysis Requested: 06/03/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: YES
Deliverables:

PC: Cheronne
VTSR: 06/03/10

Project #:
Project: NBF
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-13128 **QZ07A**	NBF-MH108-060210-W						TOT Pass					Pass										
10-13129 **QZ07B**	NBF-LS431-060210-W						TOT ↓					↓										
10-13130 **QZ07C**	NBF-MH108-060210-W						DIS Fail									N	Fail					
10-13131 **QZ07D**	NBF-LS431-060210-W						DIS ↓									N	Fail					

Diss metals = not filtered, not preserved
DOC = not filtered, not preserved

Filtered & preserved 6/3/10 @ 16:50 [illegible]

Checked By AV Date 6/3/10

QZ07 : 00007

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC
Project Name: NBF
COC No(s): (NA)
Delivered by: Fed-Ex UPS Courier Hand Delivered Other:
Assigned ARI Job No: QZ07
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): 4.5 3.3 4.3 3.4
If cooler temperature is out of compliance fill out form 00070F
Temp Gun ID#: 90541619

Cooler Accepted by: JW Date: 6/3/10 Time: 1335

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) AV (YES) Date/Time: 6/3/10 1500 Equipment: paychurn Split by: AV/JP

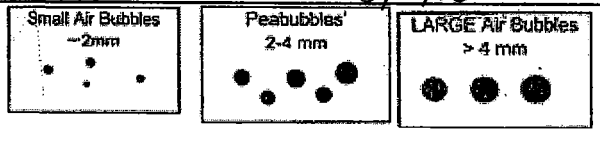
Samples Logged by: AV Date: 6/3/10 Time: 1623

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

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

Additional Notes, Discrepancies, & Resolutions:
x Had to tip the churn to receive sufficiant volume.

By: AV Date: 6/3/10



Small → "sm"	
Peabubbles → "pb"	
Large → "lg"	
Headspace → "hs"	

PRESERVATION VERIFICATION 06/03/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QZ08**

PC: Cheronne
VTSR: 06/03/10

Inquiry Number: NONE
Analysis Requested: 06/03/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: YES
Deliverables:

Project #:
Project: NBF
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-13132 **QZ08A**	NBF-MH108-060210-W						DIS Fail									N						
10-13141 **QZ08B**	NBF-LS431-060210-W						DIS									N						

Not preserved, or filtered

QZ07: 00009

Checked By AV Date 6/3/10

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QZ31	Turn-around Requested: Standard	Page: 1 of 3	
ARI Client Company: SAIC	Phone: 2062714691	Date: 6/2/10	Ice Present? Y
Client Contact: Glen Vedera		No. of Coolers: 4	Cooler Temps: 4.5, 3.3, 4.3, 3.4
Client Project Name: NBF			
Client Project #:	Samplers:		

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

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: RCRA Metals (1)	7471 mercury (2)	6010 metals (3)	Grain size (4)	PAH				Notes/Comments
NBF-MH434A-060210-S	06/02/10	2110	solids	1 filter	X	X	X	X					Analyze filtered solids in order listed if insufficient material
NBF-MH434B-060210-S	06/02/10	2110	solids	1 filter					X				AJW 6/3/10 Archive
NBF-MH356A-060210-S	06/02/10	2120	solids	1 filter	X	X	X	X					
NBF-MH356B-060210-S	06/02/10	2120	solids	1 filter					X				AJW 6/3/10 Archive
NBF-LS431A-060210-S	06/02/10	2125	solids	1 filter									
NBF-LS431B-060210-S	06/02/10	2125	solids	1 filter	X	X	X	X	X				AJW 6/3/10 Archive
NBF-MH423A-060210-S	06/02/10	2140	solids	1 filter									
NBF-MH423B-060210-S	06/02/10	2140	solids	1 filter					X				AJW 6/3/10 Archive
NBF-MH369A-060210-S	06/02/10	2145	solids	1 filter	X	X	X	X					
NBF-MH369B-060210-S	06/02/10	2145	solids	1 filter					X				AJW 6/3/10 Archive

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Alisa Wells	Printed Name: Jonathan Walter	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 06/03/10 1335	Date & Time: 6/3/10 1335	Date & Time:	Date & Time:

QZ31 : 060210

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: QZ31	Turn-around Requested: Standard	Page: 2	of 3
ARI Client Company: SAIC	Phone: 206 271 4691	Date: 6/2/10	Ice Present? Y
Client Contact: Glen Vedeler		No. of Coolers: 4	Cooler Temps: 4.5, 3.3, 4.3, 3.4
Client Project Name: NBF			
Client Project #:	Samplers:		

Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors (1)	7471 mercury (2)	6010 metals (3)	Grain size (4)	Isolated PCB factor	Metals total & dissolved	SVOC + SIM SVOC	hardness, pH, Alkalinity	Anions, TOC, DOI, TSS	PAH	VOC 8240	Notes/Comments
✓ NBF-MH108A-060210-S	06/02/10	2155	Solids	1 filter	X	X	X	X								Analyze filtered solids in order listed if insufficient material
✓ NBF-MH108B-060210-S	06/02/10	2155	Solids	1 filter										X		~~Archive~~ AJW 6/3/10
✓ NBF-MH108-060210-W	06/02/10	2155	Water ~~Solids~~ MAS 6/2/10	Carboy ~~1 filter~~ MAS 6/2/10					X	X	X	X	X		X	
✓ NBF-MH226A-060210-S	06/02/10	2210	Solids	1 filter	X	X	X	X								
✓ NBF-MH226B-060210-S	06/02/10	2210	Solids	1 filter										X		~~Archive~~ AJW 6/3/10
✓ NBF-MH133A-060210-S	06/02/10	2220	solids	1 filter	X	X	X	X								
✓ NBF-MH133B-060210-S	06/02/10	2220	Solids	1 filter										X		~~Archive~~ AJW 6/3/10
✓ NBF-MH138A-060210-S	06/02/10	2225	Solids	1 filter	X	X	X	X								
✓ NBF-MH138B-060210-S	06/02/10	2225	solids	1 filter										X		~~Archive~~ AJW 6/3/10
✓ NBF-MH152A-060210-S	06/02/10	2230	Solids	1 filter	X	X	X	X								

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) Alisa Wells	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Alisa Wells	Printed Name: Jonathan Walter	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 06/03/10 1335	Date & Time: 6/3/10 1335	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

QZ07:00011

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QZ331	Turn-around Requested: standard	Page: 3 of 3	
ARI Client Company: SAIC	Phone: 206 271 4691	Date: 6/2/10	Ice Present? Y
Client Contact: Glen Vedeler		No. of Coolers: 4	Cooler Temps: 4.5, 3.3 4.3, 3.4
Client Project Name: NBF			
Client Project #:	Samplers:		

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

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: RB Factors (1)	7471 mercury (2)	6010 metals (3)	6 ein size (4)	low level RB factor	metals total & dissolved	SVOC + SIM SVOC	hardness, pH Alkalinity	Anions, TOC, COD, TSS	VOC 8260	PAH	Notes/Comments
NBF-MH152B-060210-S	06/02/10	2230	Solids	1 filter											X	~~Archive~~ 6/3/10
NBF-CB165A-060210-S	06/02/10	2235	Solids	1 filter	X	X	X	X								~~Archive~~ SO 6/3/10
NBF-CB165B-060210-S	06/02/10	2235	Solids	1 filter											X	~~Archive~~ 6/3/10
CB mgs 6/2/10 NBF-~~MH173A~~-060210-S	06/02/10	2240	Solids	1 filter	X	X	X	X								
CB mgs 6/2/10 NBF-~~MH173B~~-060210-S	06/02/10	2240	Solids	1 filter											X	~~Archive~~ 6/3/10
NBF-MH178A-060210-S	06/02/10	2245	Solids	1 filter	X	X	X	X								
NBF-MH178B-060210-S	06/02/10	2245	Solids	1 filter											X	~~Archive~~ ADW 6/3/10
NBF-LS431-060210-W	06/02/10	2125	Water	1 carboy					X	X	X	X	X	X		

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Alisa Wells	Printed Name: Jonathon Walter	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 06/03/10 1335	Date & Time: 6/3/10 1335	Date & Time:	Date & Time:

QZ331.doc

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: QZ31 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): 4.5 3.3 4.3 5.4 ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90541619

Cooler Accepted by: JW Date: 6/3/10 Time: 1335

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

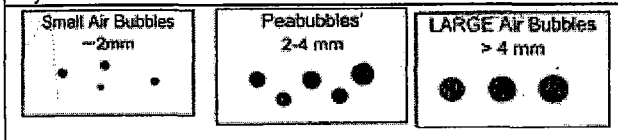
Samples Logged by: JP Date: 6/4/10 Time: 1135

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Subject: RE: Filter-bag Samples
From: "Hafner, William D." <WILLIAM.D.HAFNER@saic.com>
Date: Fri, 4 Jun 2010 10:01:18 -0700
To: "Cheronne Oreiro" <cheronneo@arilabs.com>, "Vedera, Glen T." <GLEN.T.VEDERA@saic.com>

You are correct.
LS431A-060210-S and MH423A-060210-S should be analyzed for PCBs, Hg, Metals, and Grain size.

LS431B-060210-S and MH423B-060210-S should be analyzed for PAHs.

Glad you caught this!
Thanks,
Will

-----Original Message-----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Friday, June 04, 2010 9:40 AM
To: Vedera, Glen T.; Hafner, William D.
Subject: Filter-bag Samples

Hi,

Please see the attached COCs. On the first COC, samples LS431A-060210-S and MH423A-060210-S do not have analyses marked. It looks like a line was skipped and these samples should be analyzed for PCBs, Metals, and Grain Size. Then the following "B" samples should be analyzed for PAHs?
-Cheronne

--
Cheronne Oreiro
Project Manager
Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168-3240
cheronneo@arilabs.com
(206)-695-6214

Subject: RE: QZ07 Dissolved Metals
From: "Hafner, William D." <WILLIAM.D.HAFNER@saic.com>
Date: Tue, 15 Jun 2010 13:41:34 -0700
To: "Cheronne Oreiro" <cheronneo@arilabs.com>

That is fine.

-----Original Message-----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Tuesday, June 15, 2010 12:41 PM
To: Hafner, William D.
Cc: Vedera, Glen T.; Winstanley, Iris
Subject: Re: QZ07 Dissolved Metals

I can write up a narrative comment, but cannot B flag the Form I's. Is this okay?
-Cheronne

Hafner, William D. wrote:

> Cheronne,
> We are using 3.1 ug/L as a comparative criteria for copper concentrations. Even with a blank correction, these concentrations exceed 3.1 ug/L.
> Please report the results as detected with the standard "B" flag.
> Thanks,
> Will
>
> -----Original Message-----
> From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
> Sent: Monday, June 14, 2010 2:24 PM
> To: Vedera, Glen T.; Hafner, William D.
> Subject: QZ07 Dissolved Metals
>
> Hello,
>
> We had a copper contamination in our dissolved method blank for copper
>
> 0.8 ug/L. This method blank was analyzed twice with similar results. Associated samples were less than ten times the level found in the blank. Normally we would re-digest and re-analyze, but looking at the total copper results, I thought I would shoot you an email and ask if we
>
> needed to. Also, I believe this is the job where we had very limited sample volume, so we might not have enough to re-digest anyway. Total and dissolved copper results are comparable (since the dissolved
>
> should be lower than the total). See below.
>
> Total Copper
> QZ07A - 9.7 ug/L
> QZ07B - 5.0 ug/L
>
> Dissolved Copper
> QZ07C (comparable to A) - 7.5 ug/L
> QZ07D (comparable to B) - 3.0 ug/L
>
> Just let me know what you think.
> -Cheronne

Case Narrative

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QZ07, QZ08, QZ31

prepared
by

Analytical Resources, Inc.

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job No.: QZ07, QZ08, & QZ31

Sample Receipt

Twenty-six filter-bag samples and two water samples were received on June 3, 2010 under ARI jobs QZ07, QZ08, and QZ31. The cooler temperatures measured by IR thermometer following ARI SOP were 3.3, 3.4, 4.3, and 4.5°C. The two water samples were submitted in five gallon carboys. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The carboy water samples were homogenized using fourteen liter churn-splitters and then poured in to individual sample containers for analysis.

Volatile by SW8260C

The samples were analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

Semivolatiles by SW8270D

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS and LCSD percent recoveries of Benzyl Alcohol were outside the control limits high for **LCS-060810**. All associated samples were undetected for this compound. No corrective action was required.

PAHs SW8270D (Filter-bags)

The samples were extracted and analyzed within the recommended holding times, using internal standard methods. Please note the plastic rings were removed before extracting entire filter-bag samples.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recovery of 2-Fluorobiphenyl was outside the control limits high for the dilution of sample **NBF-MH356B-060210-S**. All other surrogate percent recoveries were within control limits. No corrective action was taken.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

PAHs SW8270D-SIM (Waters)

The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit.

The LCS and LCSD percent recoveries of Benzo(a)anthracene and Benzo(a)pyrene were outside the control limits high for **LCS-060710**. The outliers were allowed as marginal exceedances. No corrective action was taken.

The LCS percent recovery of Anthracene was outside the control limits high for **LCS-060710**. The LCSD percent recovery was within control limits. No corrective action was taken.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods. Please note the plastic rings were removed before extracting the filter-bag samples.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

The undetected results for Aroclor 1248 for several samples were raised and "Y"-flagged due to interference from the matrix.

Total/Dissolved Metals and Total Mercury

All samples were digested and analyzed within method recommended holding times, using internal standard methods. One to twenty-one grams of solid material were removed from filter-bag samples to be analyzed for metals and mercury.

Copper was present in the dissolved method blank at a level greater than the reporting limit. The client action level for dissolved copper is 3.1ug/L. Sample **NBF-LS431-060210-W** contained a concentration of dissolved copper that was less than the client action level. Sample **NBF-MH1408-060210-W** contained a concentration of dissolved copper that was greater than the client action level. Both samples could be subject to a slightly high bias. All data have been reported as is. No corrective action was taken. Data have not been flagged for this event. All other method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

The matrix spike percent recovery of mercury was outside the control limits low for sample **NBF-CB165A-060210-S**. The sample concentration of this element exceeded the spike concentration by a factor of four or more. No corrective action was required.

The duplicate RPD of mercury was outside the control limit high for sample **NBF-CB165A-060210-S**. All relevant data have been flagged with an "*" qualifier on the appropriate Form VI. No further corrective action was required.

Dissolved Low-Level Mercury

The samples were digested and analyzed within method recommended holding times, using internal standards.

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

General Chemistry

The samples were prepared and analyzed within method recommended holding times, using internal standards.

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

The SRM percent recoveries were within limits.

The matrix spike percent recoveries and replicate RPD/RSDs were within control limits.

Alkalinity was analyzed from a bottle that contained head-space for sample **NBF-LS431-060210-W**. Original bottle with no head-space was broken before analysis could be performed.

Geotechnical Parameters

Nineteen to twenty-three grams of solid material were removed from filter-bags to be analyzed by the geotechnical laboratory. A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science App. International Corp. **ARI Project No.:** QZ31

Client Project: NBF/GTSP Stormwater Sampling

Case Narrative

1. Two samples were received on June 3, 2010.
2. The samples were submitted for grain size analysis by means of X-ray diffraction using a Sedigraph 5120. The values are calculated using Stokes' Law of sedimentation and Beer's law of extinction. The samples were submitted with limited sample volume, and there was not enough sample to split a triplicate.
3. The standard operating procedure calls for the samples to be measured on the #4 (4750 µm) sieve, down to the 0.1 µm particle size with the Sedigraph 5120. If there were no particles measured at these extremes, the data is not included in the report.
4. The samples contained a percentage of organic material. Organic material does not absorb X-rays, and is not included in the fine portion of the analysis.
5. Due to the apparent high volume of organic material in the samples, some of the fine material data was skewed enough to result in a negative number in the percent finer data.
6. The data is provided in summary tables and plots.
7. There were no other noted anomalies in the samples or methods on this project.

Approved by: _____ Date: June 17, 2010
Lead Technician

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

5/29/2010

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1732-2	ABN	100/150	MEOH	07/30/10
B	1633-3	SIM PNA	15/75	MEOH	08/12/10
C	1705-4	SIM ABN	25/37.5	MEOH	07/30/10
D	1689-2	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1634-1	LOW S. PNA	1.5	MEOH	08/12/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1740-1	TPH	450	MECL2	12/11/10
P	1707-4	HCID	2250	MECL2	07/02/10
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					
#project specific					
Y					
Z					

LCS SOLUTIONS

5/29/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#		BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1667-1	LOW PEST	0.2/0.4/2	ACETONE	06/26/10
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1738-2	ABN	100	ACETONE	01/31/11
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1730-2	TPHD	15000	ACETONE	04/26/11
12	1698-1	ABN BASE	200	MEOH	07/24/10
13	1716-2	LOW PCB	2	ACETONE	03/30/11
14	1730-1	LOW ABN ACID	10/20	MEOH	07/14/10
15	1726-3	SIM PNA	15/75	MEOH	10/07/10
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18	1726-4	LOW SIM PNA	1.5	ACETONE	10/07/10
19	1685-3	AK103	7500	ACETONE	09/03/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1725-1	SKY/BHT	100	MEOH	03/18/11
22	1728-1	HERB	12.5/12500	MEOH	10/20/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#		DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#	1684-1	ADD. PEST	4	ACETONE	03/25/10
29#		DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

5/29/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Aqueous Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 10 mL Purge Volume [1,7]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI Control Limits	ARI ME Control Limits[2]
LCS Spike Recovery [6]		
tert-Butanol	49 - 150	32 - 167
Metyl-*tert*-butylether	47 - 154	29 - 172
Di-*iso*-propylether	43 - 149	25 - 167
Ethyl-*tert*-butylether	45 - 155	27 - 173
tert-Amyl methylether	52 - 151	35 - 168
Dichlorodifluoromethane	59 - 129	47 - 141
Chloromethane	66 - 123	57 - 133
Vinyl Chloride	68 - 121	59 - 130
Bromomethane	55 - 148	40 - 164
Chloroethane	47 - 155	29 - 173
1,1,2-Trichloro-1,2,2-trifluoroethane	70 - 129	60 - 139
Acrolein	24 170	**10** - 194
Trichlorotrifluoroethane	74 - 127	65 - 136
Acetone	70 - 130	60 - 140
1,1-Dichloroethene	72 - **120**	64 - 127
Bromoethane	73 - 131	63 - 141
Methyl Iodide	34 - 183	**10** - 208
Methylene Chloride	70 - 124	61 - 133
Acrylonitrile	71 - 135	60 - 146
Methyl tert-Butyl Ether	78 - **120**	72 - 122
Carbon Disulfide	66 - 129	56 - 140
trans-1,2-Dichloroethene	76 - **120**	70 - 120
Vinyl Acetate	49 - 134	35 - 148
1,1-Dichloroethane	75 - **120**	68 - 124
2-Butanone	78 - 131	69 - 140
2,2-Dichloropropane	68 - 121	59 - 130
cis-1,2-Dichloroethene	80 - **120**	75 - **120**
Chloroform	78 - **120**	72 - 121
Bromodichloromethane	79 - **120**	73 - **120**
1,1,1-Trichloroethane	76 - **120**	69 - 123
1,1-Dichloropropene	78 - **120**	72 - 120
Carbon Tetrachloride	70 - 126	61 - 135
1,2-Dichloroethane	78 - **120**	72 - **120**
Benzene	79 - **120**	73 - **120**
Trichloroethene	78 - **120**	72 - 122
1,2-Dichloropropane	80 - **120**	75 - **120**
Bromochloromethane	78 - **120**	72 - 124

Dibromomethane	80 - **120**	75 - **120**
2-Chloroethylvinylether	68 - 134	57 - 145
4-Methyl-2-Pentanone	73 - 131	63 - 141
cis-1,3-Dichloropropene	78 - **120**	72 - 121
Toluene	79 - **120**	74 - **120**
trans-1,3-Dichloropropene	75 - **120**	68 - 124
2-Hexanone	75 - 130	66 - 139
1,1,2-Trichloroethane	79 - **120**	74 - **120**
1,3-Dichloropropane	78 - **120**	72 - 120
Tetrachloroethene	72 - **120**	65 - 125
Dibromochloromethane	78 - **120**	71 - 125
Ethylene Dibromide	75 - **120**	68 - 125
Chlorobenzene	79 - **120**	73 - **120**
Ethylbenzene	78 - 121	71 - 128
1,1,2,2-Tetrachloroethane	72 - **120**	64 - 127
m,p-Xylene	65 - 129	54 - 140
o-Xylene	76 - 120	69 - 127
Styrene	74 - 121	66 - 129
Isopropylbenzene	74 - 120	66 - 128
Bromoform	71 - 120	63 - 128
1,1,1,2-Tetrachloroethane	75 - **120**	68 - 126
1,2,3-Trichloropropane	73 - 120	65 - 128
trans-1,4-Dichloro-2-butene	65 - 135	53 - 147
n-Propylbenzene	76 - 121	69 - 129
Bromobenzene	72 - **120**	64 - 126
1,3,5-Trimethylbenzene	74 - 123	66 - 131
2-Chlorotoluene	74 - **120**	67 - 127
4-Chlorotoluene	75 - **120**	68 - 125
tert-Butylbenzene	73 - 121	65 - 129
1,2,4-Trimethylbenzene	73 - 124	65 - 133
sec-Butylbenzene	75 - 123	67 - 131
4-Isopropyltoluene	71 - 125	62 - 134
1,3-Dichlorobenzene	72 - **120**	64 - 127
1,4-Dichlorobenzene	76 - **120**	69 - 123
n-Butylbenzene	72 - 124	63 - 133
1,2-Dichlorobenzene	75 - **120**	68 - 124
1,2-Dibromo-3-chloropropane	67 - 121	58 - 130
1,2,4-Trichlorobenzene	71 - 120	63 - 128
Hexachloro-1,3-butadiene	67 - 124	58 - 134
Naphthalene	71 - 125	62 - 134
1,2,3-Trichlorobenzene	61 - 134	49 - 146
MB/LCS Surrogate Recovery		
Dibromofluoromethane	64 - 133	(3)
d4-1,2-Dichloroethane	70 - 132	(3)
d8-Toluene	**80 - 120**	(3)

4-Bromofluorobenzene	**80 - 120**	(3)
d4-1,2-Dichlorobenzene	**80 - 120**	(3)
Sample Surrogate Recovery		
Dibromofluoromethane	30 - 160 [5]	(3)
d4-1,2-Dichloroethane	**80** - 143	(3)
d8-Toluene	**80 - 120**	(3)
4-Bromofluorobenzene	**80 - 120**	(3)
D4-1,2-Dichlorobenzene	**80** - 120	(3)

(1) Control Limits calculated using all data generated 1/1/08 through 4/15/09.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard[4] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances require corrective action.
(3) Marginal Exceedances not allowed for surrogate standards.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) are adjusted from the calculated values as follows:
a) ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
b) Control limits for analyzes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
LCS Spike Recovery [8]				
Phenol [3]	50 - **100**	43 - 103	16 - **100**	6 - **100**
Bis-(2-chloroethyl) ether	52 - **100**	45 - 105	41 - 112	29 - 124
2-Chlorophenol	56 - **100**	49 - 103	43 - 111	32 - 122
1,3-Dichlorobenzene	23 - **100**	15 - **100**	32 - **100**	22 - 103
1,4-Dichlorobenzene	25 - **100**	17 - **100**	32 - **100**	22 - 103
Benzyl Alcohol	19 - 100	**10** - 114	22 - 100	9 - 113
1,2-Dichlorobenzene	30 - **100**	22 - **100**	34 - **100**	24 - 104
2-Methylphenol	52 - **100**	44 - 106	36 - 110	24 - 122
2,2'-oxybis(1-chloropropane)	32 - 111	19 - 124	29 - 118	14 - 133
4-Methylphenol	53 - 102	45 - 110	38 - 104	27 - 115
N-Nitroso-di-n-propylamine	43 - 104	33 - 114	38 - 115	25 - 128
Hexachloroethane	12 - **100**	**10** - **100**	24 - **100**	13 - 100
Nitrobenzene	33 - 125	18 - 140	45 - 106	35 - 116
Isophorone	57 - 115	47 - 125	55 - 119	44 - 130
2-Nitrophenol	56 - 102	48 - 110	46 - 118	34 - 130
2,4-Dimethyphenol	29 - **100**	20 - **100**	28 - 105	15 - 118
Bis-(2-chloroethoxy) methane	54 - 101	46 - 109	44 - 118	32 - 130
Benzoic Acid [3]	**10** - 131	**10** - 151	11 - **100**	**10** - **100**
2,4-Dichlorophenol	56 - 104	48 - 112	43 - 121	30 - 134
1,2,4-Trichlorobenzene	27 - **100**	18 - **100**	35 - **100**	25 - 107
Naphthalene	45 - **100**	38 - **100**	36 - 111	24 - 124
4-Chloroaniline [3]	**10** - 139	**10** - 161	10 - 174	**10** - 201
2-Chloronaphthalene	45 - **100**	37 - 105	39 - 118	26 - 131
Hexachlorobutadiene	**10** - **100**	**10** - **100**	24 - **100**	12 - 108
4-Chloro-3-methylphenol	53 - 109	44 - 118	45 - 122	32 - 135
2-Methylnaphthalene	46 - **100**	38 - 100	45 - 103	35 - 113
Hexachlorocyclopentadiene	**10** - **100**	**10** - **100**	23 - 108	**10** - 122
2,4,6-Trichlorophenol	58 - 108	50 - 116	48 - 122	36 - 134
2,4,5-Trichlorophenol	58 - 107	50 - 115	48 - 122	36 - 134
2-Nitroaniline	50 - 107	41 - 117	48 - 118	36 - 130
Dimethylphthalate	58 - 107	50 - 115	50 - 120	38 - 132
Acenaphthylene	57 - 100	50 - 107	50 - 119	39 - 131
2,6-Dinitrotoluene	58 - 112	49 - 121	48 - 133	34 - 147
3-Nitroaniline [3]	21 - 150	**10** - 172	54 - 140	40 - 154
Acenaphthene	51 - **100**	43 - 106	41 - 120	28 - 133
2,4-Dinitrophenol	12 - 169	**10** - 195	23 - 176	**10** - 202

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibenzofuran	57 - 100	50 - 107	51 - 114	41 - 125
4-Nitrophenol [3]	35 - 119	21 - 133	13 - **100**	**10** - **100**
2,4-Dinitrotoluene	58 - 117	48 - 127	51 - 134	37 - 148
Fluorene	56 - 104	48 - 112	50 - 120	38 - 132
Diethylphthlalate	52 - 111	42 - 121	48 - 122	36 - 134
4-Chlorophenyl-phenyl ether	55 - 104	47 - 112	50 - 118	39 - 129
4-Nitroaniline	49 - 112	39 - 123	42 - 136	26 - 152
4,6-Dinitro-2-Methylphenol	13 - 139	**10** - 160	32 - 121	17 - 136
N-Nitrosodiphenylamine	60 - 136	47 - 149	58 - 141	44 - 155
4-Bromophenyl-phenyl ether	55 - 103	47 - 111	50 - 122	38 - 134
Hexachlorobenzene	54 - 106	45 - 115	47 - 125	34 - 138
Pentachlorophenol	46 - 114	35 - 125	35 - 130	19 - 146
Phenanthrene	56 - 102	48 - 110	49 - 120	37 - 132
Anthracene	56 - 101	49 - 109	53 - 116	43 - 127
Carbazole	60 - 108	52 - 116	57 - 122	46 - 133
Di-n-butylphthalate	56 - 112	47 - 121	57 - 121	46 - 132
Fluoranthene	57 - 110	48 - 119	56 - 119	46 - 130
Pyrene	48 - 119	36 - 131	37 - 143	19 - 161
Butylbenzylphthalate	51 - 114	41 - 125	34 - 152	14 - 172
Benzo(a)Anthracene	55 - 105	47 - 113	49 - 129	36 - 142
3,3'-Dichlorbenzidine [3]	**10** - 128	**10** - 148	50 - 128	37 - 141
Chrysene	55 - 104	47 - 112	45 - 128	31 - 142
bis(2-Ethylhexyl) phthalate	28 - 164	**10** - 187	57 - 133	44 - 146
Di-n-octylphthalate	57 - 107	49 - 115	52 - 120	41 - 131
Benzo(b)Fluoranthene	53 - 112	43 - 122	50 - 126	37 - 139
Benzo(k)Fluoranthene	50 - 116	39 - 127	49 - 126	36 - 139
Benzo(a)Pyrene	45 - 103	35 - 113	46 - 109	36 - 120
Indeno(1,2,3-cd)Pyrene	35 - 118	21 - 132	34 - 136	17 - 153
Dibenz(a,h)anthracene	42 - 119	29 - 132	41 - 134	26 - 150
Benzo(g,h,i)Perylene	39 - 123	25 - 137	41 - 133	26 - 148
Aniline [3]	**10** - **100**	**10** - **100**	28 - 126	12 - 142
1,2-Diphenylhydrazine /Azobenzene	57 - 109	48 - 118	55 - 119	44 - 130
N-Nitrosodimethylamine	49 - **100**	41 - 104	31 - **100**	21 - 105
1-Methylnaphthalene	46 - **100**	37 - 107	43 - 115	31 - 127
1,4-Dioxane	40 - **100**	30 - 108	30 - 160 [4]	30 - 160 [4]
Pyridine	-	-	25 - **100**	15 - **100**
Tributyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibutyl Phenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butyl Diphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Triphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butylated Hydroxytoluene (BHT)	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
MB / LCS Surrogate Recovery				
d4-2-Chlorophenol	53 - 100	(5)	49 - 101	(5)
d4-1,2-Dichlorobenzene	38 - **100**	(5)	40 - **100**	(5)
2,4,6-Tribromophenol	52 - 123	(5)	51 - 122	(5)
2-Fluorophenol	46 - **100**	(5)	31 - **100**	(5)
d5-Phenol [3]	50 - 100	52 - 108	19 - **100**	12 - **100**
d5-Nitrobenzene	46 - 100	(5)	46 - 101	(5)
2-Fluorobiphenyl	49 - **100**	(5)	49 - 103	(5)
d14-p-Terphenyl	53 - 119	(5)	49 - 130	(5)
d8-1,4-Dioxane	45 - **100**	(5)	30 - 160 [4]	(5)
Sample Surrogate Recovery				
d4-2-Chlorophenol	44 - **100**	(5)	23 - 104	(5)
d4-1,2-Dichlorobenzene	32 - **100**	(5)	22 - **100**	(5)
2,4,6-Tribromophenol	48 - 118	(5)	22 - 125	(5)
2-Fluorophenol	38 - **100**	(5)	18 - **100**	(5)
d5-Phenol	41 - **100**	32 - 104	**10** - **100**	17 - **100**
d5-Nitrobenzene	39 - **100**	(5)	21 - 106	(5)
2-Fluorobiphenyl	42 - **100**	(5)	26 - 104	(5)
d14-p-Terphenyl	26 - 114	(5)	11 - 132	(5)
d8-1,4-Dioxane	32 - **100**	(5)	30 - 160 [4]	(5)

(1) Control Limits calculated using all data generated 1/1/07 through 12/1/07.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [6] as beyond the CL but still within the ME limits. ARI defines ME limits as between 3 and 4 standard deviations around the mean with upper limit ≥ 100%. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances in an analysis require corrective action.
(3) These are "**poor performers**" defined in the DoD QSM[7] as compounds that "produce low mean recoveries and high standard deviations, resulting in wide LCS control limits with particularly low lower control limits (sometimes-negative values). ARI does not control batch acceptance based on these compounds since there is a high level of uncertainty in their recovery."
(4) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(5) Marginal Exceedances not allowed for surrogate unless it is a "poor performer".
(6) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(7) Page 182 of: **Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 Final, March 2005** Prepared By Environmental Data Quality Workgroup, Department of Navy, Lead Service (Based On National Environmental Laboratory Accreditation Conference (NELAC) Chapter 5 (Quality Systems) NELAC Voted Version – 5 June 2003
(8) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(9) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons EPA Method SW-846-8270D [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Matrix	Water		Soil	
Sample Volume / Final Volume	**500 mL to 0.5 mL**		**7.5 g / 0.5 mL**	
LCS Spike Recovery [6]	**Control Limits**	**ME Limits [3]**	**Control Limits**	**ME Limits [3]**
Napthalene	30 - **100**	21 - **100**	37 - **100**	31 - **100**
2-Methylnapthalene	33 - 108	21 - 121	43 - 101	33 - 111
1-Methylnapthalene	34 - **100**	26 - **100**	39 - **100**	32 - **100**
Acenaphthylene	45 - **100**	38 - **100**	44 - **100**	37 - **100**
Acenapthene	40 - **100**	32 - **100**	41 - **100**	35 - **100**
Dibenzofuran	45 - **100**	37 - **100**	44 - **100**	37 - **100**
Fluorene	45 - **100**	37 - 105	49 - **100**	43 - **100**
Phenanthrene	47 - 101	38 - 110	48 - **100**	42 - **100**
Anthracene	47 - **100**	38 - 108	50 - **100**	44 - **100**
Fluoranthene	48 - 110	38 - 120	54 - **100**	47 - 107
Pyrene	48 - 109	38 - 119	41 - 105	30 - 116
Benz(a)anthracene	44 - 105	34 - 115	49 - **100**	42 - 102
Chyrsene	50 - 103	41 - 112	50 - **100**	43 - 101
Benzo(b)fluoranthene	43 - 115	31 - 127	53 - **100**	45 - 107
Benzo(k)fluoranthene	51 - 110	41 - 120	54 - **100**	47 - 104
Benzo(a)pyrene	44 - 107	34 - 118	50 - **100**	42 - 105
Indeno(1,2,3-cd)pyrene	30 - 106	17 - 119	33 - 101	22 - 112
Dibenzo(a,h)anthracene	42 - 103	32 - 113	37 - 104	26 - 115
Benzo(g,h,i)Perylene	42 - 102	32 - 112	33 - 107	21 - 119
MB / LCS Surrogate Recovery		-		
d14-p-Terphenyl	52 - 110	(5)	47 - 112	(5)
2-Fluorobiphenyl	36 - **100**	(5)	40 - **100**	(5)
Sample Surrogate Recovery				
d14-p-Terphenyl	23 - 120	(5)	35 - 112	(5)
2-Fluorobiphenyl	38 - **100**	(5)	34 - **100**	(5)

(1) Control limits calculated using all available spike recovery data from 7/1/07 through 2/27/09.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) **ME** = A marginal exceedance defined in the NELAC Standard (4) as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) Marginal Exceedances are not allowed for surrogate standards.
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified Low Level Aqueous Samples[1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Volume / Final Volume	500 mL to 0.5 mL	
	Control Limits	ME Limits [2]
LCS Spike Recovery [6]		
Napthalene	41 - 101	31 - 111
2-Methylnapthalene	47 - **100**	39 - 103
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	35 - **100**	25 - 104
Acenapthene	43 - 104	33 - 114
Dibenzofuran	37 - **100**	27 - 108
Fluorene	51 - 103	42 - 112
Phenanthrene	55 - 109	46 - 118
Anthracene	30 - 101	18 - 113
Fluoranthene	49 - 123	37 - 135
Pyrene	48 - 120	36 - 132
Benz(a)anthracene	43 - 113	31 - 125
Chrysene	59 - 112	50 - 121
Benzo(b)fluoranthene	44 - 121	31 - 134
Benzo(k)fluoranthene	50 - 117	39 - 128
Benzo(a)pyrene	**10** - **100**	**10** - 109
Indeno(1,2,3-cd)pyrene	43 - 112	32 - 124
Dibenzo(a,h)anthracene	42 - 114	30 - 126
Benzo(g,h,i)perylene	31 - 118	17 - 133
MB / LCS Surrogate Recovery		
d10-2-Methylnaphthalene	42 - **100**	(4)
d14-Dibenzo(a,h)anthracene	40 - 125	(4)
Sample Surrogate Recovery		
d10-2-Methylnaphthalene	31 - 109	(4)
d14-Dibenzo(a,h)anthracene	**10** - 133	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/1/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6)Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits Analysis of PCB / Aroclors in Aqueous Samples - EPA SW-846 Methods 8081 & 8082 [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Analytical Method:	Standard Analysis	MTCA Analysis	Low Level Analysis	Manchester Extraction
Sample Weight / Final Volume:	500 / 5 mL	500 / 1 mL	1000 / 0.5 mL	3000 / 1 mL
LCS Spike Recovery [4]				
Aroclor 1016	45 - 121	36 - **100**	44 - 117	30 - 160[3]
Aroclor 1260	54 - 129	41 - 113	46 - 131	30 - 160[3]
Method Blank/LCS Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	40 - 118	29 - **100**	31 - **100**	30 - 160[3]
Decachlorobiphenyl	41 - 111	35 - 116	32 - 108	30 - 160[3]
Sample Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	38 - 118	25 - **100**	21 - **100**	30 - 160[3]
Decachlorobiphenyl	29 - 118	**10** - 128	19 - 111	30 - 160[3]

(1) Control Limits calculated using all data generated 1/1/08 through 12/1/08.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

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Summary of Laboratory Control Limits

Default limits of 30-160% recovery and 30% RPD apply for all organic analytes when laboratory generated control limits are not available on ARI's web site. Default limits for all inorganic analytes are 75-125% recovery and 25% RPD.

ARI's laboratory generated Quality Control Limits may be superseded by project specific data quality objectives (DQO) provided by ARI's clients. The use of project specific DQO must be approved by ARI's Laboratory and QA Program Managers.

Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

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Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

Data Summary Package

prepared
for

Science App. International Corp

Project: NBF

ARI JOB NO: QZ07, QZ08, QZ31

prepared
by

Analytical Resources, Inc.

VOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-MH108-060210-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QZ07A
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/08/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 06/07/10 15:26

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**3.1**	
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**20**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-MH108-060210-W**
 SAMPLE

Lab Sample ID: QZ07A
LIMS ID: 10-13128
Matrix: Water
Date Analyzed: 06/07/10 15:26

QC Report No: QZ07-Science App. International Corp
Project: NBF

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	109%
d8-Toluene	99.1%
Bromofluorobenzene	93.7%
d4-1,2-Dichlorobenzene	106%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-LS431-060210-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: QZ07B
LIMS ID: 10-13129
Matrix: Water
Data Release Authorized:
Reported: 06/08/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 06/07/10 15:52

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**1.9**	
67-64-1	**Acetone**	**5.0**	**7.6**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**19**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

Lab Sample ID: QZ07B
LIMS ID: 10-13129
Matrix: Water
Date Analyzed: 06/07/10 15:52

QC Report No: QZ07-Science App. International Corp
Project: NBF

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	107%
d8-Toluene	98.0%
Bromofluorobenzene	93.3%
d4-1,2-Dichlorobenzene	106%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QZ07-Science App. International Corp
Project: NBF

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-060710	Method Blank	10	105%	101%	93.9%	103%	0
LCS-060710	Lab Control	10	98.2%	101%	100%	98.3%	0
LCSD-060710	Lab Control Dup	10	97.0%	101%	99.5%	96.4%	0
QZ07A	NBF-MH108-060210-W	10	109%	99.1%	93.7%	106%	0
QZ07B	NBF-LS431-060210-W	10	107%	98.0%	93.3%	106%	0

	LCS/MB LIMITS	QC LIMITS
SW8260C		
(DCE) = d4-1,2-Dichloroethane	70-132	80-143
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 10-13128 to 10-13129

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-060710**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-060710 QC Report No: QZ07-Science App. International Corp
LIMS ID: 10-13128 Project: NBF
Matrix: Water
Data Release Authorized:
Reported: 06/08/10 Date Received: NA

Date Sampled: NA

Instrument/Analyst LCS: NT5/PKC Sample Amount LCS: 10.0 mL
LCSD: NT5/PKC LCSD: 10.0 mL
Date Analyzed LCS: 06/07/10 11:53 Purge Volume LCS: 10.0 mL
LCSD: 06/07/10 12:19 LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	9.9	10.0	99.0%	9.9	10.0	99.0%	0.0%
Bromomethane	8.7	10.0	87.0%	8.7	10.0	87.0%	0.0%
Vinyl Chloride	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
Chloroethane	10.2	10.0	102%	9.9	10.0	99.0%	3.0%
Methylene Chloride	9.6	10.0	96.0%	9.8	10.0	98.0%	2.1%
Acetone	44.2	50.0	88.4%	41.9	50.0	83.8%	5.3%
Carbon Disulfide	10.1	10.0	101%	10.0	10.0	100%	1.0%
1,1-Dichloroethene	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
1,1-Dichloroethane	10.0	10.0	100%	10.0	10.0	100%	0.0%
trans-1,2-Dichloroethene	9.7	10.0	97.0%	9.5	10.0	95.0%	2.1%
cis-1,2-Dichloroethene	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
Chloroform	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
1,2-Dichloroethane	9.6	10.0	96.0%	10.2	10.0	102%	6.1%
2-Butanone	46.1	50.0	92.2%	46.8	50.0	93.6%	1.5%
1,1,1-Trichloroethane	10.0	10.0	100%	10.0	10.0	100%	0.0%
Carbon Tetrachloride	9.9	10.0	99.0%	10.1	10.0	101%	2.0%
Vinyl Acetate	9.6	10.0	96.0%	9.7	10.0	97.0%	1.0%
Bromodichloromethane	9.6	10.0	96.0%	9.8	10.0	98.0%	2.1%
1,2-Dichloropropane	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
cis-1,3-Dichloropropene	10.3	10.0	103%	10.3	10.0	103%	0.0%
Trichloroethene	9.7	10.0	97.0%	9.9	10.0	99.0%	2.0%
Dibromochloromethane	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
1,1,2-Trichloroethane	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
Benzene	10.2	10.0	102%	10.7	10.0	107%	4.8%
trans-1,3-Dichloropropene	10.3	10.0	103%	10.3	10.0	103%	0.0%
2-Chloroethylvinylether	9.6	10.0	96.0%	9.7	10.0	97.0%	1.0%
Bromoform	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
4-Methyl-2-Pentanone (MIBK)	48.8	50.0	97.6%	48.8	50.0	97.6%	0.0%
2-Hexanone	47.7	50.0	95.4%	48.4	50.0	96.8%	1.5%
Tetrachloroethene	10.1	10.0	101%	10.0	10.0	100%	1.0%
1,1,2,2-Tetrachloroethane	9.1	10.0	91.0%	9.3	10.0	93.0%	2.2%
Toluene	10.1	10.0	101%	10.3	10.0	103%	2.0%
Chlorobenzene	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
Ethylbenzene	10.5	10.0	105%	10.5	10.0	105%	0.0%
Styrene	11.2	10.0	112%	11.2	10.0	112%	0.0%
Trichlorofluoromethane	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.3	10.0	103%	9.9	10.0	99.0%	4.0%
m,p-Xylene	21.4	20.0	107%	21.2	20.0	106%	0.9%
o-Xylene	10.5	10.0	105%	10.5	10.0	105%	0.0%
1,2-Dichlorobenzene	9.7	10.0	97.0%	9.6	10.0	96.0%	1.0%
1,3-Dichlorobenzene	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
1,4-Dichlorobenzene	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
Acrolein	45.9	50.0	91.8%	46.8	50.0	93.6%	1.9%
Methyl Iodide	10.3	10.0	103%	10.8	10.0	108%	4.7%
Bromoethane	10.2	10.0	102%	10.2	10.0	102%	0.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-060710**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-060710 QC Report No: QZ07-Science App. International Corp
LIMS ID: 10-13128 Project: NBF
Matrix: Water

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Acrylonitrile	9.7	10.0	97.0%	9.8	10.0	98.0%	1.0%
1,1-Dichloropropene	10.1	10.0	101%	10.3	10.0	103%	2.0%
Dibromomethane	9.4	10.0	94.0%	9.7	10.0	97.0%	3.1%
1,1,1,2-Tetrachloroethane	10.0	10.0	100%	10.0	10.0	100%	0.0%
1,2-Dibromo-3-chloropropane	9.0	10.0	90.0%	9.1	10.0	91.0%	1.1%
1,2,3-Trichloropropane	9.6	10.0	96.0%	9.7	10.0	97.0%	1.0%
trans-1,4-Dichloro-2-butene	9.3	10.0	93.0%	10.0	10.0	100%	7.3%
1,3,5-Trimethylbenzene	10.9	10.0	109%	11.0	10.0	110%	0.9%
1,2,4-Trimethylbenzene	10.9	10.0	109%	11.0	10.0	110%	0.9%
Hexachlorobutadiene	9.4	10.0	94.0%	9.2	10.0	92.0%	2.2%
Ethylene Dibromide	9.6	10.0	96.0%	9.9	10.0	99.0%	3.1%
Bromochloromethane	9.6	10.0	96.0%	9.4	10.0	94.0%	2.1%
2,2-Dichloropropane	10.1	10.0	101%	10.0	10.0	100%	1.0%
1,3-Dichloropropane	10.0	10.0	100%	10.1	10.0	101%	1.0%
Isopropylbenzene	10.8	10.0	108%	10.9	10.0	109%	0.9%
n-Propylbenzene	10.9	10.0	109%	10.9	10.0	109%	0.0%
Bromobenzene	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
2-Chlorotoluene	10.4	10.0	104%	10.5	10.0	105%	1.0%
4-Chlorotoluene	10.8	10.0	108%	10.8	10.0	108%	0.0%
tert-Butylbenzene	10.6	10.0	106%	10.8	10.0	108%	1.9%
sec-Butylbenzene	11.1	10.0	111%	11.1	10.0	111%	0.0%
4-Isopropyltoluene	11.0	10.0	110%	11.0	10.0	110%	0.0%
n-Butylbenzene	10.8	10.0	108%	10.9	10.0	109%	0.9%
1,2,4-Trichlorobenzene	9.3	10.0	93.0%	9.6	10.0	96.0%	3.2%
Naphthalene	9.3	10.0	93.0%	9.3	10.0	93.0%	0.0%
1,2,3-Trichlorobenzene	9.4	10.0	94.0%	9.4	10.0	94.0%	0.0%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	98.2%	97.0%
d8-Toluene	101%	101%
Bromofluorobenzene	100%	99.5%
d4-1,2-Dichlorobenzene	98.3%	96.4%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0607

Lab Name: ANALYTICAL RESOURCES, INC
Client: SCIENCE APP. INTERNATION

ARI Job No: QZ07
Project: NBF

Lab File ID: 06071007
Lab Sample ID: MB0607

Date Analyzed: 06/07/10
Time Analyzed: 1245

Instrument ID: NT5
Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	ICV0607	ICV0607	06071003	1048
02	LCS0607	LCS0607	06071005	1153
03	LCSD0607	LCSD0607	06071006	1219
04	NBF-MH108-06	QZ07A	06071013	1526
05	NBF-LS431-06	QZ07B	06071014	1552
06				
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-060710**
Page 1 of 2 **METHOD BLANK**

Lab Sample ID: MB-060710
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/08/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/PKC
Date Analyzed: 06/07/10 12:45

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	0.5	< 0.5	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.5	< 0.5	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U

Lab Sample ID: MB-060710 QC Report No: QZ07-Science App. International Corp
LIMS ID: 10-13128 Project: NBF
Matrix: Water
Date Analyzed: 06/07/10 12:45

CAS Number	Analyte	RL	Result	Q
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	101%
Bromofluorobenzene	93.9%
d4-1,2-Dichlorobenzene	103%

SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH108-060210-W
SAMPLE

Lab Sample ID: QZ07A
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/10/10

QC Report No: QZ07-Science App. International Corp
Project: NBF
NA
Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/08/10
Date Analyzed: 06/09/10 20:40
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**1.0**	**1.1**
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	76.8%	2-Fluorobiphenyl	68.0%
d14-p-Terphenyl	86.8%	d4-1,2-Dichlorobenzene	63.2%
d5-Phenol	77.3%	2-Fluorophenol	67.7%
2,4,6-Tribromophenol	89.3%	d4-2-Chlorophenol	73.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-LS431-060210-W
SAMPLE

Lab Sample ID: QZ07B
LIMS ID: 10-13129
Matrix: Water
Data Release Authorized:
Reported: 06/10/10

QC Report No: QZ07-Science App. International Corp
Project: NBF
NA
Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/08/10
Date Analyzed: 06/09/10 21:14
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	**Di-n-Octyl phthalate**	**1.0**	**1.1**
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	73.6%	2-Fluorobiphenyl	73.6%
d14-p-Terphenyl	94.0%	d4-1,2-Dichlorobenzene	58.8%
d5-Phenol	75.5%	2-Fluorophenol	64.5%
2,4,6-Tribromophenol	85.6%	d4-2-Chlorophenol	70.4%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QZ07-Science App. International Corp
Project: NBF

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MB-060810	84.0%	78.4%	98.8%	68.0%	82.4%	86.9%	80.3%	83.7%	0
LCS-060810	82.8%	86.8%	106%	71.2%	93.6%	89.1%	93.6%	86.4%	0
LCSD-060810	96.4%	87.6%	95.6%	78.0%	96.5%	94.7%	103%	90.7%	0
NBF-MH108-060210-W	76.8%	68.0%	86.8%	63.2%	77.3%	67.7%	89.3%	73.6%	0
NBF-LS431-060210-W	73.6%	73.6%	94.0%	58.8%	75.5%	64.5%	85.6%	70.4%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 10-13128 to 10-13129

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-060810
LCS/LCSD

Lab Sample ID: LCS-060810
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/10/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted LCS/LCSD: 06/08/10

Date Analyzed LCS: 06/09/10 19:34
LCSD: 06/09/10 20:07
Instrument/Analyst LCS: NT4/JZ
LCSD: NT4/JZ
GPC Cleanup: NO

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	19.7	25.0	78.8%	21.7	25.0	86.8%	9.7%
1,4-Dichlorobenzene	12.9	25.0	51.6%	14.3	25.0	57.2%	10.3%
Benzyl Alcohol	50.9	50.0	102%	59.4	50.0	119%	15.4%
1,2-Dichlorobenzene	13.6	25.0	54.4%	15.7	25.0	62.8%	14.3%
2-Methylphenol	18.7	25.0	74.8%	22.8	25.0	91.2%	19.8%
4-Methylphenol	38.3	50.0	76.6%	46.1	50.0	92.2%	18.5%
2,4-Dimethylphenol	16.8	25.0	67.2%	17.9	25.0	71.6%	6.3%
Benzoic Acid	52.1	75.0	69.5%	55.1	75.0	73.5%	5.6%
1,2,4-Trichlorobenzene	14.6	25.0	58.4%	15.6	25.0	62.4%	6.6%
Naphthalene	19.4	25.0	77.6%	20.5	25.0	82.0%	5.5%
Hexachlorobutadiene	10.1	25.0	40.4%	10.5	25.0	42.0%	3.9%
2-Methylnaphthalene	19.1	25.0	76.4%	19.6	25.0	78.4%	2.6%
Dimethylphthalate	21.4	25.0	85.6%	22.1	25.0	88.4%	3.2%
Acenaphthylene	20.3	25.0	81.2%	21.0	25.0	84.0%	3.4%
Acenaphthene	18.8	25.0	75.2%	19.3	25.0	77.2%	2.6%
Dibenzofuran	21.3	25.0	85.2%	22.1	25.0	88.4%	3.7%
Diethylphthalate	21.2	25.0	84.8%	23.5	25.0	94.0%	10.3%
Fluorene	19.9	25.0	79.6%	21.5	25.0	86.0%	7.7%
N-Nitrosodiphenylamine	19.3	25.0	77.2%	21.2	25.0	84.8%	9.4%
Hexachlorobenzene	19.3	25.0	77.2%	21.1	25.0	84.4%	8.9%
Pentachlorophenol	14.7	25.0	58.8%	14.0	25.0	56.0%	4.9%
Phenanthrene	21.9	25.0	87.6%	22.7	25.0	90.8%	3.6%
Anthracene	21.4	25.0	85.6%	21.9	25.0	87.6%	2.3%
Di-n-Butylphthalate	23.3	25.0	93.2%	22.6	25.0	90.4%	3.1%
Fluoranthene	22.7	25.0	90.8%	22.5	25.0	90.0%	0.9%
Pyrene	25.0	25.0	100%	23.1	25.0	92.4%	7.9%
Butylbenzylphthalate	24.1	25.0	96.4%	22.6	25.0	90.4%	6.4%
Benzo(a)anthracene	22.8	25.0	91.2%	23.6	25.0	94.4%	3.4%
bis(2-Ethylhexyl)phthalate	22.7	25.0	90.8%	23.5	25.0	94.0%	3.5%
Chrysene	22.0	25.0	88.0%	22.6	25.0	90.4%	2.7%
Di-n-Octyl phthalate	21.8	25.0	87.2%	22.4	25.0	89.6%	2.7%
Benzo(b)fluoranthene	18.3	25.0	73.2%	18.9	25.0	75.6%	3.2%
Benzo(k)fluoranthene	25.8	25.0	103%	28.0	25.0	112%	8.2%
Benzo(a)pyrene	19.3	25.0	77.2%	20.5	25.0	82.0%	6.0%
Indeno(1,2,3-cd)pyrene	23.3	25.0	93.2%	23.7	25.0	94.8%	1.7%
Dibenz(a,h)anthracene	23.0	25.0	92.0%	23.2	25.0	92.8%	0.9%
Benzo(g,h,i)perylene	22.6	25.0	90.4%	23.0	25.0	92.0%	1.8%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	82.8%	96.4%
2-Fluorobiphenyl	86.8%	87.6%
d14-p-Terphenyl	106%	95.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-060810
LCS/LCSD

Lab Sample ID: LCS-060810
LIMS ID: 10-13128
Matrix: Water
Date Analyzed LCS: 06/09/10 19:34
LCSD: 06/09/10 20:07

QC Report No: QZ07-Science App. International Corp
Project: NBF

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d4-1,2-Dichlorobenzene			71.2%	78.0%			
d5-Phenol			93.6%	96.5%			
2-Fluorophenol			89.1%	94.7%			
2,4,6-Tribromophenol			93.6%	103%			
d4-2-Chlorophenol			86.4%	90.7%			

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QZ07MBW1

Lab Name: ANALYTICAL RESOURCES, INC

Client: SAIC

ARI Job No: QZ07

Project: NBF

Lab File ID: 06091012

Date Extracted: 06/08/10

Instrument ID: NT4

Date Analyzed: 06/09/10

Matrix: LIQUID

Time Analyzed: 1900

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QZ07LCSW1	QZ07LCSW1	06091013	06/09/10
02	QZ07LCSDW1	QZ07LCSDW1	06091014	06/09/10
03	NBF-MH108-060210	QZ07A	06091015	06/09/10
04	NBF-LS431-060210	QZ07B	06091016	06/09/10
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MB-060810
METHOD BLANK

Lab Sample ID: MB-060810
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/10/10

QC Report No: QZ07-Science App. International Corp
Project: NBF
NA
Date Sampled: NA
Date Received: NA

Date Extracted: 06/08/10
Date Analyzed: 06/09/10 19:00
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	84.0%	2-Fluorobiphenyl	78.4%
d14-p-Terphenyl	98.8%	d4-1,2-Dichlorobenzene	68.0%
d5-Phenol	82.4%	2-Fluorophenol	86.9%
2,4,6-Tribromophenol	80.3%	d4-2-Chlorophenol	83.7%

SEMIVOLATILE PAH ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH434B-060210-S
SAMPLE

Lab Sample ID: QZ31AA
LIMS ID: 10-13326
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/15/10 22:17
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**2.5**	**3.3**
91-57-6	**2-Methylnaphthalene**	**2.5**	**4.5**
90-12-0	1-Methylnaphthalene	2.5	< 2.5 U
208-96-8	Acenaphthylene	2.5	< 2.5 U
83-32-9	Acenaphthene	2.5	< 2.5 U
86-73-7	Fluorene	2.5	< 2.5 U
85-01-8	**Phenanthrene**	**2.5**	**41**
120-12-7	Anthracene	2.5	< 2.5 U
206-44-0	**Fluoranthene**	**2.5**	**82**
129-00-0	**Pyrene**	**2.5**	**59**
56-55-3	**Benzo(a)anthracene**	**2.5**	**15**
218-01-9	**Chrysene**	**2.5**	**45**
205-99-2	**Benzo(b)fluoranthene**	**2.5**	**38**
207-08-9	**Benzo(k)fluoranthene**	**2.5**	**38**
50-32-8	**Benzo(a)pyrene**	**2.5**	**29**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**2.5**	**26**
53-70-3	**Dibenz(a,h)anthracene**	**2.5**	**9.6**
191-24-2	**Benzo(g,h,i)perylene**	**2.5**	**32**
132-64-9	**Dibenzofuran**	**2.5**	**3.0**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	72.8%
2-Fluorobiphenyl	71.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: NBF-MH434B-060210-S
DILUTION

Lab Sample ID: QZ31AA
LIMS ID: 10-13326
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 18:46
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 2.5 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	7.5	< 7.5 U
91-57-6	2-Methylnaphthalene	7.5	< 7.5 U
90-12-0	1-Methylnaphthalene	7.5	< 7.5 U
208-96-8	Acenaphthylene	7.5	< 7.5 U
83-32-9	Acenaphthene	7.5	< 7.5 U
86-73-7	Fluorene	7.5	< 7.5 U
85-01-8	**Phenanthrene**	**7.5**	**43**
120-12-7	Anthracene	7.5	< 7.5 U
206-44-0	**Fluoranthene**	**7.5**	**92**
129-00-0	**Pyrene**	**7.5**	**59**
56-55-3	**Benzo(a)anthracene**	**7.5**	**17**
218-01-9	**Chrysene**	**7.5**	**52**
205-99-2	**Benzo(b)fluoranthene**	**7.5**	**41**
207-08-9	**Benzo(k)fluoranthene**	**7.5**	**41**
50-32-8	**Benzo(a)pyrene**	**7.5**	**31**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**7.5**	**27**
53-70-3	**Dibenz(a,h)anthracene**	**7.5**	**9.2**
191-24-2	**Benzo(g,h,i)perylene**	**7.5**	**36**
132-64-9	Dibenzofuran	7.5	< 7.5 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	67.1%
2-Fluorobiphenyl	76.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH356B-060210-S
SAMPLE

Lab Sample ID: QZ31AB
LIMS ID: 10-13327
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 15:31
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**3.0**	**5.0**
91-57-6	**2-Methylnaphthalene**	**3.0**	**3.1**
90-12-0	1-Methylnaphthalene	3.0	< 3.0 U
208-96-8	Acenaphthylene	3.0	< 3.0 U
83-32-9	**Acenaphthene**	**3.0**	**6.5**
86-73-7	**Fluorene**	**3.0**	**5.4**
85-01-8	**Phenanthrene**	**3.0**	**110**
120-12-7	**Anthracene**	**3.0**	**5.6**
206-44-0	**Fluoranthene**	**3.0**	**270 E**
129-00-0	**Pyrene**	**3.0**	**150**
56-55-3	**Benzo(a)anthracene**	**3.0**	**43**
218-01-9	**Chrysene**	**3.0**	**220**
205-99-2	**Benzo(b)fluoranthene**	**3.0**	**150**
207-08-9	**Benzo(k)fluoranthene**	**3.0**	**150**
50-32-8	**Benzo(a)pyrene**	**3.0**	**77**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**3.0**	**97**
53-70-3	**Dibenz(a,h)anthracene**	**3.0**	**30**
191-24-2	**Benzo(g,h,i)perylene**	**3.0**	**100**
132-64-9	**Dibenzofuran**	**3.0**	**8.3**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	103%
2-Fluorobiphenyl	97.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH356B-060210-S
DILUTION

Lab Sample ID: QZ31AB
LIMS ID: 10-13327
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/22/10 13:41
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 15.0
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	15	< 15 U
91-57-6	2-Methylnaphthalene	15	< 15 U
90-12-0	1-Methylnaphthalene	15	< 15 U
208-96-8	Acenaphthylene	15	< 15 U
83-32-9	Acenaphthene	15	< 15 U
86-73-7	Fluorene	15	< 15 U
85-01-8	**Phenanthrene**	**15**	**130**
120-12-7	Anthracene	15	< 15 U
206-44-0	**Fluoranthene**	**15**	**390**
129-00-0	**Pyrene**	**15**	**220**
56-55-3	**Benzo(a)anthracene**	**15**	**47**
218-01-9	**Chrysene**	**15**	**340**
205-99-2	**Benzo(b)fluoranthene**	**15**	**220**
207-08-9	**Benzo(k)fluoranthene**	**15**	**220**
50-32-8	**Benzo(a)pyrene**	**15**	**87**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**15**	**110**
53-70-3	**Dibenz(a,h)anthracene**	**15**	**28**
191-24-2	**Benzo(g,h,i)perylene**	**15**	**120**
132-64-9	Dibenzofuran	15	< 15 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	106%
2-Fluorobiphenyl	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-LS431B-060210-S
SAMPLE

Lab Sample ID: QZ31AC
LIMS ID: 10-13328
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/16/10 15:08
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**1.0**	**1.1**
91-57-6	**2-Methylnaphthalene**	**1.0**	**1.1**
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
86-73-7	**Fluorene**	**1.0**	**1.6**
85-01-8	**Phenanthrene**	**1.0**	**15**
120-12-7	**Anthracene**	**1.0**	**1.1**
206-44-0	**Fluoranthene**	**1.0**	**38**
129-00-0	**Pyrene**	**1.0**	**22**
56-55-3	**Benzo(a)anthracene**	**1.0**	**7.1**
218-01-9	**Chrysene**	**1.0**	**28**
205-99-2	**Benzo(b)fluoranthene**	**1.0**	**20**
207-08-9	**Benzo(k)fluoranthene**	**1.0**	**20**
50-32-8	**Benzo(a)pyrene**	**1.0**	**12**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**1.0**	**13**
53-70-3	**Dibenz(a,h)anthracene**	**1.0**	**4.2**
191-24-2	**Benzo(g,h,i)perylene**	**1.0**	**14**
132-64-9	**Dibenzofuran**	**1.0**	**2.0**

Reported in Total µg

Semivolatile Surrogate Recovery

d14-p-Terphenyl	68.2%
2-Fluorobiphenyl	64.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: NBF-LS431B-060210-S
DILUTION

Lab Sample ID: QZ31AC
LIMS ID: 10-13328
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 19:18
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	3.0	< 3.0 U
91-57-6	2-Methylnaphthalene	3.0	< 3.0 U
90-12-0	1-Methylnaphthalene	3.0	< 3.0 U
208-96-8	Acenaphthylene	3.0	< 3.0 U
83-32-9	Acenaphthene	3.0	< 3.0 U
86-73-7	Fluorene	3.0	< 3.0 U
85-01-8	**Phenanthrene**	**3.0**	**14**
120-12-7	Anthracene	3.0	< 3.0 U
206-44-0	**Fluoranthene**	**3.0**	**38**
129-00-0	**Pyrene**	**3.0**	**22**
56-55-3	**Benzo(a)anthracene**	**3.0**	**6.6**
218-01-9	**Chrysene**	**3.0**	**30**
205-99-2	**Benzo(b)fluoranthene**	**3.0**	**20**
207-08-9	**Benzo(k)fluoranthene**	**3.0**	**20**
50-32-8	**Benzo(a)pyrene**	**3.0**	**11**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**3.0**	**12**
53-70-3	**Dibenz(a,h)anthracene**	**3.0**	**3.8**
191-24-2	**Benzo(g,h,i)perylene**	**3.0**	**13**
132-64-9	Dibenzofuran	3.0	< 3.0 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	66.7%
2-Fluorobiphenyl	63.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: NBF-MH423B-060210-S
SAMPLE

Lab Sample ID: QZ31AD
LIMS ID: 10-13329
Matrix: Filter Bag
Data Release Authorized: 
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 19:51
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	3.0	< 3.0 U
91-57-6	2-Methylnaphthalene	3.0	< 3.0 U
90-12-0	1-Methylnaphthalene	3.0	< 3.0 U
208-96-8	Acenaphthylene	3.0	< 3.0 U
83-32-9	Acenaphthene	3.0	< 3.0 U
86-73-7	Fluorene	3.0	< 3.0 U
85-01-8	**Phenanthrene**	**3.0**	**3.9**
120-12-7	Anthracene	3.0	< 3.0 U
206-44-0	**Fluoranthene**	**3.0**	**5.3**
129-00-0	**Pyrene**	**3.0**	**4.6**
56-55-3	Benzo(a)anthracene	3.0	< 3.0 U
218-01-9	**Chrysene**	**3.0**	**3.7**
205-99-2	Benzo(b)fluoranthene	3.0	< 3.0 U
207-08-9	Benzo(k)fluoranthene	3.0	< 3.0 U
50-32-8	Benzo(a)pyrene	3.0	< 3.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	3.0	< 3.0 U
53-70-3	Dibenz(a,h)anthracene	3.0	< 3.0 U
191-24-2	**Benzo(g,h,i)perylene**	**3.0**	**3.5**
132-64-9	Dibenzofuran	3.0	< 3.0 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	53.3%
2-Fluorobiphenyl	61.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
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Sample ID: NBF-MH369B-060210-S
SAMPLE

Lab Sample ID: QZ31AE
LIMS ID: 10-13330
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/16/10 16:12
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**1.0**	**1.2**
91-57-6	**2-Methylnaphthalene**	**1.0**	**1.1**
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
86-73-7	**Fluorene**	**1.0**	**1.0**
85-01-8	**Phenanthrene**	**1.0**	**6.7**
120-12-7	Anthracene	1.0	< 1.0 U
206-44-0	**Fluoranthene**	**1.0**	**11**
129-00-0	**Pyrene**	**1.0**	**9.4**
56-55-3	**Benzo(a)anthracene**	**1.0**	**3.1**
218-01-9	**Chrysene**	**1.0**	**9.0**
205-99-2	**Benzo(b)fluoranthene**	**1.0**	**3.7**
207-08-9	**Benzo(k)fluoranthene**	**1.0**	**3.7**
50-32-8	**Benzo(a)pyrene**	**1.0**	**3.6**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**1.0**	**2.2**
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	**Benzo(g,h,i)perylene**	**1.0**	**3.1**
132-64-9	**Dibenzofuran**	**1.0**	**1.1**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	54.2%
2-Fluorobiphenyl	58.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: NBF-MH369B-060210-S
DILUTION

Lab Sample ID: QZ31AE
LIMS ID: 10-13330
Matrix: Filter Bag
Data Release Authorized: 
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 20:24
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	3.0	< 3.0 U
91-57-6	2-Methylnaphthalene	3.0	< 3.0 U
90-12-0	1-Methylnaphthalene	3.0	< 3.0 U
208-96-8	Acenaphthylene	3.0	< 3.0 U
83-32-9	Acenaphthene	3.0	< 3.0 U
86-73-7	Fluorene	3.0	< 3.0 U
85-01-8	**Phenanthrene**	**3.0**	**7.2**
120-12-7	Anthracene	3.0	< 3.0 U
206-44-0	**Fluoranthene**	**3.0**	**12**
129-00-0	**Pyrene**	**3.0**	**10**
56-55-3	**Benzo(a)anthracene**	**3.0**	**3.3**
218-01-9	**Chrysene**	**3.0**	**10**
205-99-2	**Benzo(b)fluoranthene**	**3.0**	**3.9**
207-08-9	**Benzo(k)fluoranthene**	**3.0**	**3.9**
50-32-8	**Benzo(a)pyrene**	**3.0**	**3.8**
193-39-5	Indeno(1,2,3-cd)pyrene	3.0	< 3.0 U
53-70-3	Dibenz(a,h)anthracene	3.0	< 3.0 U
191-24-2	**Benzo(g,h,i)perylene**	**3.0**	**3.2**
132-64-9	Dibenzofuran	3.0	< 3.0 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	61.4%
2-Fluorobiphenyl	64.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
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Sample ID: NBF-MH108B-060210-S
SAMPLE

Lab Sample ID: QZ31AF
LIMS ID: 10-13331
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 22:34
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**3.0**	**3.1**
91-57-6	2-Methylnaphthalene	3.0	< 3.0 U
90-12-0	1-Methylnaphthalene	3.0	< 3.0 U
208-96-8	Acenaphthylene	3.0	< 3.0 U
83-32-9	Acenaphthene	3.0	< 3.0 U
86-73-7	Fluorene	3.0	< 3.0 U
85-01-8	**Phenanthrene**	**3.0**	**38**
120-12-7	Anthracene	3.0	< 3.0 U
206-44-0	**Fluoranthene**	**3.0**	**86**
129-00-0	**Pyrene**	**3.0**	**50**
56-55-3	**Benzo(a)anthracene**	**3.0**	**12**
218-01-9	**Chrysene**	**3.0**	**50**
205-99-2	**Benzo(b)fluoranthene**	**3.0**	**34**
207-08-9	**Benzo(k)fluoranthene**	**3.0**	**34**
50-32-8	**Benzo(a)pyrene**	**3.0**	**20**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**3.0**	**21**
53-70-3	**Dibenz(a,h)anthracene**	**3.0**	**5.8**
191-24-2	**Benzo(g,h,i)perylene**	**3.0**	**24**
132-64-9	Dibenzofuran	3.0	< 3.0 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	81.1%
2-Fluorobiphenyl	76.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH226B-060210-S
SAMPLE

Lab Sample ID: QZ31AG
LIMS ID: 10-13332
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 23:06
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	3.0	< 3.0 U
91-57-6	2-Methylnaphthalene	3.0	< 3.0 U
90-12-0	1-Methylnaphthalene	3.0	< 3.0 U
208-96-8	Acenaphthylene	3.0	< 3.0 U
83-32-9	Acenaphthene	3.0	< 3.0 U
86-73-7	Fluorene	3.0	< 3.0 U
85-01-8	**Phenanthrene**	**3.0**	**64**
120-12-7	**Anthracene**	**3.0**	**3.2**
206-44-0	**Fluoranthene**	**3.0**	**150**
129-00-0	**Pyrene**	**3.0**	**84**
56-55-3	**Benzo(a)anthracene**	**3.0**	**20**
218-01-9	**Chrysene**	**3.0**	**100**
205-99-2	**Benzo(b)fluoranthene**	**3.0**	**79**
207-08-9	**Benzo(k)fluoranthene**	**3.0**	**79**
50-32-8	**Benzo(a)pyrene**	**3.0**	**47**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**3.0**	**56**
53-70-3	**Dibenz(a,h)anthracene**	**3.0**	**16**
191-24-2	**Benzo(g,h,i)perylene**	**3.0**	**62**
132-64-9	**Dibenzofuran**	**3.0**	**4.6**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	69.6%
2-Fluorobiphenyl	69.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH133B-060210-S
SAMPLE

Lab Sample ID: QZ31AH
LIMS ID: 10-13333
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 17:08
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 2.5 mL
Dilution Factor: 5.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	12	< 12 U
91-57-6	2-Methylnaphthalene	12	< 12 U
90-12-0	1-Methylnaphthalene	12	< 12 U
208-96-8	Acenaphthylene	12	< 12 U
83-32-9	**Acenaphthene**	**12**	**16**
86-73-7	**Fluorene**	**12**	**18**
85-01-8	**Phenanthrene**	**12**	**170**
120-12-7	**Anthracene**	**12**	**29**
206-44-0	**Fluoranthene**	**12**	**290**
129-00-0	**Pyrene**	**12**	**190**
56-55-3	**Benzo(a)anthracene**	**12**	**110**
218-01-9	**Chrysene**	**12**	**140**
205-99-2	**Benzo(b)fluoranthene**	**12**	**110**
207-08-9	**Benzo(k)fluoranthene**	**12**	**110**
50-32-8	**Benzo(a)pyrene**	**12**	**130**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**12**	**82**
53-70-3	**Dibenz(a,h)anthracene**	**12**	**35**
191-24-2	**Benzo(g,h,i)perylene**	**12**	**90**
132-64-9	Dibenzofuran	12	< 12 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	70.4%
2-Fluorobiphenyl	66.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: NBF-MH138B-060210-S
SAMPLE

Lab Sample ID: QZ31AI
LIMS ID: 10-13334
Matrix: Filter Bag
Data Release Authorized: 
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 17:41
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 5.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	5.0	< 5.0 U
90-12-0	1-Methylnaphthalene	5.0	< 5.0 U
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	Acenaphthene	5.0	< 5.0 U
86-73-7	Fluorene	5.0	< 5.0 U
85-01-8	**Phenanthrene**	**5.0**	**11**
120-12-7	Anthracene	5.0	< 5.0 U
206-44-0	**Fluoranthene**	**5.0**	**24**
129-00-0	**Pyrene**	**5.0**	**21**
56-55-3	Benzo(a)anthracene	5.0	< 5.0 U
218-01-9	**Chrysene**	**5.0**	**12**
205-99-2	**Benzo(b)fluoranthene**	**5.0**	**7.2**
207-08-9	**Benzo(k)fluoranthene**	**5.0**	**7.2**
50-32-8	**Benzo(a)pyrene**	**5.0**	**7.6**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**5.0**	**6.8**
53-70-3	Dibenz(a,h)anthracene	5.0	< 5.0 U
191-24-2	**Benzo(g,h,i)perylene**	**5.0**	**8.8**
132-64-9	Dibenzofuran	5.0	< 5.0 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	70.6%
2-Fluorobiphenyl	66.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: NBF-MH152B-060210-S
SAMPLE

Lab Sample ID: QZ31AJ
LIMS ID: 10-13335
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/16/10 19:13
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**1.0**	**1.6**
91-57-6	**2-Methylnaphthalene**	**1.0**	**1.1**
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
86-73-7	**Fluorene**	**1.0**	**1.0**
85-01-8	**Phenanthrene**	**1.0**	**22**
120-12-7	Anthracene	1.0	< 1.0 U
206-44-0	**Fluoranthene**	**1.0**	**48**
129-00-0	**Pyrene**	**1.0**	**28**
56-55-3	**Benzo(a)anthracene**	**1.0**	**5.0**
218-01-9	**Chrysene**	**1.0**	**30**
205-99-2	**Benzo(b)fluoranthene**	**1.0**	**19**
207-08-9	**Benzo(k)fluoranthene**	**1.0**	**19**
50-32-8	**Benzo(a)pyrene**	**1.0**	**9.3**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**1.0**	**13**
53-70-3	**Dibenz(a,h)anthracene**	**1.0**	**3.4**
191-24-2	**Benzo(g,h,i)perylene**	**1.0**	**16**
132-64-9	**Dibenzofuran**	**1.0**	**2.0**

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	75.8%
2-Fluorobiphenyl	74.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
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Sample ID: NBF-MH152B-060210-S
DILUTION

Lab Sample ID: QZ31AJ
LIMS ID: 10-13335
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 20:56
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	3.0	< 3.0 U
91-57-6	2-Methylnaphthalene	3.0	< 3.0 U
90-12-0	1-Methylnaphthalene	3.0	< 3.0 U
208-96-8	Acenaphthylene	3.0	< 3.0 U
83-32-9	Acenaphthene	3.0	< 3.0 U
86-73-7	Fluorene	3.0	< 3.0 U
85-01-8	**Phenanthrene**	**3.0**	**23**
120-12-7	Anthracene	3.0	< 3.0 U
206-44-0	**Fluoranthene**	**3.0**	**52**
129-00-0	**Pyrene**	**3.0**	**28**
56-55-3	**Benzo(a)anthracene**	**3.0**	**4.4**
218-01-9	**Chrysene**	**3.0**	**32**
205-99-2	**Benzo(b)fluoranthene**	**3.0**	**19**
207-08-9	**Benzo(k)fluoranthene**	**3.0**	**19**
50-32-8	**Benzo(a)pyrene**	**3.0**	**8.7**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**3.0**	**10**
53-70-3	Dibenz(a,h)anthracene	3.0	< 3.0 U
191-24-2	**Benzo(g,h,i)perylene**	**3.0**	**12**
132-64-9	Dibenzofuran	3.0	< 3.0 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	75.4%
2-Fluorobiphenyl	75.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
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Sample ID: NBF-CB165B-060210-S
SAMPLE

Lab Sample ID: QZ31AK
LIMS ID: 10-13336
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/16/10 19:45
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**2.5**	**2.6**
91-57-6	**2-Methylnaphthalene**	**2.5**	**2.8**
90-12-0	1-Methylnaphthalene	2.5	< 2.5 U
208-96-8	Acenaphthylene	2.5	< 2.5 U
83-32-9	Acenaphthene	2.5	< 2.5 U
86-73-7	Fluorene	2.5	< 2.5 U
85-01-8	**Phenanthrene**	**2.5**	**20**
120-12-7	Anthracene	2.5	< 2.5 U
206-44-0	**Fluoranthene**	**2.5**	**33**
129-00-0	**Pyrene**	**2.5**	**28**
56-55-3	**Benzo(a)anthracene**	**2.5**	**9.2**
218-01-9	**Chrysene**	**2.5**	**22**
205-99-2	**Benzo(b)fluoranthene**	**2.5**	**12**
207-08-9	**Benzo(k)fluoranthene**	**2.5**	**12**
50-32-8	**Benzo(a)pyrene**	**2.5**	**12**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**2.5**	**9.3**
53-70-3	**Dibenz(a,h)anthracene**	**2.5**	**3.7**
191-24-2	**Benzo(g,h,i)perylene**	**2.5**	**17**
132-64-9	Dibenzofuran	2.5	< 2.5 U

Reported in Total µg

Semivolatile Surrogate Recovery

d14-p-Terphenyl	69.2%
2-Fluorobiphenyl	70.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-CB165B-060210-S
DILUTION

Lab Sample ID: QZ31AK
LIMS ID: 10-13336
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 21:29
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 2.5 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	7.5	< 7.5 U
91-57-6	2-Methylnaphthalene	7.5	< 7.5 U
90-12-0	1-Methylnaphthalene	7.5	< 7.5 U
208-96-8	Acenaphthylene	7.5	< 7.5 U
83-32-9	Acenaphthene	7.5	< 7.5 U
86-73-7	Fluorene	7.5	< 7.5 U
85-01-8	**Phenanthrene**	**7.5**	**19**
120-12-7	Anthracene	7.5	< 7.5 U
206-44-0	**Fluoranthene**	**7.5**	**32**
129-00-0	**Pyrene**	**7.5**	**28**
56-55-3	**Benzo(a)anthracene**	**7.5**	**8.7**
218-01-9	**Chrysene**	**7.5**	**23**
205-99-2	**Benzo(b)fluoranthene**	**7.5**	**11**
207-08-9	**Benzo(k)fluoranthene**	**7.5**	**11**
50-32-8	**Benzo(a)pyrene**	**7.5**	**11**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**7.5**	**7.8**
53-70-3	Dibenz(a,h)anthracene	7.5	< 7.5 U
191-24-2	**Benzo(g,h,i)perylene**	**7.5**	**15**
132-64-9	Dibenzofuran	7.5	< 7.5 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	65.3%
2-Fluorobiphenyl	69.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: NBF-CB173B-060210-S
SAMPLE

Lab Sample ID: QZ31AL
LIMS ID: 10-13337
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/16/10 20:17
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	2.5	< 2.5 U
91-57-6	2-Methylnaphthalene	2.5	< 2.5 U
90-12-0	1-Methylnaphthalene	2.5	< 2.5 U
208-96-8	Acenaphthylene	2.5	< 2.5 U
83-32-9	Acenaphthene	2.5	< 2.5 U
86-73-7	Fluorene	2.5	< 2.5 U
85-01-8	**Phenanthrene**	**2.5**	**8.9**
120-12-7	Anthracene	2.5	< 2.5 U
206-44-0	**Fluoranthene**	**2.5**	**16**
129-00-0	**Pyrene**	**2.5**	**14**
56-55-3	**Benzo(a)anthracene**	**2.5**	**3.2**
218-01-9	**Chrysene**	**2.5**	**14**
205-99-2	**Benzo(b)fluoranthene**	**2.5**	**6.7**
207-08-9	**Benzo(k)fluoranthene**	**2.5**	**6.7**
50-32-8	**Benzo(a)pyrene**	**2.5**	**4.5**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**2.5**	**4.4**
53-70-3	Dibenz(a,h)anthracene	2.5	< 2.5 U
191-24-2	**Benzo(g,h,i)perylene**	**2.5**	**11**
132-64-9	Dibenzofuran	2.5	< 2.5 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	80.0%
2-Fluorobiphenyl	76.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: NBF-CB173B-060210-S
DILUTION

Lab Sample ID: QZ31AL
LIMS ID: 10-13337
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 22:01
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 2.5 mL
Dilution Factor: 3.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	7.5	< 7.5 U
91-57-6	2-Methylnaphthalene	7.5	< 7.5 U
90-12-0	1-Methylnaphthalene	7.5	< 7.5 U
208-96-8	Acenaphthylene	7.5	< 7.5 U
83-32-9	Acenaphthene	7.5	< 7.5 U
86-73-7	Fluorene	7.5	< 7.5 U
85-01-8	**Phenanthrene**	**7.5**	**8.8**
120-12-7	Anthracene	7.5	< 7.5 U
206-44-0	**Fluoranthene**	**7.5**	**16**
129-00-0	**Pyrene**	**7.5**	**13**
56-55-3	Benzo(a)anthracene	7.5	< 7.5 U
218-01-9	**Chrysene**	**7.5**	**16**
205-99-2	Benzo(b)fluoranthene	7.5	< 7.5 U
207-08-9	Benzo(k)fluoranthene	7.5	< 7.5 U
50-32-8	Benzo(a)pyrene	7.5	< 7.5 U
193-39-5	Indeno(1,2,3-cd)pyrene	7.5	< 7.5 U
53-70-3	Dibenz(a,h)anthracene	7.5	< 7.5 U
191-24-2	**Benzo(g,h,i)perylene**	**7.5**	**9.8**
132-64-9	Dibenzofuran	7.5	< 7.5 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	74.4%
2-Fluorobiphenyl	77.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-MH178B-060210-S
SAMPLE

Lab Sample ID: QZ31AM
LIMS ID: 10-13338
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/10/10
Date Analyzed: 06/21/10 18:13
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 1.0 mL
Dilution Factor: 5.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	5.0	< 5.0 U
90-12-0	1-Methylnaphthalene	5.0	< 5.0 U
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	Acenaphthene	5.0	< 5.0 U
86-73-7	Fluorene	5.0	< 5.0 U
85-01-8	**Phenanthrene**	**5.0**	**61**
120-12-7	Anthracene	5.0	< 5.0 U
206-44-0	**Fluoranthene**	**5.0**	**150**
129-00-0	**Pyrene**	**5.0**	**77**
56-55-3	**Benzo(a)anthracene**	**5.0**	**16**
218-01-9	**Chrysene**	**5.0**	**87**
205-99-2	**Benzo(b)fluoranthene**	**5.0**	**59**
207-08-9	**Benzo(k)fluoranthene**	**5.0**	**59**
50-32-8	**Benzo(a)pyrene**	**5.0**	**30**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**5.0**	**33**
53-70-3	**Dibenz(a,h)anthracene**	**5.0**	**9.0**
191-24-2	**Benzo(g,h,i)perylene**	**5.0**	**37**
132-64-9	Dibenzofuran	5.0	< 5.0 U

Reported in Total µg

Semivolatile Surrogate Recovery	
d14-p-Terphenyl	75.9%
2-Fluorobiphenyl	73.3%

ANALYTICAL RESOURCES INCORPORATED

SW8270 PNA SURROGATE RECOVERY SUMMARY

Matrix: Filter Bag

QC Report No: QZ31-Science App. International Corp
Project: NBF

Client ID		TER	FBP	TOT OUT
MB-061010		92.8%	68.4%	0
LCS-061010		91.6%	70.0%	0
LCSD-061010		97.6%	68.8%	0
NBF-MH434B-060210-S		72.8%	71.6%	0
NBF-MH434B-060210-S	DL	67.1%	76.2%	0
NBF-MH356B-060210-S		103%	97.9%	0
NBF-MH356B-060210-S	DL	106%	103%*	1
NBF-LS431B-060210-S		68.2%	64.6%	0
NBF-LS431B-060210-S	DL	66.7%	63.4%	0
NBF-MH423B-060210-S		53.3%	61.9%	0
NBF-MH369B-060210-S		54.2%	58.1%	0
NBF-MH369B-060210-S	DL	61.4%	64.8%	0
NBF-MH108B-060210-S		81.1%	76.8%	0
NBF-MH226B-060210-S		69.6%	69.1%	0
NBF-MH133B-060210-S		70.4%	66.2%	0
NBF-MH138B-060210-S		70.6%	66.6%	0
NBF-MH152B-060210-S		75.8%	74.2%	0
NBF-MH152B-060210-S	DL	75.4%	75.8%	0
NBF-CB165B-060210-S		69.2%	70.4%	0
NBF-CB165B-060210-S	DL	65.3%	69.2%	0
NBF-CB173B-060210-S		80.0%	76.0%	0
NBF-CB173B-060210-S	DL	74.4%	77.6%	0
NBF-MH178B-060210-S		75.9%	73.3%	0

	LCS/MB LIMITS	QC LIMITS
(TER) = d14-p-Terphenyl	(47-112)	(35-112)
(FBP) = 2-Fluorobiphenyl	(40-100)	(34-100)

Prep Method: SW3550B
Log Number Range: 10-13326 to 10-13338

FORM-II SW8270 PNA

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS

Sample ID: LCS-061010
LCS/LCSD

Lab Sample ID: LCS-061010
LIMS ID: 10-13326
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: 06/03/10

Date Extracted LCS/LCSD: 06/10/10

Date Analyzed LCS: 06/15/10 21:13
LCSD: 06/15/10 21:45
Instrument/Analyst LCS: NT6/JZ
LCSD: NT6/JZ
GPC Cleanup: Yes
Silica Gel Cleanup: Yes

Sample Amount LCS: 1.00 g
LCSD: 1.00 g
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Alumina Cleanup: No

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	7.2	12.5	57.6%	7.1	12.5	56.8%	1.4%
2-Methylnaphthalene	7.2	12.5	57.6%	7.2	12.5	57.6%	0.0%
1-Methylnaphthalene	7.4	12.5	59.2%	7.4	12.5	59.2%	0.0%
Acenaphthylene	8.2	12.5	65.6%	8.1	12.5	64.8%	1.2%
Acenaphthene	8.1	12.5	64.8%	8.1	12.5	64.8%	0.0%
Fluorene	9.0	12.5	72.0%	9.0	12.5	72.0%	0.0%
Phenanthrene	9.7	12.5	77.6%	9.6	12.5	76.8%	1.0%
Anthracene	8.9	12.5	71.2%	8.8	12.5	70.4%	1.1%
Fluoranthene	11.0	12.5	88.0%	11.1	12.5	88.8%	0.9%
Pyrene	10.4	12.5	83.2%	11.0	12.5	88.0%	5.6%
Benzo(a)anthracene	11.2	12.5	89.6%	11.2	12.5	89.6%	0.0%
Chrysene	11.0	12.5	88.0%	11.0	12.5	88.0%	0.0%
Benzo(b)fluoranthene	11.0	12.5	88.0%	11.3	12.5	90.4%	2.7%
Benzo(k)fluoranthene	11.7	12.5	93.6%	11.9	12.5	95.2%	1.7%
Benzo(a)pyrene	9.7	12.5	77.6%	9.9	12.5	79.2%	2.0%
Indeno(1,2,3-cd)pyrene	11.6	12.5	92.8%	11.4	12.5	91.2%	1.7%
Dibenz(a,h)anthracene	11.7	12.5	93.6%	11.6	12.5	92.8%	0.9%
Benzo(g,h,i)perylene	11.0	12.5	88.0%	10.8	12.5	86.4%	1.8%
Dibenzofuran	9.1	12.5	72.8%	9.1	12.5	72.8%	0.0%

Semivolatile Surrogate Recovery

	LCS	LCSD
d14-p-Terphenyl	91.6%	97.6%
2-Fluorobiphenyl	70.0%	68.8%

Results reported in Total µg
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QZ31MB1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: QZ31 Project: NBF

Lab File ID: 06151012 Date Extracted: 06/10/10

Instrument ID: NT6 Date Analyzed: 06/15/10

Matrix: SOLID Time Analyzed: 2041

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QZ31LCS1	QZ31LCS1	06151013	06/15/10
02	QZ31LCSD1	QZ31LCSD1	06151014	06/15/10
03	NBF-MH434B-06021	QZ31AA	06151015	06/15/10
04	NBF-LS431B-06021	QZ31AC	06161002	06/16/10
05	NBF-MH369B-06021	QZ31AE	06161004	06/16/10
06	NBF-MH152B-06021	QZ31AJ	06161009	06/16/10
07	NBF-CB165B-06021	QZ31AK	06161010	06/16/10
08	NBF-CB173B-06021	QZ31AL	06161011	06/16/10
09	NBF-MH356B-06021	QZ31AB	06211002	06/21/10
10	NBF-MH133B-06021	QZ31AH	06211005	06/21/10
11	NBF-MH138B-06021	QZ31AI	06211006	06/21/10
12	NBF-MH178B-06021	QZ31AM	06211007	06/21/10
13	NBF-MH434B-06021	QZ31AA	06211008	06/21/10
14	NBF-LS431B-06021	QZ31AC	06211009	06/21/10
15	NBF-MH423B-06021	QZ31AD	06211010	06/21/10
16	NBF-MH369B-06021	QZ31AE	06211011	06/21/10
17	NBF-MH152B-06021	QZ31AJ	06211012	06/21/10
18	NBF-CB165B-06021	QZ31AK	06211013	06/21/10
19	NBF-CB173B-06021	QZ31AL	06211014	06/21/10
20	NBF-MH108B-06021	QZ31AF	06211015	06/21/10
21	NBF-MH226B-06021	QZ31AG	06211016	06/21/10
22	NBF-MH356B-06021	QZ31AB	06221002	06/22/10
23				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D GC/MS
Page 1 of 1

Sample ID: MB-061010
METHOD BLANK

Lab Sample ID: MB-061010
LIMS ID: 10-13326
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/23/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted: 06/10/10
Date Analyzed: 06/15/10 20:41
Instrument/Analyst: NT6/JZ
GPC Cleanup: Yes
Alumina: No
Silica Gel: Yes

Sample Amount: 1.00 g
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.5	< 0.5 U
91-57-6	2-Methylnaphthalene	0.5	< 0.5 U
90-12-0	1-Methylnaphthalene	0.5	< 0.5 U
208-96-8	Acenaphthylene	0.5	< 0.5 U
83-32-9	Acenaphthene	0.5	< 0.5 U
86-73-7	Fluorene	0.5	< 0.5 U
85-01-8	Phenanthrene	0.5	< 0.5 U
120-12-7	Anthracene	0.5	< 0.5 U
206-44-0	Fluoranthene	0.5	< 0.5 U
129-00-0	Pyrene	0.5	< 0.5 U
56-55-3	Benzo(a)anthracene	0.5	< 0.5 U
218-01-9	Chrysene	0.5	< 0.5 U
205-99-2	Benzo(b)fluoranthene	0.5	< 0.5 U
207-08-9	Benzo(k)fluoranthene	0.5	< 0.5 U
50-32-8	Benzo(a)pyrene	0.5	< 0.5 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.5	< 0.5 U
53-70-3	Dibenz(a,h)anthracene	0.5	< 0.5 U
191-24-2	Benzo(g,h,i)perylene	0.5	< 0.5 U
132-64-9	Dibenzofuran	0.5	< 0.5 U

Reported in Total µg

Semivolatile Surrogate Recovery

d14-p-Terphenyl	92.8%
2-Fluorobiphenyl	68.4%

FORM I

SIM SEMIVOLATILE ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-MH108-060210-W
SAMPLE

Lab Sample ID: QZ07A
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/14/10

QC Report No: QZ07-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/07/10
Date Analyzed: 06/12/10 16:33
Instrument/Analyst: NT11/YZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.012**
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	**Phenanthrene**	**0.010**	**0.022**
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	**Fluoranthene**	**0.010**	**0.074**
129-00-0	**Pyrene**	**0.010**	**0.037**
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	**Chrysene**	**0.010**	**0.028**
205-99-2	**Benzo(b)fluoranthene**	**0.010**	**0.015**
207-08-9	**Benzo(k)fluoranthene**	**0.010**	**0.015**
50-32-8	**Benzo(a)pyrene**	**0.010**	**0.013**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.010**	**0.011**
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	**Benzo(g,h,i)perylene**	**0.010**	**0.014**
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	65.7%
d14-Dibenzo(a,h)anthracene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-LS431-060210-W
SAMPLE

Lab Sample ID: QZ07B
LIMS ID: 10-13129
Matrix: Water
Data Release Authorized:
Reported: 06/14/10

QC Report No: QZ07-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/07/10
Date Analyzed: 06/12/10 16:57
Instrument/Analyst: NT11/YZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.021**
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	**Acenaphthene**	**0.010**	**0.021**
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	**Phenanthrene**	**0.010**	**0.037**
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	**Fluoranthene**	**0.010**	**0.15**
129-00-0	**Pyrene**	**0.010**	**0.088**
56-55-3	**Benzo(a)anthracene**	**0.010**	**0.029**
218-01-9	**Chrysene**	**0.010**	**0.095**
205-99-2	**Benzo(b)fluoranthene**	**0.010**	**0.064**
207-08-9	**Benzo(k)fluoranthene**	**0.010**	**0.064**
50-32-8	**Benzo(a)pyrene**	**0.010**	**0.053**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.010**	**0.048**
53-70-3	**Dibenz(a,h)anthracene**	**0.010**	**0.015**
191-24-2	**Benzo(g,h,i)perylene**	**0.010**	**0.054**
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	66.3%
d14-Dibenzo(a,h)anthracene	100%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QZ07-Science App. International Corp
Project: NBF

Client ID	MNP	DBA	TOT OUT
MB-060710	64.7%	92.7%	0
LCS-060710	82.3%	119%	0
LCSD-060710	70.0%	101%	0
NBF-MH108-060210-W	65.7%	101%	0
NBF-LS431-060210-W	66.3%	100%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(42-100)	(31-109)
(DBA) = d14-Dibenzo(a,h)anthracene	(40-125)	(10-133)

Prep Method: SW3510C
Log Number Range: 10-13128 to 10-13129

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS **Sample ID: LCS-060710**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-060710
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/14/10

QC Report No: QZ07-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 06/07/10

Date Analyzed LCS: 06/12/10 15:43
LCSD: 06/12/10 16:08
Instrument/Analyst LCS: SVOA_MSD/YZ
LCSD: SVOA_MSD/YZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	0.225	0.300	75.0%	0.198	0.300	66.0%	12.8%
2-Methylnaphthalene	0.244	0.300	81.3%	0.209	0.300	69.7%	15.5%
1-Methylnaphthalene	0.243	0.300	81.0%	0.212	0.300	70.7%	13.6%
Acenaphthylene	0.273	0.300	91.0%	0.244	0.300	81.3%	11.2%
Acenaphthene	0.241	0.300	80.3%	0.218	0.300	72.7%	10.0%
Fluorene	0.274	0.300	91.3%	0.249	0.300	83.0%	9.6%
Phenanthrene	0.266	0.300	88.7%	0.240	0.300	80.0%	10.3%
Anthracene	0.316	0.300	105%	0.294	0.300	98.0%	7.2%
Fluoranthene	0.346	0.300	115%	0.323	0.300	108%	6.9%
Pyrene	0.337	0.300	112%	0.319	0.300	106%	5.5%
Benzo(a)anthracene	0.377	0.300	126%	0.349	0.300	116%	7.7%
Chrysene	0.279	0.300	93.0%	0.256	0.300	85.3%	8.6%
Benzo(b)fluoranthene	0.303	0.300	101%	0.212	0.300	70.7%	35.3%
Benzo(k)fluoranthene	0.284	0.300	94.7%	0.325	0.300	108%	13.5%
Benzo(a)pyrene	0.344	0.300	115%	0.312	0.300	104%	9.8%
Indeno(1,2,3-cd)pyrene	0.293	0.300	97.7%	0.263	0.300	87.7%	10.8%
Dibenz(a,h)anthracene	0.295	0.300	98.3%	0.266	0.300	88.7%	10.3%
Benzo(g,h,i)perylene	0.275	0.300	91.7%	0.249	0.300	83.0%	9.9%
Dibenzofuran	0.235	0.300	78.3%	0.214	0.300	71.3%	9.4%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	82.3%	70.0%
d14-Dibenzo(a,h)anthracene	119%	101%

4B
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

QZ07MBW1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No: QZ07
Project: NBF

Lab File ID: QZ07MB
Date Extracted: 06/07/10

Instrument ID: NT11
Date Analyzed: 06/12/10

Matrix: LIQUID
Time Analyzed: 1518

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	QZ07LCSW1	QZ07LCSW1	QZ07SB	06/12/10
02	QZ07LCSDW1	QZ07LCSDW1	QZ07SBD	06/12/10
03	NBF-MH108-060210	QZ07A	QZ07A	06/12/10
04	NBF-LS431-060210	QZ07B	QZ07B	06/12/10
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FORM IV SV

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS
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ANALYTICAL RESOURCES INCORPORATED

Sample ID: MB-060710
METHOD BLANK

Lab Sample ID: MB-060710
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/14/10

QC Report No: QZ07-Science App. International Corp
Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 06/07/10
Date Analyzed: 06/12/10 15:18
Instrument/Analyst: NT11/YZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
205-99-2	Benzo(b)fluoranthene	0.010	< 0.010 U
207-08-9	Benzo(k)fluoranthene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	64.7%
d14-Dibenzo(a,h)anthracene	92.7%

PCB ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108-060210-W
SAMPLE

Lab Sample ID: QZ07A
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/14/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/08/10
Date Analyzed: 06/10/10 19:41
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.050	< 0.050 Y
11097-69-1	**Aroclor 1254**	**0.010**	**0.046**
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	77.8%
Tetrachlorometaxylene	49.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431-060210-W
SAMPLE

Lab Sample ID: QZ07B
LIMS ID: 10-13129
Matrix: Water
Data Release Authorized:
Reported: 06/14/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/08/10
Date Analyzed: 06/10/10 20:00
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.015	< 0.015 Y
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	75.8%
Tetrachlorometaxylene	48.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: QZ07-Science App. International Corp
Project: NBF

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-060810	78.2%	32-108	49.2%	31-100	0
LCS-060810	65.5%	32-108	44.2%	31-100	0
LCSD-060810	67.5%	32-108	46.2%	31-100	0
NBF-MH108-060210-W	77.8%	19-111	49.2%	21-100	0
NBF-LS431-060210-W	75.8%	19-111	48.2%	21-100	0

Prep Method: SW3510C
Log Number Range: 10-13128 to 10-13129

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
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Sample ID: LCS-060810
LCS/LCSD

Lab Sample ID: LCS-060810
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/14/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 06/08/10

Date Analyzed LCS: 06/10/10 19:04
LCSD: 06/10/10 19:23
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1000 mL
LCSD: 1000 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.046	0.050	92.0%	0.044	0.050	88.0%	4.4%
Aroclor 1260	0.038	0.050	76.0%	0.040	0.050	80.0%	5.1%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	65.5%	67.5%
Tetrachlorometaxylene	44.2%	46.2%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QZ07MBW1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: QZ07
Project: NBF

Lab Sample ID: QZ07MBW1
Lab File ID: 0610B022

Date Extracted: 06/08/10
Matrix: LIQUID

Date Analyzed: 06/10/10
Instrument ID: ECD5

Time Analyzed: 1845
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QZ07LCSW1	QZ07LCSW1	06/10/10
02	QZ07LCSDW1	QZ07LCSDW1	06/10/10
03	NBF-MH108-060210-W	QZ07A	06/10/10
04	NBF-LS431-060210-W	QZ07B	06/10/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-060810
METHOD BLANK

Lab Sample ID: MB-060810
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/14/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted: 06/08/10
Date Analyzed: 06/10/10 18:45
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	78.2%
Tetrachlorometaxylene	49.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH434A-060210-S
SAMPLE

Lab Sample ID: QZ31A
LIMS ID: 10-13298
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 15:21
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	4.0	< 4.0 Y
11097-69-1	**Aroclor 1254**	**1.0**	**5.8**
11096-82-5	**Aroclor 1260**	**1.0**	**4.6**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	72.0%
Tetrachlorometaxylene	73.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH356A-060210-S
SAMPLE

Lab Sample ID: QZ31C
LIMS ID: 10-13300
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 15:40
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 20.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.0	< 2.0 U
53469-21-9	Aroclor 1242	2.0	< 2.0 U
12672-29-6	Aroclor 1248	3.0	< 3.0 Y
11097-69-1	**Aroclor 1254**	**2.0**	**6.3**
11096-82-5	**Aroclor 1260**	**2.0**	**3.5**
11104-28-2	Aroclor 1221	2.0	< 2.0 U
11141-16-5	Aroclor 1232	2.0	< 2.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	72.8%
Tetrachlorometaxylene	69.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
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Sample ID: NBF-LS431A-060210-S
SAMPLE

Lab Sample ID: QZ31E
LIMS ID: 10-13303
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 15:59
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 20.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.0	< 2.0 U
53469-21-9	Aroclor 1242	2.0	< 2.0 U
12672-29-6	Aroclor 1248	4.0	< 4.0 Y
11097-69-1	**Aroclor 1254**	**2.0**	**5.8**
11096-82-5	Aroclor 1260	2.0	< 2.0 U
11104-28-2	Aroclor 1221	2.0	< 2.0 U
11141-16-5	Aroclor 1232	2.0	< 2.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	70.7%
Tetrachlorometaxylene	69.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH423A-060210-S
SAMPLE

Lab Sample ID: QZ31G
LIMS ID: 10-13305
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 16:18
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 25.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.5	< 2.5 U
53469-21-9	Aroclor 1242	2.5	< 2.5 U
12672-29-6	Aroclor 1248	5.0	< 5.0 Y
11097-69-1	**Aroclor 1254**	**2.5**	**5.8**
11096-82-5	**Aroclor 1260**	**2.5**	**6.8**
11104-28-2	Aroclor 1221	2.5	< 2.5 U
11141-16-5	Aroclor 1232	2.5	< 2.5 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	70.0%
Tetrachlorometaxylene	70.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH369A-060210-S
SAMPLE

Lab Sample ID: QZ31I
LIMS ID: 10-13307
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 16:37
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.2	< 1.2 Y
11097-69-1	**Aroclor 1254**	**1.0**	**3.0**
11096-82-5	**Aroclor 1260**	**1.0**	**2.7**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	66.5%
Tetrachlorometaxylene	62.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-MH108A-060210-S
SAMPLE

Lab Sample ID: QZ31K
LIMS ID: 10-13309
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 17:33
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 100
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	10	< 10 U
53469-21-9	Aroclor 1242	10	< 10 U
12672-29-6	Aroclor 1248	35	< 35 Y
11097-69-1	**Aroclor 1254**	**10**	**57**
11096-82-5	**Aroclor 1260**	**10**	**12**
11104-28-2	Aroclor 1221	10	< 10 U
11141-16-5	Aroclor 1232	10	< 10 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	75.5%
Tetrachlorometaxylene	82.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH226A-060210-S
SAMPLE

Lab Sample ID: QZ31M
LIMS ID: 10-13311
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 17:52
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	**Aroclor 1254**	**1.0**	**2.3**
11096-82-5	**Aroclor 1260**	**1.0**	**3.8**
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	71.5%
Tetrachlorometaxylene	67.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-MH133A-060210-S
SAMPLE

Lab Sample ID: QZ310
LIMS ID: 10-13313
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 18:11
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 20.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.0	< 2.0 U
53469-21-9	Aroclor 1242	2.0	< 2.0 U
12672-29-6	Aroclor 1248	3.0	< 3.0 Y
11097-69-1	**Aroclor 1254**	**2.0**	**6.7**
11096-82-5	**Aroclor 1260**	**2.0**	**9.2**
11104-28-2	Aroclor 1221	2.0	< 2.0 U
11141-16-5	Aroclor 1232	2.0	< 2.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	86.5%
Tetrachlorometaxylene	68.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH138A-060210-S
SAMPLE

Lab Sample ID: QZ31Q
LIMS ID: 10-13315
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 18:30
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 100
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	10	< 10 U
53469-21-9	Aroclor 1242	10	< 10 U
12672-29-6	Aroclor 1248	20	< 20 Y
11097-69-1	**Aroclor 1254**	**10**	**58**
11096-82-5	**Aroclor 1260**	**10**	**16**
11104-28-2	Aroclor 1221	10	< 10 U
11141-16-5	Aroclor 1232	10	< 10 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	73.5%
Tetrachlorometaxylene	77.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH152A-060210-S
SAMPLE

Lab Sample ID: QZ31S
LIMS ID: 10-13318
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 19:26
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 100
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	10	< 10 U
53469-21-9	Aroclor 1242	10	< 10 U
12672-29-6	Aroclor 1248	30	< 30 Y
11097-69-1	**Aroclor 1254**	**10**	**37**
11096-82-5	Aroclor 1260	10	< 10 U
11104-28-2	Aroclor 1221	10	< 10 U
11141-16-5	Aroclor 1232	10	< 10 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	75.0%
Tetrachlorometaxylene	71.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-CB165A-060210-S
SAMPLE

Lab Sample ID: QZ31U
LIMS ID: 10-13320
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 19:45
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 100
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	10	< 10 U
53469-21-9	Aroclor 1242	10	< 10 U
12672-29-6	Aroclor 1248	75	< 75 Y
11097-69-1	**Aroclor 1254**	**10**	**40**
11096-82-5	**Aroclor 1260**	**10**	**10**
11104-28-2	Aroclor 1221	10	< 10 U
11141-16-5	Aroclor 1232	10	< 10 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	83.0%
Tetrachlorometaxylene	99.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-CB173A-060210-S
SAMPLE

Lab Sample ID: QZ31W
LIMS ID: 10-13322
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 20:04
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 500
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	50	< 50 U
53469-21-9	Aroclor 1242	50	< 50 U
12672-29-6	Aroclor 1248	500	< 500 Y
11097-69-1	**Aroclor 1254**	**50**	**320**
11096-82-5	Aroclor 1260	50	< 50 U
11104-28-2	Aroclor 1221	50	< 50 U
11141-16-5	Aroclor 1232	50	< 50 U

Reported in Total µg

PCB Surrogate Recovery	
Decachlorobiphenyl	D
Tetrachlorometaxylene	D

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH178A-060210-S
SAMPLE

Lab Sample ID: QZ31Y
LIMS ID: 10-13324
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 20:23
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 25.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	2.5	< 2.5 U
53469-21-9	Aroclor 1242	2.5	< 2.5 U
12672-29-6	Aroclor 1248	6.2	< 6.2 Y
11097-69-1	**Aroclor 1254**	**2.5**	**11**
11096-82-5	**Aroclor 1260**	**2.5**	**4.2**
11104-28-2	Aroclor 1221	2.5	< 2.5 U
11141-16-5	Aroclor 1232	2.5	< 2.5 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	83.4%
Tetrachlorometaxylene	75.0%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Filter Bag

QC Report No: QZ31-Science App. International Corp
Project: NBF

Client ID	DCBP	TCMX	TOT OUT
MB-061410	92.8%	71.8%	0
LCS-061410	97.5%	75.8%	0
LCSD-061410	92.0%	72.5%	0
NBF-MH434A-060210-S	72.0%	73.0%	0
NBF-MH356A-060210-S	72.8%	69.3%	0
NBF-LS431A-060210-S	70.7%	69.8%	0
NBF-MH423A-060210-S	70.0%	70.8%	0
NBF-MH369A-060210-S	66.5%	62.5%	0
NBF-MH108A-060210-S	75.5%	82.5%	0
NBF-MH226A-060210-S	71.5%	67.5%	0
NBF-MH133A-060210-S	86.5%	68.6%	0
NBF-MH138A-060210-S	73.5%	77.5%	0
NBF-MH152A-060210-S	75.0%	71.5%	0
NBF-CB165A-060210-S	83.0%	99.5%	0
NBF-CB173A-060210-S	D	D	0
NBF-MH178A-060210-S	83.4%	75.0%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3580A
Log Number Range: 10-13298 to 10-13324

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-061410
LCS/LCSD

Lab Sample ID: LCS-061410
LIMS ID: 10-13298
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Date Extracted LCS/LCSD: 06/14/10

Date Analyzed LCS: 06/17/10 14:44
LCSD: 06/17/10 15:02
Instrument/Analyst LCS: ECD5/JGR
LCSD: ECD5/JGR

GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1.00 Filter Bag
LCSD: 1.00 Filter Bag
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	2.2	2.5	88.0%	2.2	2.5	88.0%	0.0%
Aroclor 1260	2.1	2.5	84.0%	1.9	2.5	76.0%	10.0%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	97.5%	92.0%
Tetrachlorometaxylene	75.8%	72.5%

Reported in Total µg
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

QZ31MB1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: QZ31 Project: NBF

Lab Sample ID: QZ31MB1 Lab File ID: 0617B006

Date Extracted: 06/14/10 Matrix: SOLID

Date Analyzed: 06/17/10 Instrument ID: ECD5

Time Analyzed: 1425 GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	QZ31LCS1	QZ31LCS1	06/17/10
02	QZ31LCSD1	QZ31LCSD1	06/17/10
03	NBF-MH434A-060210-S	QZ31A	06/17/10
04	NBF-MH356A-060210-S	QZ31C	06/17/10
05	NBF-LS431A-060210-S	QZ31E	06/17/10
06	NBF-MH423A-060210-S	QZ31G	06/17/10
07	NBF-MH369A-060210-S	QZ31I	06/17/10
08	NBF-MH108A-060210-S	QZ31K	06/17/10
09	NBF-MH226A-060210-S	QZ31M	06/17/10
10	NBF-MH133A-060210-S	QZ31O	06/17/10
11	NBF-MH138A-060210-S	QZ31Q	06/17/10
12	NBF-MH152A-060210-S	QZ31S	06/17/10
13	NBF-CB165A-060210-S	QZ31U	06/17/10
14	NBF-CB173A-060210-S	QZ31W	06/17/10
15	NBF-MH178A-060210-S	QZ31Y	06/17/10

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-061410
METHOD BLANK

Lab Sample ID: MB-061410
LIMS ID: 10-13298
Matrix: Filter Bag
Data Release Authorized:
Reported: 06/18/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Date Extracted: 06/14/10
Date Analyzed: 06/17/10 14:25
Instrument/Analyst: ECD5/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.1	< 0.1 U
53469-21-9	Aroclor 1242	0.1	< 0.1 U
12672-29-6	Aroclor 1248	0.1	< 0.1 U
11097-69-1	Aroclor 1254	0.1	< 0.1 U
11096-82-5	Aroclor 1260	0.1	< 0.1 U
11104-28-2	Aroclor 1221	0.1	< 0.1 U
11141-16-5	Aroclor 1232	0.1	< 0.1 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	92.8%
Tetrachlorometaxylene	71.8%

METALS ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH108-060210-W
SAMPLE

Lab Sample ID: QZ07A
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/15/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	06/07/10	200.8	06/10/10	**7440-38-2**	**Arsenic**	0.2	**1.0**	
200.8	06/07/10	200.8	06/10/10	7440-43-9	Cadmium	0.2	0.2	U
3010A	06/07/10	6010B	06/10/10	**7440-70-2**	**Calcium**	50	**10,400**	
200.8	06/07/10	200.8	06/11/10	**7440-47-3**	**Chromium**	0.5	**0.7**	
200.8	06/07/10	200.8	06/10/10	**7440-50-8**	**Copper**	0.5	**9.7**	
200.8	06/07/10	200.8	06/11/10	**7439-92-1**	**Lead**	1	**1**	
3010A	06/07/10	6010B	06/10/10	**7439-95-4**	**Magnesium**	50	**2,760**	
7470A	06/07/10	7470A	06/12/10	7439-97-6	Mercury	0.1	0.1	U
200.8	06/07/10	200.8	06/11/10	**7440-02-0**	**Nickel**	0.5	**1.6**	
200.8	06/07/10	200.8	06/10/10	7782-49-2	Selenium	0.5	0.5	U
200.8	06/07/10	200.8	06/10/10	7440-22-4	Silver	0.2	0.2	U
200.8	06/07/10	200.8	06/10/10	**7440-66-6**	**Zinc**	4	**63**	

Calculated Hardness (mg-CaCO3/L): 37

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-LS431-060210-W
SAMPLE

Lab Sample ID: QZ07B
LIMS ID: 10-13129
Matrix: Water
Data Release Authorized:
Reported: 06/15/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	06/07/10	200.8	06/10/10	**7440-38-2**	**Arsenic**	0.2	**0.8**	
200.8	06/07/10	200.8	06/10/10	7440-43-9	Cadmium	0.2	0.2	U
3010A	06/07/10	6010B	06/10/10	**7440-70-2**	**Calcium**	50	**10,200**	
200.8	06/07/10	200.8	06/11/10	**7440-47-3**	**Chromium**	0.5	**1.0**	
200.8	06/07/10	200.8	06/10/10	**7440-50-8**	**Copper**	0.5	**5.0**	
200.8	06/07/10	200.8	06/11/10	**7439-92-1**	**Lead**	1	**1**	
3010A	06/07/10	6010B	06/10/10	**7439-95-4**	**Magnesium**	50	**3,830**	
7470A	06/07/10	7470A	06/12/10	7439-97-6	Mercury	0.1	0.1	U
200.8	06/07/10	200.8	06/11/10	**7440-02-0**	**Nickel**	0.5	**1.2**	
200.8	06/07/10	200.8	06/10/10	7782-49-2	Selenium	0.5	0.5	U
200.8	06/07/10	200.8	06/10/10	7440-22-4	Silver	0.2	0.2	U
200.8	06/07/10	200.8	06/10/10	**7440-66-6**	**Zinc**	4	**41**	

Calculated Hardness (mg-CaCO3/L): 41

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QZ07LCS
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/15/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	24.9	25.0	99.6%	
Cadmium	200.8	25.0	25.0	100%	
Calcium	6010B	9630	10000	96.3%	
Chromium	200.8	25.3	25.0	101%	
Copper	200.8	27.8	25.0	111%	
Lead	200.8	24	25	96.0%	
Magnesium	6010B	9540	10000	95.4%	
Mercury	7470A	2.0	2.0	100%	
Nickel	200.8	27.2	25.0	109%	
Selenium	200.8	80.5	80.0	101%	
Silver	200.8	25.3	25.0	101%	
Zinc	200.8	82	80	102%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: QZ07MB
LIMS ID: 10-13128
Matrix: Water
Data Release Authorized:
Reported: 06/15/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	06/07/10	200.8	06/11/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	06/07/10	200.8	06/11/10	7440-43-9	Cadmium	0.2	0.2	U
3010A	06/07/10	6010B	06/10/10	7440-70-2	Calcium	50	50	U
200.8	06/07/10	200.8	06/11/10	7440-47-3	Chromium	0.5	0.5	U
200.8	06/07/10	200.8	06/11/10	7440-50-8	Copper	0.5	0.5	U
200.8	06/07/10	200.8	06/11/10	7439-92-1	Lead	1	1	U
3010A	06/07/10	6010B	06/10/10	7439-95-4	Magnesium	50	50	U
7470A	06/07/10	7470A	06/12/10	7439-97-6	Mercury	0.1	0.1	U
200.8	06/07/10	200.8	06/11/10	7440-02-0	Nickel	0.5	0.5	U
200.8	06/07/10	200.8	06/11/10	7782-49-2	Selenium	0.5	0.5	U
200.8	06/07/10	200.8	06/11/10	7440-22-4	Silver	0.2	0.2	U
200.8	06/07/10	200.8	06/11/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: NBF-MH108-060210-W
SAMPLE

Lab Sample ID: QZ07C
LIMS ID: 10-13130
Matrix: Water
Data Release Authorized:
Reported: 06/15/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	06/07/10	200.8	06/10/10	**7440-38-2**	**Arsenic**	0.2	**0.4**	
200.8	06/07/10	200.8	06/10/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	06/07/10	200.8	06/11/10	7440-47-3	Chromium	0.5	0.5	U
200.8	06/07/10	200.8	06/10/10	**7440-50-8**	**Copper**	0.5	**7.5**	
200.8	06/07/10	200.8	06/11/10	7439-92-1	Lead	1	1	U
200.8	06/07/10	200.8	06/11/10	**7440-02-0**	**Nickel**	0.5	**1.1**	
200.8	06/07/10	200.8	06/10/10	7782-49-2	Selenium	0.5	0.5	U
200.8	06/07/10	200.8	06/10/10	7440-22-4	Silver	0.2	0.2	U
200.8	06/07/10	200.8	06/10/10	**7440-66-6**	**Zinc**	4	**44**	

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: NBF-LS431-060210-W
SAMPLE

Lab Sample ID: QZ07D
LIMS ID: 10-13131
Matrix: Water
Data Release Authorized:
Reported: 06/15/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	06/07/10	200.8	06/10/10	**7440-38-2**	**Arsenic**	0.2	**0.4**	
200.8	06/07/10	200.8	06/11/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	06/07/10	200.8	06/11/10	**7440-47-3**	**Chromium**	0.5	**0.5**	
200.8	06/07/10	200.8	06/10/10	**7440-50-8**	**Copper**	0.5	**3.0**	
200.8	06/07/10	200.8	06/11/10	7439-92-1	Lead	1	1	U
200.8	06/07/10	200.8	06/11/10	**7440-02-0**	**Nickel**	0.5	**0.7**	
200.8	06/07/10	200.8	06/10/10	7782-49-2	Selenium	0.5	0.5	U
200.8	06/07/10	200.8	06/11/10	7440-22-4	Silver	0.2	0.2	U
200.8	06/07/10	200.8	06/10/10	**7440-66-6**	**Zinc**	4	**26**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

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DISSOLVED METALS

Sample ID: LAB CONTROL

Lab Sample ID: QZ07LCS
LIMS ID: 10-13130
Matrix: Water
Data Release Authorized:
Reported: 06/15/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	24.1	25.0	96.4%	
Cadmium	200.8	24.7	25.0	98.8%	
Chromium	200.8	25.0	25.0	100%	
Copper	200.8	27.4	25.0	110%	
Lead	200.8	23	25	92.0%	
Nickel	200.8	27.4	25.0	110%	
Selenium	200.8	76.3	80.0	95.4%	
Silver	200.8	25.7	25.0	103%	
Zinc	200.8	78	80	97.5%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

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Sample ID: METHOD BLANK

Lab Sample ID: QZ07MB
LIMS ID: 10-13130
Matrix: Water
Data Release Authorized:
Reported: 06/15/10

QC Report No: QZ07-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	06/07/10	200.8	06/10/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	06/07/10	200.8	06/11/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	06/07/10	200.8	06/11/10	7440-47-3	Chromium	0.5	0.5	U
200.8	06/07/10	200.8	06/11/10	**7440-50-8**	**Copper**	0.5	**0.8**	
200.8	06/07/10	200.8	06/11/10	7439-92-1	Lead	1	1	U
200.8	06/07/10	200.8	06/11/10	7440-02-0	Nickel	0.5	0.5	U
200.8	06/07/10	200.8	06/10/10	7782-49-2	Selenium	0.5	0.5	U
200.8	06/07/10	200.8	06/11/10	7440-22-4	Silver	0.2	0.2	U
200.8	06/07/10	200.8	06/10/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-MH434A-060210-S
SAMPLE

Lab Sample ID: QZ31B
LIMS ID: 10-13299
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 36.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	**7440-38-2**	**Arsenic**	10	**90**	
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	0.5	**5.1**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	1	**93**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	0.5	**162**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	5	**236**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.05	**0.20**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	0.8	0.8	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	3	**1,350**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-MH356A-060210-S
SAMPLE

Lab Sample ID: QZ31D
LIMS ID: 10-13302
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 7.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	7440-38-2	Arsenic	70	70	U
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	3	**14**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	7	**101**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	3	**250**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	30	**200**	
CLP	06/14/10	7471A	06/16/10	7439-97-6	Mercury	0.3	0.3	U
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	4	4	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	10	**1,320**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-LS431A-060210-S
SAMPLE

Lab Sample ID: QZ31F
LIMS ID: 10-13304
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 27.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	7440-38-2	Arsenic	40	40	U
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	2	**5**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	4	**40**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	2	**75**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	20	**70**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.07	**0.10**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	3	3	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	9	**487**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-MH423A-060210-S
SAMPLE

Lab Sample ID: QZ31H
LIMS ID: 10-13306
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 29.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	7440-38-2	Arsenic	20	20	U
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	0.6	**5.0**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	2	**110**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	0.6	**153**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	6	**132**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.07	**0.26**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	0.9	0.9	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	3	**1,860**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

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TOTAL METALS
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Sample ID: NBF-MH369A-060210-S
SAMPLE

Lab Sample ID: QZ31J
LIMS ID: 10-13308
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 18.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	**7440-38-2**	**Arsenic**	60	**70**	
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	3	**5**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	6	**80**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	3	**86**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	30	**60**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.1	**0.1**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	4	4	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	10	**630**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

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TOTAL METALS
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Sample ID: NBF-MH108A-060210-S
SAMPLE

Lab Sample ID: QZ31L
LIMS ID: 10-13310
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 20.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	**7440-38-2**	**Arsenic**	20	**30**	
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	1	**7**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	2	**59**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	1	**247**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	10	**170**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.1	**0.6**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	1	1	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	5	**901**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
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Sample ID: NBF-MH226A-060210-S
SAMPLE

Lab Sample ID: QZ31N
LIMS ID: 10-13312
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 11.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	**7440-38-2**	**Arsenic**	40	**60**	
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	2	**22**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	4	**132**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	2	**469**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	20	**300**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.2	**0.3**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	3	3	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	9	**2,540**	

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: NBF-MH133A-060210-S
SAMPLE

Lab Sample ID: QZ31P
LIMS ID: 10-13314
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 36.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	**7440-38-2**	**Arsenic**	70	**110**	
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	3	**102**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	7	**274**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	3	**134**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	30	**230**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.05	**3.46**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	4	4	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	10	**2,650**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH138A-060210-S
SAMPLE

Lab Sample ID: QZ31R
LIMS ID: 10-13316
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 60.7%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	**7440-38-2**	**Arsenic**	20	**30**	
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	0.8	**11.1**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	2	**78**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	0.8	**149**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	8	**90**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.03	**0.37**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	1	1	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	4	**1,250**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
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Sample ID: NBF-MH152A-060210-S
SAMPLE

Lab Sample ID: QZ31T
LIMS ID: 10-13319
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 13.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	**7440-38-2**	**Arsenic**	40	**50**	
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	2	**6**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	4	**58**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	2	**419**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	20	**210**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.2	**0.4**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	2	2	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	8	**1,160**	

U-Analyte undetected at given RL
RL-Reporting Limit

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Sample ID: NBF-CB165A-060210-S
SAMPLE

Lab Sample ID: QZ31V
LIMS ID: 10-13321
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 44.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	**7440-38-2**	**Arsenic**	10	**20**	
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	0.4	**6.3**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	1	**117**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	0.4	**150**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	4	**332**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.04	**2.17**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	0.7	0.7	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	2	**2,810**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-CB173A-060210-S
SAMPLE

Lab Sample ID: QZ31X
LIMS ID: 10-13323
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 15.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	7440-38-2	Arsenic	40	40	U
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	2	**9**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	4	**74**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	2	**311**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	20	**210**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.1	**0.8**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	2	2	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	8	**2,090**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH178A-060210-S
SAMPLE

Lab Sample ID: QZ31Z
LIMS ID: 10-13325
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

Percent Total Solids: 16.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	**7440-38-2**	**Arsenic**	30	**40**	
3050B	06/14/10	6010B	06/16/10	**7440-43-9**	**Cadmium**	1	**4**	
3050B	06/14/10	6010B	06/16/10	**7440-47-3**	**Chromium**	3	**55**	
3050B	06/14/10	6010B	06/16/10	**7440-50-8**	**Copper**	1	**413**	
3050B	06/14/10	6010B	06/16/10	**7439-92-1**	**Lead**	10	**240**	
CLP	06/14/10	7471A	06/16/10	**7439-97-6**	**Mercury**	0.1	**0.3**	
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	2	2	U
3050B	06/14/10	6010B	06/16/10	**7440-66-6**	**Zinc**	6	**565**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-CB165A-060210-S
MATRIX SPIKE

Lab Sample ID: QZ31V
LIMS ID: 10-13321
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	6010B	20	440	448	93.8%	
Cadmium	6010B	6.3	116	112	97.9%	
Chromium	6010B	117	215	112	87.5%	
Copper	6010B	150	245	112	84.8%	
Lead	6010B	332	721	448	86.8%	
Mercury	7471A	2.17	1.93	0.424	-56.6%	H
Silver	6010B	0.7 U	105	112	93.8%	
Zinc	6010B	2,810	2,900	112	80.4%	H

Reported in mg/kg-dry

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-CB165A-060210-S
DUPLICATE

Lab Sample ID: QZ31V
LIMS ID: 10-13321
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: 06/02/10
Date Received: 06/03/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	6010B	20	20	0.0%	+/- 10	L
Cadmium	6010B	6.3	5.5	13.6%	+/- 20%	
Chromium	6010B	117	118	0.9%	+/- 20%	
Copper	6010B	150	141	6.2%	+/- 20%	
Lead	6010B	332	341	2.7%	+/- 20%	
Mercury	7471A	2.17	2.67	20.7%	+/- 20%	*
Silver	6010B	0.7 U	0.7 U	0.0%	+/- 0.7	L
Zinc	6010B	2,810	2,680	4.7%	+/- 20%	

Reported in mg/kg-dry

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: QZ31LCS
LIMS ID: 10-13323
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	198	200	99.0%	
Cadmium	6010B	49.9	50.0	99.8%	
Chromium	6010B	51.0	50.0	102%	
Copper	6010B	46.3	50.0	92.6%	
Lead	6010B	194	200	97.0%	
Silver	6010B	51.0	50.0	102%	
Zinc	6010B	52	50	104%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: QZ31MB
LIMS ID: 10-13323
Matrix: Sediment
Data Release Authorized:
Reported: 06/17/10

QC Report No: QZ31-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	06/14/10	6010B	06/16/10	7440-38-2	Arsenic	5	5	U
3050B	06/14/10	6010B	06/16/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	06/14/10	6010B	06/16/10	7440-47-3	Chromium	0.5	0.5	U
3050B	06/14/10	6010B	06/16/10	7440-50-8	Copper	0.2	0.2	U
3050B	06/14/10	6010B	06/16/10	7439-92-1	Lead	2	2	U
CLP	06/14/10	7471A	06/16/10	7439-97-6	Mercury	0.02	0.02	U
3050B	06/14/10	6010B	06/16/10	7440-22-4	Silver	0.3	0.3	U
3050B	06/14/10	6010B	06/16/10	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

MERCURY ANALYSIS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
Dissolved Mercury by Method SW7470A

Data Release Authorized:
Reported: 06/15/10
Date Received: 06/03/10
Page 1 of 1

QC Report No: QZ08-Science App. International Corp
Project: NBF

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
NBF-MH108-060210-W QZ08A 10-13132	06/02/10	Water	06/07/10 06/15/10	20.0	20.0 U
NBF-LS431-060210-W QZ08B 10-13141	06/02/10	Water	06/07/10 06/15/10	20.0	20.0 U
MB-060710 Method Blank	NA	Water	06/07/10 06/15/10	20.0	20.0 U

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QZ08LCS
LIMS ID: 10-13132
Matrix: Water
Data Release Authorized:
Reported: 06/15/10

QC Report No: QZ08-Science App. International Corp
Project: NBF

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	179	200	89.5%	

Reported in ng/L

N-Control limit not met
Control Limits: 80-120%

GENERAL CHEMISTRY ANALYSIS

SAMPLE RESULTS-CONVENTIONALS
QZ07-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 06/11/10

Project: NBF
Event: NA
Date Sampled: 06/02/10
Date Received: 06/03/10

Client ID: NBF-MH108-060210-W
ARI ID: 10-13128 QZ07A

Analyte	Date Batch	Method	Units	RL	Sample
pH	06/03/10 060310#1	EPA 150.1	std units	0.01	7.33
Alkalinity	06/08/10 060810#1	SM 2320	mg/L CaCO3	1.0	46.3
Carbonate	06/08/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	06/08/10	SM 2320	mg/L CaCO3	1.0	46.3
Hydroxide	06/08/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	06/04/10 060410#1	EPA 160.2	mg/L	2.1	8.1
Chloride	06/07/10 060710#1	EPA 300.0	mg/L	0.5	1.7
N-Nitrate	06/03/10 060310#1	EPA 300.0	mg-N/L	0.1	0.4
Sulfate	06/07/10 060710#1	EPA 300.0	mg/L	0.5	5.0
Total Organic Carbon	06/07/10 060710#1	EPA 415.1	mg/L	1.50	3.74

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QZ07-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 06/11/10

Project: NBF
Event: NA
Date Sampled: 06/02/10
Date Received: 06/03/10

Client ID: NBF-LS431-060210-W
ARI ID: 10-13129 QZ07B

Analyte	Date Batch	Method	Units	RL	Sample
pH	06/03/10 060310#1	EPA 150.1	std units	0.01	7.69
Alkalinity	06/08/10 060810#1	SM 2320	mg/L CaCO3	1.0	59.1
Carbonate	06/08/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	06/08/10	SM 2320	mg/L CaCO3	1.0	59.1
Hydroxide	06/08/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	06/04/10 060410#1	EPA 160.2	mg/L	1.6	25.4
Chloride	06/07/10 060710#1	EPA 300.0	mg/L	0.5	8.5
N-Nitrate	06/03/10 060310#1	EPA 300.0	mg-N/L	0.1	0.2
Sulfate	06/07/10 060710#1	EPA 300.0	mg/L	0.5	2.2
Total Organic Carbon	06/07/10 060710#1	EPA 415.1	mg/L	1.50	4.91

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QZ07-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 06/11/10

Project: NBF
Event: NA
Date Sampled: 06/02/10
Date Received: 06/03/10

Client ID: NBF-MH108-060210-W
ARI ID: 10-13130 QZ07C

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	06/07/10 060710#1	EPA 415.1	mg/L	1.50	3.18

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QZ07-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 06/11/10

Project: NBF
Event: NA
Date Sampled: 06/02/10
Date Received: 06/03/10

Client ID: NBF-LS431-060210-W
ARI ID: 10-13131 QZ07D

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	06/07/10 060710#1	EPA 415.1	mg/L	1.50	3.79

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
QZ07-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 06/11/10

Project: NBF
Event: NA
Date Sampled: 06/02/10
Date Received: 06/03/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: QZ07A Client ID: NBF-MH108-060210-W							
Chloride	EPA 300.0	06/07/10	mg/L	1.7	10.5	10.0	88.0%
N-Nitrate	EPA 300.0	06/03/10	mg-N/L	0.4	2.3	2.0	95.0%
Sulfate	EPA 300.0	06/07/10	mg/L	5.0	14.6	10.0	96.0%
Total Organic Carbon	EPA 415.1	06/07/10	mg/L	3.74	24.0	20.0	101.3%
ARI ID: QZ07C Client ID: NBF-MH108-060210-W							
Dissolved Organic Carbon	EPA 415.1	06/07/10	mg/L	3.18	22.5	20.0	96.6%

REPLICATE RESULTS-CONVENTIONALS
QZ07-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 06/11/10

Project: NBF
Event: NA
Date Sampled: 06/02/10
Date Received: 06/03/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: QZ07A Client ID: NBF-MH108-060210-W						
pH	EPA 150.1	06/03/10	std units	7.33	7.34	0.01
Alkalinity	SM 2320	06/08/10	mg/L CaCO3	46.3	46.1	0.4%
Carbonate	SM 2320	06/08/10	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	06/08/10	mg/L CaCO3	46.3	46.1	0.4%
Hydroxide	SM 2320	06/08/10	mg/L CaCO3	< 1.0	< 1.0	NA
Total Suspended Solids	EPA 160.2	06/04/10	mg/L	8.1	8.7	7.1%
Chloride	EPA 300.0	06/07/10	mg/L	1.7	1.7	0.0%
N-Nitrate	EPA 300.0	06/03/10	mg-N/L	0.4	0.4	0.0%
Sulfate	EPA 300.0	06/07/10	mg/L	5.0	5.0	0.0%
Total Organic Carbon	EPA 415.1	06/07/10	mg/L	3.74	4.10	9.2%
ARI ID: QZ07C Client ID: NBF-MH108-060210-W						
Dissolved Organic Carbo	EPA 415.1	06/07/10	mg/L	3.18	3.24	1.9%

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

LAB CONTROL RESULTS-CONVENTIONALS
QZ07-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 06/11/10

Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH EPA 150.1	ICVL	06/03/10	std units	7.02	7.00	0.02
Total Suspended Solids EPA 160.2	ICVL	06/04/10	mg/L	49.9	50.0	99.8%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

STANDARD REFERENCE RESULTS-CONVENTIONALS
QZ07-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 06/11/10

Project: NBF
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	06/08/10	mg/L CaCO3	49.7	50.4	98.6%
Chloride ERA #230109	EPA 300.0	06/07/10	mg/L	2.9	3.0	96.7%
N-Nitrate ERA #09127	EPA 300.0	06/03/10	mg-N/L	2.8	3.0	93.3%
Sulfate ERA #220109	EPA 300.0	06/07/10	mg/L	2.9	3.0	96.7%
Total Organic Carbon ERA 0506-09-01	EPA 415.1	06/07/10	mg/L	21.2	20.0	106.0%
Dissolved Organic Carbon ERA 0506-09-01	EPA 415.1	06/07/10	mg/L	21.2	20.0	106.0%

GEOTECHNICAL ANALYSIS

Science App. Internatioal Corp.
NBF

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
NBF-MH434A-00210-S	100.0	99.9	99.8	99.3	98.7	98.1	97.7	97.5	83.6	52.7	30.9	15.4	4.9	-0.4
NBF-CB178A-060210-S	100.0	100.0	99.9	99.8	99.7	99.5	99.3	99.1	90.6	54.3	39.4	28.7	19.5	12.1

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. *See narrative for discussion of the testing.*

Science App. Internatioal Corp.
NBF

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
NBF-MH434A-00210-S	0.2	0.5	0.6	0.6	0.4	0.2	13.9	30.9	21.8	15.5	10.5	5.3	-0.4	97.5
NBF-CB178A-060210-S	0.1	0.1	0.1	0.2	0.2	0.2	8.5	36.3	14.9	10.7	9.2	7.4	12.1	99.1

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

QZ31

TOTAL SOLIDS

Solids Data Entry Report Checked by: MH Date: 6/15/10
Date: 06/15/10 Data Analyst: DM

Solids Determination performed on 06/14/10 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
QZ31	B	NBF-MH434A-060210-S	1.000	5.490	2.630	36.30
QZ31	D	NBF-MH356A-060210-S	1.010	5.319	1.316	7.10
QZ31	F	NBF-LS431A-060210-S	0.982	5.576	2.253	27.67
QZ31	H	NBF-MH423A-060210-S	0.981	5.183	2.235	29.84
QZ31	J	NBF-MH369A-060210-S	0.982	5.428	1.813	18.69
QZ31	L	NBF-MH108A-060210-S	0.982	5.291	1.846	20.05
QZ31	N	NBF-MH226A-060210-S	0.993	5.078	1.452	11.24
QZ31	P	NBF-MH133A-060210-S	0.996	5.424	2.595	36.11
QZ31	R	NBF-MH138A-060210-S	0.981	5.117	3.492	60.71
QZ31	T	NBF-MH152A-060210-S	0.981	2.209	1.141	13.03
QZ31	V	NBF-CB165A-060210-S	0.961	5.203	2.827	43.99
QZ31	X	NBF-CB173A-060210-S	0.963	1.291	1.013	15.24
QZ31	Z	NBF-MH178A-060210-S	0.994	5.147	1.659	16.01

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions
Prep Sheet Notes

ARI Job No.: QZ31

Client ID: Science App. International Corp.

Parameter: 8270 PNA

Client Project: NBF

Matrix: (Filter bag)/tissue/other

Wet weights: AA = 313.18g AB = 351.40g AC = 357.44g

AD = 175.16g AE = 349.42g AF = 344.43g AG = 278.91g AH = 225.45g

AI = 224.26g AJ = ~~278.39g~~ (AC 6-10-10) 299.66g AK = 257.95g AL = 272.00g AM = 376.25g

Wet weight w/o plastic ring: AA = 299.38g AB = 326.51g AC = 326.45g

AD = 151.66g AE = 329.00g AF = 324.36g AG = 261.36 AH = ~~205.82g~~ AI = 197.

AJ = 273.53 AK = 234.55g AL = ~~14.00g~~ (WC 6/10/10) 256.24g AM = ~~15.13g~~ (WC 6/10/10) 353.30g

Plastic Ring weight: AA = 15.80g AB = 15.28g AC = 15.88g AD = 13.89g

AE = 15.03g AF = 14.89g AG = 14.23g AH = 14.00g AI = 18.28g

AJ = 24.97g AK = 18.52 AL = ~~256.24g~~ (WC 6/10/10) 14.00g AM = ~~353.30g~~ 15.13g (WC 6/10/10)

Sample AD - had approx a 5mL water layer after K-D. Transferred sample to a seperatory funnel and shook out with DCM. Seperated water layer from the extract. Sample dried through a drying column and re-K-D'd. SP 6/14/10

AA - AM were loaded on GPC at various splits (see benchsheet) 6/14/10 TH

Prep Time: WC 6/9/10 (2hrs and 20mins) (AC 6-10-10 (1hr and 33mins))

Analyst/Date: WC 6/10/10

Special Instructions:

(8270) PNA Filter Bag:

1. Weigh wet filter bag and record weight on prep sheet. 2. ~~Any solids splits taken at this time.~~ ~~(Record weights on prep sheet.~~ 3. Cut off plastic rings and record weights on prep sheet. 4. Record wet weights without plastic rings and splits on prep sheet. 5. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags. 6. Record "prep time" on prep sheet. 7. Follow extraction instructions on bench sheet.

PCB Filter Bag:

1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Samples are dried for (2 days) by attaching them to a hood (split open in a tube shape and wrapped in aluminum foil). 4. Re-weigh dried samples and record weight on prep sheet.
5. Cut off plastic rings and record weights on prep sheet. 6. Record sample dry weights without plastic rings on prep sheet.
7. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags.
8. Record "prep time" on prep sheet. 9. Follow extraction instructions on bench sheet.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Prep Sheet Notes

ARI Job No.: QZ231 Client ID: Science App. International Corp

Parameter: PCB Client Project: NBF

Matrix: (Filter bag)/tissue/other

Sample Wet Weights. A= 300.53g C= 349.01g E= 348.21g
G= 237.53g I= 324.88g K= 331.21g M= 307.83g O= 302.26g
Q= 203.56g S= 306.11g U= 256.29g W= 280.58g Y= 395.89g WC 6/8/10

Metal split (solids only). A= 12.84g C= 18.41g E= 18.91g
G= 8.91g I= 12.63g K= 14.96g M= 8.56g O= 13.85g
Q= 6.50g S= 3.87g U= 20.43g W= 1.70g Y= 12.38g WC 6/8/10

Geotech split (solids only) A= 22.90g C= N/A E= N/A
G= N/A I= N/A K= N/A M= N/A O= N/A
Q= N/A S= N/A U= N/A W= N/A Y= 19.80g WC 6/8/10

Dry weight tbl: A=79.81g B= AC 6-14-10 C= 82.09g D= AC 6-14-10 E= 73.34 G= 69.33g
I= 71.79g K= 75.60g M= 80.81g O= 73.37g Q= 65.81g S= 78.28g U= 79.40g W= 78.17g Y= 90.41

w/ ring(only) A= 15.56g B= AC 6-14-10 C= 15.39 E= AC 6/14/10 15.21g G= 14.89 I= 15.01g K= 15.29g
M= 15.91g O= 13.44g Q= 15.26g S= 17.80g U= 15.81g W= 17.03 Y= 16.24

w/o ring: A= 63.41g B= AC 6-14-10 C= 66.72g E= 58.08 G= 56.70g I= 56.79 K= 60.35g
M= 64.94g O= 58.12g Q= 50.57g S= 60.40g U= 53.58g W= 61.18g Y= 73.80g

Samples A-Y: high volume (Spipets) acid clean. SP 6/16/10

16:35-17:10 AC 6-10-10

Prep Time: Before Drying - 2hrs After Drying - 6hr 20min **Analyst/Date:**

17:45-19:00 AC 6-8-10 WC 6/8/10 10:35 AC 6-10-10

Special Instructions:

(8270) PNA Filter Bag:

1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Cut off plastic rings and record weights on prep sheet. 4. Record wet weights without plastic rings and splits on prep sheet. 5. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags. 6. Record "prep time" on prep sheet. 7. Follow extraction instructions on bench sheet.

PCB Filter Bag:

1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Samples are dried for (2 days) by attaching them to a hood (split open in a tube shape and wrapped in aluminum foil). 4. Re-weigh dried samples and record weight on prep sheet.
5. Cut off plastic rings and record weights on prep sheet. 6. Record sample dry weights without plastic rings on prep sheet.
7. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags.
8. Record "prep time" on prep sheet. 9. Follow extraction instructions on bench sheet.

Table of Contents: ARI Job RC27, RC29

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Project: NBF/GTSP Stormwater Sampling

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BC
Signature

July-20-2010
Date

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Project: NBF/GTSP Stormwater Sampling

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BC
Signature

July-20-2010
Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

July 19, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job Nos.: RC27 & RC29

Dear Glen:

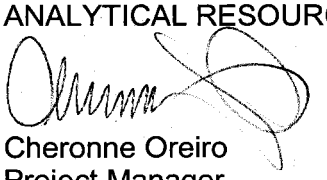
Please find enclosed the Chain-of-Custody (COC) records, sample receipt documentation, and the final data package for samples from the project referenced above.

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.



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

Enclosures

cc: eFile RC27/RC29

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Documentation

ARI Job ID: RC27, RC29

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job Nos.: RC27 & RC29

Sample Receipt

One water sample was received on June 29, 2010 under ARI jobs RC27 and RC29. The cooler temperature measured by IR thermometer following ARI SOP was 5.1°C. The sample was submitted in a five gallon carboy. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The carboy water sample was homogenized using a fourteen liter churn-splitter and then poured in to individual sample containers for analysis.

Volatile by SW8260C

The sample was analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

Semivolatiles by SW8270D

The sample was extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

PAHs SW8270D-SIM)

The sample was extracted and analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The continuing calibration of Fluoranthene and Benzo(a)pyrene were outside the 20% control limit high. All detected results for these compounds have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit.

The LCS and LCSD percent recoveries of Benzo(a)anthracene were outside the control limits high for **LCS-070110**. The associated sample was undetected for this compound. No corrective action was taken.

The LCS percent recovery of Benzo(a)pyrene was outside the control limits high for **LCS-070110**. The LCSD percent recovery was within control limits. No corrective action was taken.

Aroclor PCBs by SW8082

The sample was extracted and analyzed within recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

The undetected result of Aroclor 1260 was raised and "Y"-flagged due to interference from the matrix.

Total/Dissolved Metals and Total Mercury

The sample was digested and analyzed within method recommended holding times, using internal standard methods.

The first and third CCV percent recoveries of calcium were outside the control limits high. No sample results were associated with these CCVs. No corrective action was required.

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

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

Dissolved Low-Level Mercury

The sample was digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery and duplicate RPD were within control limits.

General Chemistry

The sample was prepared and analyzed within method recommended holding times, using internal standards.

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

The SRM percent recoveries were within limits.

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

RC77

SAIC
From Science to Solutions

18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: _____ Project Mgr: Glen Vedera
Project Name: NBF/GTSP Stormwater Sampling
Project Location: NBF
Sample Collectors: J Nuwer
Client Name: Ecology

Sample ID	Depth	Matrix	Date	Time	# of Containers	Low Level PCB Aroclors	SVOC / SIM SVOC	Pesticides	VOCs	Metals + Hg total/diss	Hardness, pH, alkalinity	anions, TOC, DOC, TSS				Comments
NBF-MH108-062910-W		water	6/29/10	11:00	1 carboy	X	X	X	X	X	X	X				

Shipping Information
Number of Shipping Containers:
Date Shipped:
Carrier:
Waybill No.:

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 6/29/10 1155	Date/Time: 6/29/10 1155	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ARI	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

RC77 : 00005

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC

Project Name: NBF/GTSP Stormwater Sampling

COC No(s): _____ (NA)

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

Assigned ARI Job No: RC27

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)..... 5.1 ___ ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90877952

Cooler Accepted by: JW Date: 6/29/10 Time: 1155

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) AV YES Date/Time: 6/29/10 1600 Equipment: polychurn Split by: JM/AV

Samples Logged by: AV Date: 6/29/10 Time: 1718

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 06/29/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

Inquiry Number: NONE
Analysis Requested: 06/29/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: YES
Deliverables:

ARI Job No: **RC27**

PC: Cheronne
VTSR: 06/29/10

Project #:
Project: NBF/GTSP Stormwater Sampling
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT *	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-15500 **RC27A**	NBF-MH108-062910-W						TOT Pass				NP	Pass										
10-15501 **RC27B**	NBF-MH108-062910-W						DIS Fail									N	Fail (1)					

(1) filtered and preserved 6/29/10 17:51 CWS

Checked By AV Date 6/29/10

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC

Project Name: NBF/GTSP Stormwater Sampling

COC No(s): _____ (NA)

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

Assigned ARI Job No: RC29

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)..... 5.1 ___ ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90877952

Cooler Accepted by: JW Date: 6/29/10 Time: 1155

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: 6/29/10 1600 Equipment: Polychurn Split by: JM/AV

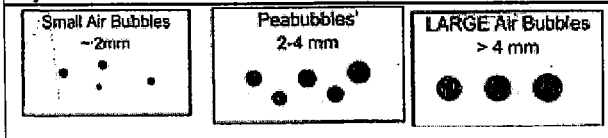
Samples Logged by: AV Date: 6/29/10 Time: 1720

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 06/29/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **RC29**

Inquiry Number: NONE
Analysis Requested: 06/29/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: YES
Deliverables:

PC: Cheronne
VTSR: 06/29/10

Project #:
Project: NBF/GTSP Stormwater Sampling
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-15502 **RC29A**	NBF-MH108-062910-W						DIS Fal									N						

RC27:00015

Checked By AV Date 6/29/10

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: RC27, RC29

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

7/3/2010

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1732-2	ABN	100/150	MEOH	07/30/10
B	1747-2	SIM PNA	15/75	MEOH	10/07/10
C	1705-4	SIM ABN	25/37.5	MEOH	07/30/10
D	1742-1	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1747-1	LOW S. PNA	1.5	MEOH	10/07/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1740-1	TPH	450	MECL2	12/11/10
P	1742-2	HCID	2250	MECL2	05/13/11
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					

LCS SOLUTIONS

7/3/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#		BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1744-3	LOW PEST	0.2/0.4/2	ACETONE	03/08/11
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1738-2	ABN	100	ACETONE	01/31/11
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1730-2	TPHD	15000	ACETONE	04/26/11
12	1741-2	ABN BASE	200	MEOH	07/24/10
13	1716-2	LOW PCB	2	ACETONE	03/30/11
14	1730-1	LOW ABN ACID	10/20	MEOH	07/14/10
15	1726-3	SIM PNA	15/75	MEOH	10/07/10
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18	1726-4	LOW SIM PNA	1.5	ACETONE	10/07/10
19	1746-3	AK103	7500	ACETONE	12/01/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1725-1	SKY/BHT	100	MEOH	03/18/11
22	1728-1	HERB	12.5/12500	MEOH	10/20/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#		DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#		ADD. PEST	4	ACETONE	NA
29#		DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

7/3/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Analytical Resources,Incorporated
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Spike Recovery Control Limits for Analysis of Aqueous Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 10 mL Purge Volume [1,7]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI Control Limits	ARI ME Control Limits[2]
LCS Spike Recovery [6]		
tert-Butanol	49 - 150	32 - 167
Metyl-*tert*-butylether	47 - 154	29 - 172
Di-*iso*-propylether	43 - 149	25 - 167
Ethyl-*tert*-butylether	45 - 155	27 - 173
tert-Amyl methylether	52 - 151	35 - 168
Dichlorodifluoromethane	59 - 129	47 - 141
Chloromethane	66 - 123	57 - 133
Vinyl Chloride	68 - 121	59 - 130
Bromomethane	55 - 148	40 - 164
Chloroethane	47 - 155	29 - 173
1,1,2-Trichloro-1,2,2-trifluoroethane	70 - 129	60 - 139
Acrolein	24 170	**10** - 194
Trichlorotrifluoroethane	74 - 127	65 - 136
Acetone	70 - 130	60 - 140
1,1-Dichloroethene	72 - **120**	64 - 127
Bromoethane	73 - 131	63 - 141
Methyl Iodide	34 - 183	**10** - 208
Methylene Chloride	70 - 124	61 - 133
Acrylonitrile	71 - 135	60 - 146
Methyl tert-Butyl Ether	78 - **120**	72 - 122
Carbon Disulfide	66 - 129	56 - 140
trans-1,2-Dichloroethene	76 - **120**	70 - 120
Vinyl Acetate	49 - 134	35 - 148
1,1-Dichloroethane	75 - **120**	68 - 124
2-Butanone	78 - 131	69 - 140
2,2-Dichloropropane	68 - 121	59 - 130
cis-1,2-Dichloroethene	80 - **120**	75 - **120**
Chloroform	78 - **120**	72 - 121
Bromodichloromethane	79 - **120**	73 - **120**
1,1,1-Trichloroethane	76 - **120**	69 - 123
1,1-Dichloropropene	78 - **120**	72 - 120
Carbon Tetrachloride	70 - 126	61 - 135
1,2-Dichloroethane	78 - **120**	72 - **120**
Benzene	79 - **120**	73 - **120**
Trichloroethene	78 - **120**	72 - 122
1,2-Dichloropropane	80 - **120**	75 - **120**
Bromochloromethane	78 - **120**	72 - 124

Dibromomethane	80 - **120**	75 - **120**
2-Chloroethylvinylether	68 - 134	57 - 145
4-Methyl-2-Pentanone	73 - 131	63 - 141
cis-1,3-Dichloropropene	78 - **120**	72 - 121
Toluene	79 - **120**	74 - **120**
trans-1,3-Dichloropropene	75 - **120**	68 - 124
2-Hexanone	75 - 130	66 - 139
1,1,2-Trichloroethane	79 - **120**	74 - **120**
1,3-Dichloropropane	78 - **120**	72 - 120
Tetrachloroethene	72 - **120**	65 - 125
Dibromochloromethane	78 - **120**	71 - 125
Ethylene Dibromide	75 - **120**	68 - 125
Chlorobenzene	79 - **120**	73 - **120**
Ethylbenzene	78 - 121	71 - 128
1,1,2,2-Tetrachloroethane	72 - **120**	64 - 127
m,p-Xylene	65 - 129	54 - 140
o-Xylene	76 - 120	69 - 127
Styrene	74 - 121	66 - 129
Isopropylbenzene	74 - 120	66 - 128
Bromoform	71 - 120	63 - 128
1,1,1,2-Tetrachloroethane	75 - **120**	68 - 126
1,2,3-Trichloropropane	73 - 120	65 - 128
trans-1,4-Dichloro-2-butene	65 - 135	53 - 147
n-Propylbenzene	76 - 121	69 - 129
Bromobenzene	72 - **120**	64 - 126
1,3,5-Trimethylbenzene	74 - 123	66 - 131
2-Chlorotoluene	74 - **120**	67 - 127
4-Chlorotoluene	75 - **120**	68 - 125
tert-Butylbenzene	73 - 121	65 - 129
1,2,4-Trimethylbenzene	73 - 124	65 - 133
sec-Butylbenzene	75 - 123	67 - 131
4-Isopropyltoluene	71 - 125	62 - 134
1,3-Dichlorobenzene	72 - **120**	64 - 127
1,4-Dichlorobenzene	76 - **120**	69 - 123
n-Butylbenzene	72 - 124	63 - 133
1,2-Dichlorobenzene	75 - **120**	68 - 124
1,2-Dibromo-3-chloropropane	67 - 121	58 - 130
1,2,4-Trichlorobenzene	71 - 120	63 - 128
Hexachloro-1,3-butadiene	67 - 124	58 - 134
Naphthalene	71 - 125	62 - 134
1,2,3-Trichlorobenzene	61 - 134	49 - 146
MB/LCS Surrogate Recovery		
Dibromofluoromethane	64 - 133	(3)
d4-1,2-Dichloroethane	70 - 132	(3)
d8-Toluene	**80 - 120**	(3)

4-Bromofluorobenzene	**80 - 120**	(3)
d4-1,2-Dichlorobenzene	**80 - 120**	(3)
Sample Surrogate Recovery		
Dibromofluoromethane	30 - 160 [5]	(3)
d4-1,2-Dichloroethane	**80** - 143	(3)
d8-Toluene	**80 - 120**	(3)
4-Bromofluorobenzene	**80 - 120**	(3)
D4-1,2-Dichlorobenzene	**80** - 120	(3)

(1) Control Limits calculated using all data generated 1/1/08 through 4/15/09.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard[4] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances require corrective action.
(3) Marginal Exceedances not allowed for surrogate standards.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. ***DO NOT*** *use these limits as the sole reason to reject the data from a batch of analyses*
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) are adjusted from the calculated values as follows:

a) ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
b) Control limits for analyzes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.

Analytical Resources,Incorporated
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Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
LCS Spike Recovery [8]				
Phenol [3]	50 - **100**	43 - 103	16 - **100**	6 - **100**
Bis-(2-chloroethyl) ether	52 - **100**	45 - 105	41 - 112	29 - 124
2-Chlorophenol	56 - **100**	49 - 103	43 - 111	32 - 122
1,3-Dichlorobenzene	23 - **100**	15 - **100**	32 - **100**	22 - 103
1,4-Dichlorobenzene	25 - **100**	17 - **100**	32 - **100**	22 - 103
Benzyl Alcohol	19 - 100	**10** - 114	22 - 100	9 - 113
1,2-Dichlorobenzene	30 - **100**	22 - **100**	34 - **100**	24 - 104
2-Methylphenol	52 - **100**	44 - 106	36 - 110	24 - 122
2,2'-oxybis(1-chloropropane)	32 - 111	19 - 124	29 - 118	14 - 133
4-Methylphenol	53 - 102	45 - 110	38 - 104	27 - 115
N-Nitroso-di-n-propylamine	43 - 104	33 - 114	38 - 115	25 - 128
Hexachloroethane	12 - **100**	**10** - **100**	24 - **100**	13 - 100
Nitrobenzene	33 - 125	18 - 140	45 - 106	35 - 116
Isophorone	57 - 115	47 - 125	55 - 119	44 - 130
2-Nitrophenol	56 - 102	48 - 110	46 - 118	34 - 130
2,4-Dimethyphenol	29 - **100**	20 - **100**	28 - 105	15 - 118
Bis-(2-chloroethoxy) methane	54 - 101	46 - 109	44 - 118	32 - 130
Benzoic Acid [3]	**10** - 131	**10** - 151	11 - **100**	**10** - **100**
2,4-Dichlorophenol	56 - 104	48 - 112	43 - 121	30 - 134
1,2,4-Trichlorobenzene	27 - **100**	18 - **100**	35 - **100**	25 - 107
Naphthalene	45 - **100**	38 - **100**	36 - 111	24 - 124
4-Chloroaniline [3]	**10** - 139	**10** - 161	10 - 174	**10** - 201
2-Chloronaphthalene	45 - **100**	37 - 105	39 - 118	26 - 131
Hexachlorobutadiene	**10** - **100**	**10** - **100**	24 - **100**	12 - 108
4-Chloro-3-methylphenol	53 - 109	44 - 118	45 - 122	32 - 135
2-Methylnaphthalene	46 - **100**	38 - 100	45 - 103	35 - 113
Hexachlorocyclopentadiene	**10** - **100**	**10** - **100**	23 - 108	**10** - 122
2,4,6-Trichlorophenol	58 - 108	50 - 116	48 - 122	36 - 134
2,4,5-Trichlorophenol	58 - 107	50 - 115	48 - 122	36 - 134
2-Nitroaniline	50 - 107	41 - 117	48 - 118	36 - 130
Dimethylphthalate	58 - 107	50 - 115	50 - 120	38 - 132
Acenaphthylene	57 - 100	50 - 107	50 - 119	39 - 131
2,6-Dinitrotoluene	58 - 112	49 - 121	48 - 133	34 - 147
3-Nitroaniline [3]	21 - 150	**10** - 172	54 - 140	40 - 154
Acenaphthene	51 - **100**	43 - 106	41 - 120	28 - 133
2,4-Dinitrophenol	12 - 169	**10** - 195	23 - 176	**10** - 202

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibenzofuran	57 - 100	50 - 107	51 - 114	41 - 125
4-Nitrophenol [3]	35 - 119	21 - 133	13 - **100**	**10** - **100**
2,4-Dinitrotoluene	58 - 117	48 - 127	51 - 134	37 - 148
Fluorene	56 - 104	48 - 112	50 - 120	38 - 132
Diethylphthlalate	52 - 111	42 - 121	48 - 122	36 - 134
4-Chlorophenyl-phenyl ether	55 - 104	47 - 112	50 - 118	39 - 129
4-Nitroaniline	49 - 112	39 - 123	42 - 136	26 - 152
4,6-Dinitro-2-Methylphenol	13 - 139	**10** - 160	32 - 121	17 - 136
N-Nitrosodiphenylamine	60 - 136	47 - 149	58 - 141	44 - 155
4-Bromophenyl-phenyl ether	55 - 103	47 - 111	50 - 122	38 - 134
Hexachlorobenzene	54 - 106	45 - 115	47 - 125	34 - 138
Pentachlorophenol	46 - 114	35 - 125	35 - 130	19 - 146
Phenanthrene	56 - 102	48 - 110	49 - 120	37 - 132
Anthracene	56 - 101	49 - 109	53 - 116	43 - 127
Carbazole	60 - 108	52 - 116	57 - 122	46 - 133
Di-n-butylphthalate	56 - 112	47 - 121	57 - 121	46 - 132
Fluoranthene	57 - 110	48 - 119	56 - 119	46 - 130
Pyrene	48 - 119	36 - 131	37 - 143	19 - 161
Butylbenzylphthalate	51 - 114	41 - 125	34 - 152	14 - 172
Benzo(a)Anthracene	55 - 105	47 - 113	49 - 129	36 - 142
3,3'-Dichlorbenzidine [3]	**10** - 128	**10** - 148	50 - 128	37 - 141
Chrysene	55 - 104	47 - 112	45 - 128	31 - 142
bis(2-Ethylhexyl) phthalate	28 - 164	**10** - 187	57 - 133	44 - 146
Di-n-octylphthalate	57 - 107	49 - 115	52 - 120	41 - 131
Benzo(b)Fluoranthene	53 - 112	43 - 122	50 - 126	37 - 139
Benzo(k)Fluoranthene	50 - 116	39 - 127	49 - 126	36 - 139
Benzo(a)Pyrene	45 - 103	35 - 113	46 - 109	36 - 120
Indeno(1,2,3-cd)Pyrene	35 - 118	21 - 132	34 - 136	17 - 153
Dibenz(a,h)anthracene	42 - 119	29 - 132	41 - 134	26 - 150
Benzo(g,h,i)Perylene	39 - 123	25 - 137	41 - 133	26 - 148
Aniline [3]	**10** - **100**	**10** - **100**	28 - 126	12 - 142
1,2-Diphenylhydrazine /Azobenzene	57 - 109	48 - 118	55 - 119	44 - 130
N-Nitrosodimethylamine	49 - **100**	41 - 104	31 - **100**	21 - 105
1-Methylnaphthalene	46 - **100**	37 - 107	43 - 115	31 - 127
1,4-Dioxane	40 - **100**	30 - 108	30 - 160 [4]	30 - 160 [4]
Pyridine	-	-	25 - **100**	15 - **100**
Tributyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibutyl Phenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butyl Diphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Triphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butylated Hydroxytoluene (BHT)	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
MB / LCS Surrogate Recovery				
d4-2-Chlorophenol	53 - 100	(5)	49 - 101	(5)
d4-1,2-Dichlorobenzene	38 - **100**	(5)	40 - **100**	(5)
2,4,6-Tribromophenol	52 - 123	(5)	51 - 122	(5)
2-Fluorophenol	46 - **100**	(5)	31 - **100**	(5)
d5-Phenol [3]	50 - 100	52 - 108	19 - **100**	12 - **100**
d5-Nitrobenzene	46 - 100	(5)	46 - 101	(5)
2-Fluorobiphenyl	49 - **100**	(5)	49 - 103	(5)
d14-p-Terphenyl	53 - 119	(5)	49 - 130	(5)
d8-1,4-Dioxane	45 - **100**	(5)	30 - 160 [4]	(5)
Sample Surrogate Recovery				
d4-2-Chlorophenol	44 - **100**	(5)	23 - 104	(5)
d4-1,2-Dichlorobenzene	32 - **100**	(5)	22 - **100**	(5)
2,4,6-Tribromophenol	48 - 118	(5)	22 - 125	(5)
2-Fluorophenol	38 - **100**	(5)	18 - **100**	(5)
d5-Phenol	41 - **100**	32 - 104	**10** - **100**	17 - **100**
d5-Nitrobenzene	39 - **100**	(5)	21 - 106	(5)
2-Fluorobiphenyl	42 - **100**	(5)	26 - 104	(5)
d14-p-Terphenyl	26 - 114	(5)	11 - 132	(5)
d8-1,4-Dioxane	32 - **100**	(5)	30 - 160 [4]	(5)

(1) Control Limits calculated using all data generated 1/1/07 through 12/1/07.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [6] as beyond the CL but still within the ME limits. ARI defines ME limits as between 3 and 4 standard deviations around the mean with upper limit ≥ 100%. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances in an analysis require corrective action.
(3) These are "**poor performers**" defined in the DoD QSM[7] as compounds that "produce low mean recoveries and high standard deviations, resulting in wide LCS control limits with particularly low lower control limits (sometimes-negative values). ARI does not control batch acceptance based on these compounds since there is a high level of uncertainty in their recovery."
(4) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(5) Marginal Exceedances not allowed for surrogate unless it is a "poor performer".
(6) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(7) Page 182 of: **Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 Final, March 2005** Prepared By Environmental Data Quality Workgroup, Department of Navy, Lead Service (Based On National Environmental Laboratory Accreditation Conference (NELAC) Chapter 5 (Quality Systems) NELAC Voted Version – 5 June 2003
(8) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the *acceptability of an analytical batch*.
(9) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Analytical Resources,Incorporated
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Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified Low Level Aqueous Samples[1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Volume / Final Volume	500 mL to 0.5 mL	
	Control Limits	ME Limits [2]
LCS Spike Recovery [6]		
Napthalene	41 - 101	31 - 111
2-Methylnapthalene	47 - **100**	39 - 103
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	35 - **100**	25 - 104
Acenapthene	43 - 104	33 - 114
Dibenzofuran	37 - **100**	27 - 108
Fluorene	51 - 103	42 - 112
Phenanthrene	55 - 109	46 - 118
Anthracene	30 - 101	18 - 113
Fluoranthene	49 - 123	37 - 135
Pyrene	48 - 120	36 - 132
Benz(a)anthracene	43 - 113	31 - 125
Chrysene	59 - 112	50 - 121
Benzo(b)fluoranthene	44 - 121	31 - 134
Benzo(k)fluoranthene	50 - 117	39 - 128
Benzo(a)pyrene	**10** - **100**	**10** - 109
Indeno(1,2,3-cd)pyrene	43 - 112	32 - 124
Dibenzo(a,h)anthracene	42 - 114	30 - 126
Benzo(g,h,i)perylene	31 - 118	17 - 133
MB / LCS Surrogate Recovery		
d10-2-Methylnaphthalene	42 - **100**	(4)
d14-Dibenzo(a,h)anthracene	40 - 125	(4)
Sample Surrogate Recovery		
d10-2-Methylnaphthalene	31 - 109	(4)
d14-Dibenzo(a,h)anthracene	**10** - 133	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/1/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6)Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Analytical Resources,Incorporated
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Spike Recovery Control Limits Analysis of PCB / Aroclors in Aqueous Samples - EPA SW-846 Methods 8081 & 8082 [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Analytical Method:	Standard Analysis	MTCA Analysis	Low Level Analysis	Manchester Extraction
Sample Weight / Final Volume:	500 / 5 mL	500 / 1 mL	1000 / 0.5 mL	3000 / 1 mL
LCS Spike Recovery [4]				
Aroclor 1016	45 - 121	36 - **100**	44 - 117	30 - 160[3]
Aroclor 1260	54 - 129	41 - 113	46 - 131	30 - 160[3]
Method Blank/LCS Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	40 - 118	29 - **100**	31 - **100**	30 - 160[3]
Decachlorobiphenyl	41 - 111	35 - 116	32 - 108	30 - 160[3]
Sample Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	38 - 118	25 - **100**	21 - **100**	30 - 160[3]
Decachlorobiphenyl	29 - 118	**10** - 128	19 - 111	30 - 160[3]

(1) Control Limits calculated using all data generated 1/1/08 through 12/1/08.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Analytical Resources,Incorporated
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Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

Volatile Analysis
Report and Summary QC Forms

ARI Job ID: RC27, RC29

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-MH108-062910-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: RC27A
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized: VJ
Reported: 07/09/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Date Sampled: 06/29/10
Date Received: 06/29/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 07/07/10 13:53

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**2.3**	
67-64-1	**Acetone**	**5.0**	**9.9**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	**Chloroform**	**0.2**	**0.7**	
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**17**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U

Lab Sample ID: RC27A QC Report No: RC27-Science App. International Corp
LIMS ID: 10-15500 Project: NBF/GTSP Stormwater Sampling
Matrix: Water
Date Analyzed: 07/07/10 13:53

CAS Number	Analyte	RL	Result	Q
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	93.3%
d8-Toluene	94.1%
Bromofluorobenzene	92.6%
d4-1,2-Dichlorobenzene	100%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-070710	Method Blank	10	95.0%	98.0%	95.3%	99.2%	0
LCS-070710	Lab Control	10	94.7%	98.6%	97.5%	99.0%	0
LCSD-070710	Lab Control Dup	10	94.2%	97.5%	97.1%	101%	0
RC27A	NBF-MH108-062910-W	10	93.3%	94.1%	92.6%	100%	0

	LCS/MB LIMITS	QC LIMITS
SW8260C		
(DCE) = d4-1,2-Dichloroethane	70-132	80-143
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 10-15500 to 10-15500

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-070710**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-070710 QC Report No: RC27-Science App. International Corp
LIMS ID: 10-15500 Project: NBF/GTSP Stormwater Sampling
Matrix: Water
Data Release Authorized: VJT Date Sampled: NA
Reported: 07/09/10 Date Received: NA

Instrument/Analyst LCS: NT5/PKC Sample Amount LCS: 10.0 mL
LCSD: NT5/PKC LCSD: 10.0 mL
Date Analyzed LCS: 07/07/10 10:46 Purge Volume LCS: 10.0 mL
LCSD: 07/07/10 11:12 LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	10.8	10.0	108%	11.0	10.0	110%	1.8%
Bromomethane	9.5	10.0	95.0%	9.6	10.0	96.0%	1.0%
Vinyl Chloride	10.2	10.0	102%	10.5	10.0	105%	2.9%
Chloroethane	10.5	10.0	105%	10.6	10.0	106%	0.9%
Methylene Chloride	10.2	10.0	102%	10.6	10.0	106%	3.8%
Acetone	47.3	50.0	94.6%	46.5	50.0	93.0%	1.7%
Carbon Disulfide	10.4	10.0	104%	10.4	10.0	104%	0.0%
1,1-Dichloroethene	10.3	10.0	103%	10.3	10.0	103%	0.0%
1,1-Dichloroethane	10.2	10.0	102%	10.3	10.0	103%	1.0%
trans-1,2-Dichloroethene	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
cis-1,2-Dichloroethene	10.0	10.0	100%	10.1	10.0	101%	1.0%
Chloroform	10.0	10.0	100%	10.1	10.0	101%	1.0%
1,2-Dichloroethane	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
2-Butanone	50.4	50.0	101%	50.2	50.0	100%	0.4%
1,1,1-Trichloroethane	10.1	10.0	101%	10.1	10.0	101%	0.0%
Carbon Tetrachloride	10.0	10.0	100%	9.8	10.0	98.0%	2.0%
Vinyl Acetate	10.7	10.0	107%	10.6	10.0	106%	0.9%
Bromodichloromethane	10.1	10.0	101%	10.0	10.0	100%	1.0%
1,2-Dichloropropane	10.5	10.0	105%	10.4	10.0	104%	1.0%
cis-1,3-Dichloropropene	10.3	10.0	103%	10.1	10.0	101%	2.0%
Trichloroethene	10.1	10.0	101%	10.0	10.0	100%	1.0%
Dibromochloromethane	9.9	10.0	99.0%	9.9	10.0	99.0%	0.0%
1,1,2-Trichloroethane	10.2	10.0	102%	10.2	10.0	102%	0.0%
Benzene	10.3	10.0	103%	10.5	10.0	105%	1.9%
trans-1,3-Dichloropropene	10.0	10.0	100%	9.8	10.0	98.0%	2.0%
2-Chloroethylvinylether	10.9	10.0	109%	10.8	10.0	108%	0.9%
Bromoform	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
4-Methyl-2-Pentanone (MIBK)	54.3	50.0	109%	53.8	50.0	108%	0.9%
2-Hexanone	52.1	50.0	104%	53.3	50.0	107%	2.3%
Tetrachloroethene	9.7	10.0	97.0%	9.9	10.0	99.0%	2.0%
1,1,2,2-Tetrachloroethane	9.6	10.0	96.0%	9.8	10.0	98.0%	2.1%
Toluene	10.1	10.0	101%	10.1	10.0	101%	0.0%
Chlorobenzene	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
Ethylbenzene	10.1	10.0	101%	10.0	10.0	100%	1.0%
Styrene	10.1	10.0	101%	10.4	10.0	104%	2.9%
Trichlorofluoromethane	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.3	10.0	103%	10.2	10.0	102%	1.0%
m,p-Xylene	20.6	20.0	103%	20.5	20.0	102%	0.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-070710**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-070710 QC Report No: RC27-Science App. International Corp
LIMS ID: 10-15500 Project: NBF/GTSP Stormwater Sampling
Matrix: Water

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
o-Xylene	10.0	10.0	100%	10.4	10.0	104%	3.9%
1,2-Dichlorobenzene	9.7	10.0	97.0%	9.8	10.0	98.0%	1.0%
1,3-Dichlorobenzene	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
1,4-Dichlorobenzene	9.6	10.0	96.0%	9.8	10.0	98.0%	2.1%
Acrolein	52.2	50.0	104%	52.1	50.0	104%	0.2%
Methyl Iodide	10.3	10.0	103%	10.4	10.0	104%	1.0%
Bromoethane	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
Acrylonitrile	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
1,1-Dichloropropene	10.2	10.0	102%	10.0	10.0	100%	2.0%
Dibromomethane	9.6	10.0	96.0%	9.6	10.0	96.0%	0.0%
1,1,1,2-Tetrachloroethane	10.2	10.0	102%	10.3	10.0	103%	1.0%
1,2-Dibromo-3-chloropropane	9.1	10.0	91.0%	9.1	10.0	91.0%	0.0%
1,2,3-Trichloropropane	9.5	10.0	95.0%	9.8	10.0	98.0%	3.1%
trans-1,4-Dichloro-2-butene	10.1	10.0	101%	9.2	10.0	92.0%	9.3%
1,3,5-Trimethylbenzene	10.0	10.0	100%	10.1	10.0	101%	1.0%
1,2,4-Trimethylbenzene	10.1	10.0	101%	10.2	10.0	102%	1.0%
Hexachlorobutadiene	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
Ethylene Dibromide	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
Bromochloromethane	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
2,2-Dichloropropane	10.3	10.0	103%	10.3	10.0	103%	0.0%
1,3-Dichloropropane	9.9	10.0	99.0%	10.1	10.0	101%	2.0%
Isopropylbenzene	10.3	10.0	103%	10.4	10.0	104%	1.0%
n-Propylbenzene	10.2	10.0	102%	10.4	10.0	104%	1.9%
Bromobenzene	9.5	10.0	95.0%	9.7	10.0	97.0%	2.1%
2-Chlorotoluene	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
4-Chlorotoluene	10.1	10.0	101%	10.2	10.0	102%	1.0%
tert-Butylbenzene	10.0	10.0	100%	10.2	10.0	102%	2.0%
sec-Butylbenzene	10.2	10.0	102%	10.3	10.0	103%	1.0%
4-Isopropyltoluene	10.2	10.0	102%	10.4	10.0	104%	1.9%
n-Butylbenzene	10.3	10.0	103%	10.4	10.0	104%	1.0%
1,2,4-Trichlorobenzene	10.4	10.0	104%	10.4	10.0	104%	0.0%
Naphthalene	11.5	10.0	115%	11.6	10.0	116%	0.9%
1,2,3-Trichlorobenzene	11.8	10.0	118%	11.9	10.0	119%	0.8%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	94.7%	94.2%
d8-Toluene	98.6%	97.5%
Bromofluorobenzene	97.5%	97.1%
d4-1,2-Dichlorobenzene	99.0%	101%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0707

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No: RC27
Project: NBF/GTSP STORMWATER

Lab File ID: 07071005
Lab Sample ID: MB0707

Date Analyzed: 07/07/10
Time Analyzed: 1138

Instrument ID: NT5
Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0707	LCS0707	07071003	1046
02	LCSD0707	LCSD0707	07071004	1112
03	NBF-MH108-06	RC27A	07071010	1353
04				
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-070710**
 METHOD BLANK

Lab Sample ID: MB-070710 QC Report No: RC27-Science App. International Corp
LIMS ID: 10-15500 Project: NBF/GTSP Stormwater Sampling
Matrix: Water
Data Release Authorized: VTB
Reported: 07/09/10 Date Received: NA

Instrument/Analyst: NT5/PKC Sample Amount: 10.0 mL
Date Analyzed: 07/07/10 11:38 Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.5	< 0.5	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U

Lab Sample ID: MB-070710 QC Report No: RC27-Science App. International Corp
LIMS ID: 10-15500 Project: NBF/GTSP Stormwater Sampling
Matrix: Water
Date Analyzed: 07/07/10 11:38

CAS Number	Analyte	RL	Result	Q
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	95.0%
d8-Toluene	98.0%
Bromofluorobenzene	95.3%
d4-1,2-Dichlorobenzene	99.2%

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES, INC Contract: SAIC

Lab Code: ARI Case No.: NBF/GTSP STORMWATER SDG No.: RC27

Lab File ID: 07061004 BFB Injection Date: 07/06/10

Instrument ID: NT5 BFB Injection Time: 1416

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.1
75	30.0 - 66.0% of mass 95	49.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.3 (0.5)1
174	50.0 - 101.0% of mass 95	65.0
175	4.0 - 9.0% of mass 174	4.7 (7.3)1
176	93.0 - 101.0% of mass 174	62.2 (95.8)1
177	5.0 - 9.0% of mass 176	4.1 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	60 PPB	60 0706	07061005	07/06/10	1522
02	40 PPB	40 0706	07061006	07/06/10	1548
03	20 PPB	20 0706	07061007	07/06/10	1613
04	10 PPB	10 0706	07061008	07/06/10	1639
05	2 PPB	2 0706	07061009	07/06/10	1705
06	1 PPB	1 0706	07061010	07/06/10	1730
07	0.5 PPB	0.5 0706	07061011	07/06/10	1756
08	0.2 PPB	0.2 0706	07061012	07/06/10	1822
09	ICV 10	ICV 0706	07061013	07/06/10	1847
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES, INC Contract: SAIC

Lab Code: ARI Case No.: NBF/GTSP STORMWATER SDG No.: RC27

Lab File ID: 07071001 BFB Injection Date: 07/07/10

Instrument ID: NT5 BFB Injection Time: 0945

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.9
75	30.0 - 66.0% of mass 95	51.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.1 (0.2)1
174	50.0 - 101.0% of mass 95	65.8
175	4.0 - 9.0% of mass 174	4.7 (7.2)1
176	93.0 - 101.0% of mass 174	62.2 (94.5)1
177	5.0 - 9.0% of mass 176	4.1 (6.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0707	CC0707	07071002	07/07/10	1021
02	LCS0707	LCS0707	07071003	07/07/10	1046
03	LCSD0707	LCSD0707	07071004	07/07/10	1112
04	MB0707	MB0707	07071005	07/07/10	1138
05	NBF-MH108-062910	RC27A	07071010	07/07/10	1353
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF0.2: 07061012 RF0.5: 07061011 RF1: 07061010
RF2: 07061009 RF10: 07061008

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
Chloromethane	1.234	1.085	0.954	1.093	1.055
Vinyl Chloride	1.305	1.109	0.981	1.067	1.012
Bromomethane	0.593	0.543	0.522	0.547	0.543
Chloroethane	0.657	0.745	0.620	0.669	0.656
Trichlorofluoromethane	1.080	1.004	1.001	1.130	1.060
Acrolein			0.063	0.071	0.067
112Trichloro122Trifluoroetha	0.758	0.682	0.658	0.758	0.699
Acetone		0.116	0.090	0.101	0.086
1,1-Dichloroethene	0.777	0.707	0.674	0.767	0.711
Bromoethane	0.532	0.472	0.464	0.531	0.514
Iodomethane		0.809	0.786	0.904	0.902
Methylene Chloride		1.238	0.935	0.851	0.760
Acrylonitrile			0.154	0.159	0.138
Carbon Disulfide	3.177	2.788	2.621	2.923	2.665
Trans-1,2-Dichloroethene	0.920	0.806	0.777	0.872	0.794
Vinyl Acetate			1.046	1.143	1.085
1,1-Dichloroethane	1.703	1.500	1.424	1.622	1.490
2-Butanone		0.052	0.046	0.043	0.049
2,2-Dichloropropane	1.311	1.157	1.130	1.327	1.270
Cis-1,2-Dichloroethene	0.928	0.804	0.778	0.887	0.826
Chloroform	1.431	1.313	1.252	1.419	1.342
Bromochloromethane	0.351	0.321	0.285	0.330	0.312
1,1,1-Trichloroethane	1.198	1.078	1.076	1.254	1.201
1,1-Dichloropropene	0.703	0.599	0.558	0.652	0.629
Carbon Tetrachloride	0.508	0.460	0.441	0.531	0.513
1,2-Dichloroethane	0.498	0.443	0.401	0.475	0.454
Benzene	2.037	1.751	1.659	1.921	1.838
Trichloroethene	0.424	0.371	0.355	0.423	0.418
1,2-Dichloropropane	0.446	0.420	0.393	0.465	0.452
Bromodichloromethane	0.527	0.470	0.446	0.529	0.514
Dibromomethane	0.222	0.186	0.168	0.188	0.180
2-Chloroethyl Vinyl Ether			0.133	0.157	0.174
4-Methyl-2-Pentanone		0.075	0.072	0.084	0.086
Cis 1,3-dichloropropene	0.778	0.647	0.613	0.719	0.693
Toluene	1.321	1.113	1.030	1.202	1.160
Trans 1,3-Dichloropropene	0.683	0.547	0.494	0.574	0.563
2-Hexanone		0.137	0.135	0.157	0.157

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF0.2: 07061012 RF0.5: 07061011 RF1: 07061010
RF2: 07061009 RF10: 07061008

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
1,1,2-Trichloroethane	0.291	0.250	0.240	0.280	0.270
1,3-Dichloropropane	0.703	0.572	0.531	0.609	0.583
Tetrachloroethene	0.461	0.387	0.360	0.420	0.405
Chlorodibromomethane	0.355	0.308	0.285	0.345	0.332
1,2-Dibromoethane	0.298	0.248	0.232	0.260	0.254
Chlorobenzene	1.541	1.280	1.196	1.401	1.280
Ethyl Benzene	0.830	0.718	0.687	0.802	0.766
1,1,1,2-Tetrachloroethane	0.404	0.364	0.350	0.416	0.412
m,p-xylene	1.022	0.890	0.840	0.977	0.908
o-Xylene	0.932	0.823	0.784	0.951	0.878
Styrene	1.546	1.323	1.239	1.456	1.454
Bromoform	0.380	0.316	0.301	0.351	0.342
1,1,2,2-Tetrachloroethane	0.898	0.732	0.662	0.767	0.716
1,2,3-Trichloropropane		0.181	0.175	0.189	0.176
Trans-1,4-Dichloro 2-Butene		0.234	0.198	0.214	0.228
N-Propyl Benzene	6.762	5.862	5.677	6.508	5.892
Bromobenzene	1.181	0.927	0.878	0.992	0.947
Isopropyl Benzene	5.300	4.689	4.564	5.276	4.913
2-Chloro Toluene	3.990	3.474	3.235	3.713	3.493
4-Chloro Toluene	3.866	3.409	3.246	3.700	3.551
T-Butyl Benzene	3.525	3.133	3.056	3.576	3.323
1,3,5-Trimethyl Benzene	4.566	3.812	3.756	4.280	4.015
1,2,4-Trimethylbenzene	4.401	3.933	3.757	4.315	4.015
S-Butyl Benzene	5.690	5.077	4.868	5.615	5.084
4-Isopropyl Toluene	4.352	3.845	3.766	4.339	3.986
1,3-Dichlorobenzene	2.272	1.888	1.797	2.093	1.933
1,4-Dichlorobenzene	2.375	1.930	1.876	2.092	1.941
N-Butyl Benzene	4.483	3.905	3.727	4.332	3.982
1,2-Dichlorobenzene	1.973	1.783	1.636	1.855	1.711
1,2-Dibromo 3-Chloropropane		0.126	0.119	0.123	0.112
1,2,4-Trichlorobenzene		0.937	0.888	1.049	1.010
Hexachloro 1,3-Butadiene		0.365	0.344	0.416	0.371
Naphthalene		1.614	1.529	1.921	1.884
1,2,3-Trichlorobenzene		0.543	0.524	0.646	0.637
Dichlorodifluoromethane	0.810	0.740	0.698	0.764	0.738
Methyl tert butyl ether	1.834	1.601	1.530	1.771	1.673

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF0.2: 07061012 RF0.5: 07061011 RF1: 07061010
RF2: 07061009 RF10: 07061008

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
d4-1,2-Dichloroethane	0.480	0.493	0.505	0.480	0.469
d8-Toluene	1.035	1.034	1.045	1.007	1.020
4-Bromofluorobenzene	0.407	0.413	0.414	0.405	0.408
d4-1,2-Dichlorobenzene	0.889	0.883	0.893	0.888	0.885
Dibromofluoromethane	0.431	0.445	0.454	0.435	0.430

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF20: 07061007 RF40: 07061006 RF60: 07061005

COMPOUND	RF20	RF40	RF60
Chloromethane	1.092	1.054	1.101
Vinyl Chloride	1.087	1.042	1.093
Bromomethane	0.563	0.561	0.552
Chloroethane	0.664	0.643	0.673
Trichlorofluoromethane	1.106	1.040	1.009
Acrolein	0.069	0.070	0.070
112Trichloro122Trifluoroetha	0.695	0.695	0.701
Acetone	0.083	0.088	0.084
1,1-Dichloroethene	0.730	0.697	0.694
Bromoethane	0.493	0.499	0.508
Iodomethane	0.905	0.894	0.868
Methylene Chloride	0.794	0.725	0.762
Acrylonitrile		0.141	0.142
Carbon Disulfide	2.601	2.612	2.551
Trans-1,2-Dichloroethene	0.805	0.776	0.766
Vinyl Acetate	1.076	1.077	1.031
1,1-Dichloroethane	1.521	1.456	1.411
2-Butanone	0.050	0.050	0.050
2,2-Dichloropropane	1.305	1.255	1.211
Cis-1,2-Dichloroethene	0.845	0.814	0.785
Chloroform	1.375	1.302	1.255
Bromochloromethane	0.316	0.301	0.294
1,1,1-Trichloroethane	1.230	1.165	1.131
1,1-Dichloropropene	0.643	0.622	0.599
Carbon Tetrachloride	0.526	0.506	0.494
1,2-Dichloroethane	0.474	0.449	0.419
Benzene	1.843	1.665	1.569
Trichloroethene	0.426	0.406	0.392
1,2-Dichloropropane	0.461	0.442	0.442
Bromodichloromethane	0.522	0.499	0.492
Dibromomethane	0.183	0.176	0.172
2-Chloroethyl Vinyl Ether	0.173	0.182	0.181
4-Methyl-2-Pentanone	0.083	0.087	0.086
Cis 1,3-dichloropropene	0.708	0.676	0.649
Toluene	1.149	1.079	1.038
Trans 1,3-Dichloropropene	0.568	0.543	0.531
2-Hexanone	0.151	0.154	0.155

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF20: 07061007 RF40: 07061006 RF60: 07061005

COMPOUND	RF20	RF40	RF60
1,1,2-Trichloroethane	0.268	0.261	0.256
1,3-Dichloropropane	0.588	0.557	0.555
Tetrachloroethene	0.424	0.407	0.406
Chlorodibromomethane	0.346	0.325	0.330
1,2-Dibromoethane	0.257	0.247	0.240
Chlorobenzene	1.288	1.182	1.142
Ethyl Benzene	0.777	0.734	0.729
1,1,1,2-Tetrachloroethane	0.422	0.402	0.406
m,p-xylene		0.816	0.772
o-Xylene	0.893	0.844	0.844
Styrene	1.459	1.340	1.285
Bromoform	0.352	0.331	0.322
1,1,2,2-Tetrachloroethane	0.715	0.672	0.668
1,2,3-Trichloropropane	0.178	0.167	0.166
Trans-1,4-Dichloro 2-Butene	0.235	0.234	0.220
N-Propyl Benzene	5.663	4.704	4.128
Bromobenzene	0.953	0.878	0.848
Isopropyl Benzene	4.804	4.099	3.624
2-Chloro Toluene	3.478	3.110	2.872
4-Chloro Toluene	3.530	3.161	2.939
T-Butyl Benzene	3.295	2.993	2.809
1,3,5-Trimethyl Benzene	3.953	3.498	3.214
1,2,4-Trimethylbenzene	4.003	3.529	3.262
S-Butyl Benzene	5.000	4.294	3.875
4-Isopropyl Toluene	3.970	3.544	3.230
1,3-Dichlorobenzene	1.945	1.810	1.747
1,4-Dichlorobenzene	1.952	1.822	1.756
N-Butyl Benzene	3.981	3.552	3.269
1,2-Dichlorobenzene	1.734	1.611	1.577
1,2-Dibromo 3-Chloropropane	0.111	0.108	0.111
1,2,4-Trichlorobenzene	1.049	0.983	0.768
Hexachloro 1,3-Butadiene	0.392	0.380	0.353
Naphthalene	1.950	1.669	1.038
1,2,3-Trichlorobenzene	0.631	0.419	
Dichlorodifluoromethane	0.781	0.740	0.768
Methyl tert butyl ether	1.683	1.604	1.558

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF20: 07061007 RF40: 07061006 RF60: 07061005

COMPOUND	RF20	RF40	RF60
d4-1,2-Dichloroethane	0.468	0.469	0.450
d8-Toluene	1.017	1.035	1.006
4-Bromofluorobenzene	0.409	0.415	0.428
d4-1,2-Dichlorobenzene	0.883	0.884	0.885
Dibromofluoromethane	0.430	0.435	0.422

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
Chloromethane	AVRG	1.084	7.1
Vinyl Chloride	AVRG	1.087	9.0
Bromomethane	AVRG	0.553	3.7
Chloroethane	AVRG	0.666	5.4
Trichlorofluoromethane	AVRG	1.054	4.6
Acrolein	AVRG	0.068	4.4
112Trichloro122Trifluoroetha	AVRG	0.706	5.0
Acetone	AVRG	0.093	12.9
1,1-Dichloroethene	AVRG	0.720	5.0
Bromoethane	AVRG	0.502	5.0
Iodomethane	AVRG	0.867	5.7
Methylene Chloride	LINR		0.9987
Acrylonitrile	AVRG	0.147	6.2
Carbon Disulfide	AVRG	2.742	7.8
Trans-1,2-Dichloroethene	AVRG	0.815	6.6
Vinyl Acetate	AVRG	1.076	3.6
1,1-Dichloroethane	AVRG	1.516	6.6
2-Butanone	AVRG	0.049	6.2
2,2-Dichloropropane	AVRG	1.246	5.9
Cis-1,2-Dichloroethene	AVRG	0.833	6.2
Chloroform	AVRG	1.336	5.1
Bromochloromethane	AVRG	0.314	6.7
1,1,1-Trichloroethane	AVRG	1.166	5.7
1,1-Dichloropropene	AVRG	0.626	6.9
Carbon Tetrachloride	AVRG	0.497	6.3
1,2-Dichloroethane	AVRG	0.452	7.0
Benzene	AVRG	1.785	8.6
Trichloroethene	AVRG	0.402	6.7
1,2-Dichloropropane	AVRG	0.440	5.4
Bromodichloromethane	AVRG	0.500	5.9
Dibromomethane	AVRG	0.184	9.1
2-Chloroethyl Vinyl Ether	AVRG	0.167	11.3
4-Methyl-2-Pentanone	AVRG	0.082	7.4
Cis 1,3-dichloropropene	AVRG	0.685	7.5
Toluene	AVRG	1.136	8.4
Trans 1,3-Dichloropropene	AVRG	0.563	9.7
2-Hexanone	AVRG	0.149	6.4

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
1,1,2-Trichloroethane	AVRG	0.264	6.2
1,3-Dichloropropane	AVRG	0.587	8.9
Tetrachloroethene	AVRG	0.409	7.2
Chlorodibromomethane	AVRG	0.328	6.9
1,2-Dibromoethane	AVRG	0.255	7.8
Chlorobenzene	AVRG	1.289	10.1
Ethyl Benzene	AVRG	0.755	6.2
1,1,1,2-Tetrachloroethane	AVRG	0.397	6.5
m,p-xylene	AVRG	0.889	10.0
o-Xylene	AVRG	0.868	6.4
Styrene	AVRG	1.388	7.6
Bromoform	AVRG	0.337	7.4
1,1,2,2-Tetrachloroethane	AVRG	0.729	10.6
1,2,3-Trichloropropane	AVRG	0.176	4.5
Trans-1,4-Dichloro 2-Butene	AVRG	0.223	6.1
N-Propyl Benzene	AVRG	5.650	15.4
Bromobenzene	AVRG	0.950	11.0
Isopropyl Benzene	AVRG	4.658	12.2
2-Chloro Toluene	AVRG	3.421	10.2
4-Chloro Toluene	AVRG	3.425	8.8
T-Butyl Benzene	AVRG	3.214	8.2
1,3,5-Trimethyl Benzene	AVRG	3.887	10.9
1,2,4-Trimethylbenzene	AVRG	3.902	9.8
S-Butyl Benzene	AVRG	4.938	12.4
4-Isopropyl Toluene	AVRG	3.879	9.8
1,3-Dichlorobenzene	AVRG	1.936	9.0
1,4-Dichlorobenzene	AVRG	1.968	9.8
N-Butyl Benzene	AVRG	3.904	10.1
1,2-Dichlorobenzene	AVRG	1.735	7.7
1,2-Dibromo 3-Chloropropane	AVRG	0.116	5.8
1,2,4-Trichlorobenzene	AVRG	0.955	10.6
Hexachloro 1,3-Butadiene	AVRG	0.375	6.5
Naphthalene	AVRG	1.658	19.2
1,2,3-Trichlorobenzene	AVRG	0.567	15.7
Dichlorodifluoromethane	AVRG	0.755	4.5
Methyl tert butyl ether	AVRG	1.657	6.3

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
d4-1,2-Dichloroethane	AVRG	0.477	3.5
d8-Toluene	AVRG	1.025	1.4
4-Bromofluorobenzene	AVRG	0.412	1.8
d4-1,2-Dichlorobenzene	AVRG	0.886	0.4
Dibromofluoromethane	AVRG	0.435	2.2

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Cont. Calib. Date: 07/07/10

Init. Calib. Date: 07/06/10 Cont. Calib. Time: 1021

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Chloromethane	1.084	1.165	0.100	AVRG	7.5
Vinyl Chloride	1.087	1.066	0.010	AVRG	-1.9
Bromomethane	0.553	0.499	0.010	AVRG	-9.8
Chloroethane	0.666	0.698	0.010	AVRG	4.8
Trichlorofluoromethane	1.054	1.045	0.010	AVRG	-0.8
Acrolein	0.068	0.069	0.010	AVRG	1.5
112Trichloro122Trifluoroetha	0.706	0.727	0.010	AVRG	3.0
Acetone	0.092	0.081	0.010	AVRG	-12.0
1,1-Dichloroethene	0.720	0.732	0.010	AVRG	1.7
Bromoethane	0.502	0.474	0.010	AVRG	-5.6
Iodomethane	0.867	0.898	0.010	AVRG	3.6
Methylene Chloride	10.000	10.440	0.010	LINR	4.4
Acrylonitrile	0.147	0.140	0.010	AVRG	-4.8
Carbon Disulfide	2.742	2.793	0.010	AVRG	1.8
Trans-1,2-Dichloroethene	0.814	0.784	0.010	AVRG	-3.7
Vinyl Acetate	1.076	1.141	0.010	AVRG	6.0
1,1-Dichloroethane	1.516	1.532	0.100	AVRG	1.0
2-Butanone	0.048	0.050	0.010	AVRG	4.2
2,2-Dichloropropane	1.246	1.276	0.010	AVRG	2.4
Cis-1,2-Dichloroethene	0.833	0.827	0.010	AVRG	-0.7
Chloroform	1.336	1.335	0.010	AVRG	-0.1
Bromochloromethane	0.314	0.304	0.010	AVRG	-3.2
1,1,1-Trichloroethane	1.167	1.167	0.010	AVRG	0.0
1,1-Dichloropropene	0.626	0.624	0.010	AVRG	-0.3
Carbon Tetrachloride	0.497	0.489	0.010	AVRG	-1.6
1,2-Dichloroethane	0.452	0.449	0.010	AVRG	-0.7
Benzene	1.785	1.842	0.010	AVRG	3.2
Trichloroethene	0.402	0.398	0.010	AVRG	-1.0
1,2-Dichloropropane	0.440	0.455	0.010	AVRG	3.4
Bromodichloromethane	0.500	0.500	0.010	AVRG	0.0
Dibromomethane	0.184	0.173	0.010	AVRG	-6.0
2-Chloroethyl Vinyl Ether	0.167	0.179	0.010	AVRG	7.2
4-Methyl-2-Pentanone	0.082	0.087	0.010	AVRG	6.1
Cis 1,3-dichloropropene	0.685	0.696	0.010	AVRG	1.6
Toluene	1.136	1.152	0.010	AVRG	1.4
Trans 1,3-Dichloropropene	0.563	0.548	0.010	AVRG	-2.7
2-Hexanone	0.149	0.153	0.010	AVRG	2.7

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Cont. Calib. Date: 07/07/10

Init. Calib. Date: 07/06/10 Cont. Calib. Time: 1021

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,1,2-Trichloroethane	0.264	0.269	0.010	AVRG	1.9
1,3-Dichloropropane	0.587	0.562	0.010	AVRG	-4.2
Tetrachloroethene	0.409	0.390	0.010	AVRG	-4.6
Chlorodibromomethane	0.328	0.314	0.010	AVRG	-4.3
1,2-Dibromoethane	0.254	0.244	0.010	AVRG	-3.9
Chlorobenzene	1.289	1.210	0.300	AVRG	-6.1
Ethyl Benzene	0.755	0.732	0.010	AVRG	-3.0
1,1,1,2-Tetrachloroethane	0.397	0.393	0.010	AVRG	-1.0
m,p-xylene	0.889	0.900	0.010	AVRG	1.2
o-Xylene	0.869	0.843	0.010	AVRG	-3.0
Styrene	1.388	1.372	0.010	AVRG	-1.2
Bromoform	0.337	0.317	0.100	AVRG	-5.9
1,1,2,2-Tetrachloroethane	0.729	0.680	0.300	AVRG	-6.7
1,2,3-Trichloropropane	0.176	0.160	0.010	AVRG	-9.1
Trans-1,4-Dichloro 2-Butene	0.223	0.216	0.010	AVRG	-3.1
N-Propyl Benzene	5.650	5.596	0.010	AVRG	-1.0
Bromobenzene	0.950	0.862	0.010	AVRG	-9.3
Isopropyl Benzene	4.659	4.625	0.010	AVRG	-0.7
2-Chloro Toluene	3.421	3.248	0.010	AVRG	-5.0
4-Chloro Toluene	3.425	3.361	0.010	AVRG	-1.9
T-Butyl Benzene	3.214	3.098	0.010	AVRG	-3.6
1,3,5-Trimethyl Benzene	3.887	3.747	0.010	AVRG	-3.6
1,2,4-Trimethylbenzene	3.902	3.801	0.010	AVRG	-2.6
S-Butyl Benzene	4.938	4.857	0.010	AVRG	-1.6
4-Isopropyl Toluene	3.879	3.856	0.010	AVRG	-0.6
1,3-Dichlorobenzene	1.936	1.817	0.010	AVRG	-6.1
1,4-Dichlorobenzene	1.968	1.841	0.010	AVRG	-6.4
N-Butyl Benzene	3.904	3.882	0.010	AVRG	-0.6
1,2-Dichlorobenzene	1.735	1.619	0.010	AVRG	-6.7
1,2-Dibromo 3-Chloropropane	0.116	0.103	0.010	AVRG	-11.2
1,2,4-Trichlorobenzene	0.955	0.952	0.010	AVRG	-0.3
Hexachloro 1,3-Butadiene	0.374	0.354	0.010	AVRG	-5.3
Naphthalene	1.658	1.830	0.010	AVRG	10.4
1,2,3-Trichlorobenzene	0.567	0.642	0.010	AVRG	13.2
Dichlorodifluoromethane	0.755	0.733	0.010	AVRG	-2.9
Methyl tert butyl ether	1.657	1.702	0.010	AVRG	2.7

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII VOA

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT5 Cont. Calib. Date: 07/07/10

Init. Calib. Date: 07/06/10 Cont. Calib. Time: 1021

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
d4-1,2-Dichloroethane	0.477	0.457	0.010	AVRG	-4.2
d8-Toluene	1.025	1.028	0.010	AVRG	0.3
4-Bromofluorobenzene	0.412	0.410	0.010	AVRG	-0.5
d4-1,2-Dichlorobenzene	0.886	0.890	0.010	AVRG	0.4
Dibromofluoromethane	0.435	0.426	0.010	AVRG	-2.1

<- Exceeds QC limit of 20% D
* RF less than minimum RF

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Ical Midpoint ID: 07061008 Ical Date: 07/06/10

Instrument ID: NT5 Project Run Date: 07/06/10

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	666643	4.65	1253133	5.10	1112746	7.56
	UPPER LIMIT	1333286	5.15	2506266	5.60	2225492	8.06
	LOWER LIMIT	333322	4.15	626566	4.60	556373	7.06
	Sample ID						
01	ICV 10	533586	4.66	1031251	5.10	906007	7.56
02							
03							
04							
05							
06							
07							
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21							
22							

IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Ical Midpoint ID: 07061008 Ical Date: 07/06/10

Instrument ID: NT5 Project Run Date: 07/06/10

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	517860	9.62				
	UPPER LIMIT	1035720	10.12				
	LOWER LIMIT	258930	9.12				
	Sample ID						
01	ICV 10	423399	9.62				
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
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20							
21							
22							

IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Ical Midpoint ID: 07061008 Ical Date: 07/06/10

Instrument ID: NT5 Project Run Date: 07/07/10

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	666643	4.65	1253133	5.10	1112746	7.56
	UPPER LIMIT	1333286	5.15	2506266	5.60	2225492	8.06
	LOWER LIMIT	333322	4.15	626566	4.60	556373	7.06
	Sample ID						
01	LCS0707	518998	4.65	993303	5.10	893422	7.56
02	LCSD0707	529778	4.65	1020483	5.10	901649	7.56
03	MB0707	531860	4.65	1000834	5.10	897197	7.56
04	NBF-MH108-06	496794	4.65	935002	5.10	832814	7.56
05							
06							
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20							
21							
22							

IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Ical Midpoint ID: 07061008 Ical Date: 07/06/10

Instrument ID: NT5 Project Run Date: 07/07/10

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	517860	9.62				
	UPPER LIMIT	1035720	10.12				
	LOWER LIMIT	258930	9.12				
	Sample ID						
01	LCS0707	424643	9.62				
02	LCSD0707	425988	9.62				
03	MB0707	410732	9.61				
04	NBF-MH108-06	371721	9.61				
05							
06							
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19							
20							
21							
22							

IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

Semivolatile Analysis
Report and Summary QC Forms

ARI Job ID: RC27, RC29

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: NBF-MH108-062910-W
SAMPLE

Lab Sample ID: RC27A
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized: VT
Reported: 07/10/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
NA
Date Sampled: 06/29/10
Date Received: 06/29/10

Date Extracted: 07/01/10
Date Analyzed: 07/07/10 18:30
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U

Sample ID: NBF-MH108-062910-W
SAMPLE

Lab Sample ID: RC27A
LIMS ID: 10-15500
Matrix: Water
Date Analyzed: 07/07/10 18:30

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
NA

CAS Number	Analyte	RL	Result
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	68.4%	2-Fluorobiphenyl	70.0%
d14-p-Terphenyl	88.8%	d4-1,2-Dichlorobenzene	56.0%
d5-Phenol	72.0%	2-Fluorophenol	73.9%
2,4,6-Tribromophenol	93.3%	d4-2-Chlorophenol	67.2%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MB-070110	84.0%	82.8%	103%	68.4%	91.7%	97.3%	96.0%	88.0%	0
LCS-070110	83.2%	79.2%	92.4%	71.2%	90.7%	96.3%	100%	88.8%	0
LCSD-070110	84.0%	76.0%	89.2%	69.2%	87.5%	87.2%	100%	83.5%	0
NBF-MH108-062910-W	68.4%	70.0%	88.8%	56.0%	72.0%	73.9%	93.3%	67.2%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 10-15500 to 10-15500

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: LCS-070110
LCS/LCSD

Lab Sample ID: LCS-070110
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized: VB
Reported: 07/10/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 06/29/10
Date Received: 06/29/10

Date Extracted LCS/LCSD: 07/01/10

Date Analyzed LCS: 07/07/10 17:22
LCSD: 07/07/10 17:56
Instrument/Analyst LCS: NT4/JZ
LCSD: NT4/JZ
GPC Cleanup: NO

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	18.1	25.0	72.4%	20.4	25.0	81.6%	11.9%
1,4-Dichlorobenzene	12.6	25.0	50.4%	12.9	25.0	51.6%	2.4%
Benzyl Alcohol	46.6	50.0	93.2%	49.8	50.0	99.6%	6.6%
1,2-Dichlorobenzene	13.0	25.0	52.0%	13.8	25.0	55.2%	6.0%
2-Methylphenol	17.7	25.0	70.8%	18.9	25.0	75.6%	6.6%
4-Methylphenol	37.3	50.0	74.6%	38.8	50.0	77.6%	3.9%
2,4-Dimethylphenol	11.7	25.0	46.8%	11.5	25.0	46.0%	1.7%
Benzoic Acid	53.7	75.0	71.6%	54.6	75.0	72.8%	1.7%
1,2,4-Trichlorobenzene	13.6	25.0	54.4%	13.9	25.0	55.6%	2.2%
Naphthalene	17.1	25.0	68.4%	18.0	25.0	72.0%	5.1%
Hexachlorobutadiene	11.3	25.0	45.2%	12.3	25.0	49.2%	8.5%
2-Methylnaphthalene	16.6	25.0	66.4%	17.4	25.0	69.6%	4.7%
Dimethylphthalate	19.1	25.0	76.4%	20.0	25.0	80.0%	4.6%
Acenaphthylene	17.6	25.0	70.4%	18.6	25.0	74.4%	5.5%
Acenaphthene	16.8	25.0	67.2%	17.9	25.0	71.6%	6.3%
Dibenzofuran	19.4	25.0	77.6%	21.0	25.0	84.0%	7.9%
Diethylphthalate	18.4	25.0	73.6%	20.7	25.0	82.8%	11.8%
Fluorene	18.3	25.0	73.2%	20.0	25.0	80.0%	8.9%
N-Nitrosodiphenylamine	16.4	25.0	65.6%	18.3	25.0	73.2%	11.0%
Hexachlorobenzene	17.6	25.0	70.4%	19.5	25.0	78.0%	10.2%
Pentachlorophenol	19.1	25.0	76.4%	20.6	25.0	82.4%	7.6%
Phenanthrene	20.1	25.0	80.4%	21.8	25.0	87.2%	8.1%
Anthracene	19.0	25.0	76.0%	21.0	25.0	84.0%	10.0%
Di-n-Butylphthalate	19.8	25.0	79.2%	21.2	25.0	84.8%	6.8%
Fluoranthene	19.9	25.0	79.6%	21.8	25.0	87.2%	9.1%
Pyrene	21.8	25.0	87.2%	22.7	25.0	90.8%	4.0%
Butylbenzylphthalate	20.2	25.0	80.8%	22.1	25.0	88.4%	9.0%
Benzo(a)anthracene	20.2	25.0	80.8%	21.2	25.0	84.8%	4.8%
bis(2-Ethylhexyl)phthalate	20.1	25.0	80.4%	23.9	25.0	95.6%	17.3%
Chrysene	19.7	25.0	78.8%	22.6	25.0	90.4%	13.7%
Di-n-Octyl phthalate	19.6	25.0	78.4%	21.3	25.0	85.2%	8.3%
Benzo(b)fluoranthene	18.4	25.0	73.6%	20.4	25.0	81.6%	10.3%
Benzo(k)fluoranthene	18.4	25.0	73.6%	20.4	25.0	81.6%	10.3%
Benzo(a)pyrene	15.9	25.0	63.6%	17.9	25.0	71.6%	11.8%
Indeno(1,2,3-cd)pyrene	20.2	25.0	80.8%	22.3	25.0	89.2%	9.9%
Dibenz(a,h)anthracene	19.9	25.0	79.6%	21.9	25.0	87.6%	9.6%
Benzo(g,h,i)perylene	20.0	25.0	80.0%	22.2	25.0	88.8%	10.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-070110
LCS/LCSD

Lab Sample ID: LCS-070110
LIMS ID: 10-15500
Matrix: Water
Date Analyzed LCS: 07/07/10 17:22
LCSD: 07/07/10 17:56

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	83.2%	84.0%
2-Fluorobiphenyl	79.2%	76.0%
d14-p-Terphenyl	92.4%	89.2%
d4-1,2-Dichlorobenzene	71.2%	69.2%
d5-Phenol	90.7%	87.5%
2-Fluorophenol	96.3%	87.2%
2,4,6-Tribromophenol	100%	100%
d4-2-Chlorophenol	88.8%	83.5%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

RC27MBW1

Lab Name: ANALYTICAL RESOURCES, INC

Client: SAIC

ARI Job No: RC27

Project: NBF/GTSP STORMWATER

Lab File ID: 07071002

Date Extracted: 07/01/10

Instrument ID: NT4

Date Analyzed: 07/07/10

Matrix: LIQUID

Time Analyzed: 1648

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	RC27LCSW1	RC27LCSW1	07071003	07/07/10
02	RC27LCSDW1	RC27LCSDW1	07071004	07/07/10
03	NBF-MH108-062910	RC27A	07071005	07/07/10
04				
05				
06				
07				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-070110
METHOD BLANK

Lab Sample ID: MB-070110
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized: VTS
Reported: 07/10/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
NA
Date Sampled: NA
Date Received: NA

Date Extracted: 07/01/10
Date Analyzed: 07/07/10 16:48
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U

Lab Sample ID: MB-070110
LIMS ID: 10-15500
Matrix: Water
Date Analyzed: 07/07/10 16:48

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
NA

CAS Number	Analyte	RL	Result
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	84.0%	2-Fluorobiphenyl	82.8%
d14-p-Terphenyl	103%	d4-1,2-Dichlorobenzene	68.4%
d5-Phenol	91.7%	2-Fluorophenol	97.3%
2,4,6-Tribromophenol	96.0%	d4-2-Chlorophenol	88.0%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

Instrument ID: NT4 Project: NBF/GTSP STORMEATER

DFTPP Injection Date: 06/09/10 DFTPP Injection Time: 1355

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	29.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	32.3
70	Less than 2.0% of mass 69	0.3 (0.8)1
127	10.0 - 80.0% of mass 198	52.3
197	Less than 2.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.4
275	10.0 - 60.0% of mass 198	21.7
365	Greater than 1.0% of mass 198	2.83
441	0.0 - 24.0% of mass 442	9.4 (9.9)2
442	50.0 - 200.0% of mass 198	94.9
443	15.0 - 24.0% of mass 442	18.7 (19.7)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC250609	IC250609	06091004	06/09/10	1432
02	IC010609	IC010609	06091005	06/09/10	1506
03	IC050609	IC050609	06091006	06/09/10	1539
04	IC100609	IC100609	06091007	06/09/10	1613
05	IC400609	IC400609	06091008	06/09/10	1646
06	IC600609	IC600609	06091009	06/09/10	1720
07	IC800609	IC800609	06091010	06/09/10	1753
08					
09					
10					
11					
12					
13					
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16					
17					
18					
19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

Instrument ID: NT4 Project: NBF/GTSP STORMEATER

DFTPP Injection Date: 07/07/10 DFTPP Injection Time: 1600

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	27.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	32.4
70	Less than 2.0% of mass 69	0.5 (1.4)1
127	10.0 - 80.0% of mass 198	50.1
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.2
275	10.0 - 60.0% of mass 198	19.8
365	Greater than 1.0% of mass 198	1.98
441	0.0 - 24.0% of mass 442	12.2 (13.7)2
442	50.0 - 200.0% of mass 198	89.5
443	15.0 - 24.0% of mass 442	17.1 (19.1)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0707	CC0707	07071001	07/07/10	1600
02	RC27MBW1	RC27MBW1	07071002	07/07/10	1648
03	RC27LCSW1	RC27LCSW1	07071003	07/07/10	1722
04	RC27LCSDW1	RC27LCSDW1	07071004	07/07/10	1756
05	NBF-MH108-062910	RC27A	07071005	07/07/10	1830
06					
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22					

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMEATER

Instrument ID: NT4 Calibration Date: 06/09/10

LAB FILE ID: RRF1 =06091005 RRF5 =06091006 RRF10 =06091007
RRF25 =06091004 RRF40 =06091008 RRF60 =06091009
RRF80 =06091010

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
Phenol	1.063	0.984	1.122	1.257	1.221	1.221	1.226	1.156	8.9
Bis(2-Chloroethyl)ether	0.838	0.796	0.864	0.966	0.901	0.950	0.888	0.886	6.8
2-Chlorophenol	0.865	1.145	1.142	1.317	1.277	1.299	1.255	1.186	13.3
1,3-Dichlorobenzene	1.452	1.362	1.406	1.569	1.436	1.533	1.458	1.459	4.9
1,4-Dichlorobenzene	1.387	1.388	1.344	1.541	1.441	1.632	1.545	1.468	7.2
1,2-Dichlorobenzene	1.478	1.313	1.320	1.463	1.378	1.496	1.413	1.409	5.3
Benzyl alcohol	0.489	0.450	0.538	0.657	0.646	0.705	0.693	0.597	17.3
2,2'-oxybis(1-Chloropropane)	0.982	0.871	0.948	1.036	0.969	1.100	1.024	0.990	7.4
2-Methylphenol	0.866	1.024	0.900	1.008	0.999	1.104	1.033	0.990	8.2
Hexachloroethane	0.527	0.497	0.518	0.562	0.520	0.618	0.574	0.545	7.6
N-Nitroso-di-n-propylamine	0.605	0.571	0.575	0.617	0.579	0.700	0.628	0.611	7.4
4-Methylphenol	0.932	0.959	0.898	1.033	1.011	1.172	1.061	1.009	9.1
Nitrobenzene	0.361	0.243	0.257	0.389	0.390	0.382	0.396	0.345	19.2
Isophorone	0.440	0.413	0.454	0.456	0.439	0.459	0.472	0.448	4.3
2-Nitrophenol	0.182	0.194	0.195	0.204	0.200	0.200	0.210	0.198	4.5
2,4-Dimethylphenol	0.289	0.302	0.303	0.316	0.304	0.298	0.307	0.303	2.7
Bis(2-Chloroethoxy)methane	0.325	0.298	0.323	0.351	0.321	0.341	0.337	0.328	5.2
2,4-Dichlorophenol	0.246	0.278	0.292	0.328	0.316	0.311	0.321	0.299	9.7
1,2,4-Trichlorobenzene	0.357	0.323	0.334	0.362	0.340	0.340	0.348	0.343	4.0
Naphthalene	1.063	0.906	0.949	1.010	0.907	0.878	0.827	0.934	8.6
Benzoic acid		0.074	0.128	0.196	0.210	0.209	0.222	0.173	0.990
4-Chloroaniline	0.319	0.349	0.380	0.414	0.378	0.350	0.341	0.362	8.7
Hexachlorobutadiene	0.210	0.176	0.183	0.204	0.196	0.191	0.196	0.194	6.0
4-Chloro-3-methylphenol	0.208	0.210	0.228	0.260	0.274	0.230	0.239	0.236	10.4
2-Methylnaphthalene	0.635	0.569	0.603	0.670	0.655	0.597	0.580	0.616	6.2
Hexachlorocyclopentadiene		0.016	0.052	0.180	0.197	0.244	0.261	0.158	0.993
2,4,6-Trichlorophenol	0.272	0.290	0.281	0.372	0.359	0.361	0.364	0.328	13.6
2,4,5-Trichlorophenol	0.278	0.252	0.275	0.388	0.374	0.369	0.380	0.331	17.9
2-Chloronaphthalene	1.222	0.989	1.022	1.179	1.091	1.082	1.033	1.088	7.8
2-Nitroaniline	0.157	0.177	0.187	0.222	0.203	0.204	0.206	0.194	11.1
Acenaphthylene	1.805	1.538	1.634	1.761	1.588	1.543	1.401	1.610	8.6
Dimethylphthalate	1.295	1.044	1.125	1.217	1.116	1.074	1.110	1.140	7.6
2,6-Dinitrotoluene	0.269	0.261	0.266	0.296	0.273	0.271	0.286	0.274	4.5
Acenaphthene	1.074	0.982	0.987	1.111	1.006	1.011	0.991	1.023	4.8
3-Nitroaniline	0.216	0.227	0.267	0.281	0.240	0.216	0.200	0.235	12.5
2,4-Dinitrophenol		0.040	0.085	0.159	0.176	0.194	0.218	0.145	0.997
Dibenzofuran	1.420	1.341	1.393	1.487	1.359	1.356	1.341	1.385	3.8

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-1

6C

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMEATER

Instrument ID: NT4 Calibration Date: 06/09/10

LAB FILE ID: RRF1 =06091005 RRF5 =06091006 RRF10 =06091007
RRF25 =06091004 RRF40 =06091008 RRF60 =06091009
RRF80 =06091010

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	RRF	%RSD /R^2
4-Nitrophenol		0.065	0.091	0.118	0.121	0.116	0.133	0.107	0.995
2,4-Dinitrotoluene	0.280	0.339	0.332	0.371	0.349	0.352	0.373	0.342	9.2
Fluorene	1.231	1.167	1.162	1.232	1.142	1.143	1.181	1.180	3.2
4-Chlorophenyl-phenylether	0.595	0.562	0.542	0.599	0.557	0.568	0.617	0.577	4.7
Diethylphthalate	1.135	1.155	1.079	1.144	1.059	1.074	1.137	1.112	3.6
4-Nitroaniline	0.134	0.230	0.245	0.251	0.235	0.248	0.264	0.230	18.9
4,6-Dinitro-2-methylphenol		0.107	0.123	0.145	0.153	0.139	0.150	0.136	13.2
N-Nitrosodiphenylamine (1)	0.462	0.498	0.538	0.563	0.557	0.510	0.521	0.521	6.8
4-Bromophenyl-phenylether	0.209	0.183	0.186	0.202	0.199	0.195	0.202	0.196	4.7
Hexachlorobenzene	0.259	0.202	0.202	0.217	0.212	0.209	0.212	0.216	9.2
Pentachlorophenol		0.039	0.054	0.081	0.086	0.091	0.097	0.075	0.998
Phenanthrene	1.099	0.947	0.979	1.080	0.979	0.917	0.852	0.979	8.9
Anthracene	1.133	0.957	0.994	1.089	1.002	0.930	0.868	0.996	9.2
Carbazole	0.963	0.868	0.900	1.022	0.918	0.856	0.791	0.902	8.3
Di-n-butylphthalate	1.220	1.006	1.057	1.287	1.192	1.021	0.930	1.102	11.9
Fluoranthene	1.094	0.887	0.959	1.135	1.090	0.917	0.845	0.990	11.6
Pyrene	1.492	1.061	1.158	1.376	1.257	1.140	1.017	1.214	14.1
Butylbenzylphthalate	0.557	0.488	0.579	0.647	0.607	0.575	0.550	0.572	8.6
Benzo(a)anthracene	1.200	1.073	1.106	1.202	1.123	1.059	1.026	1.113	6.1
3,3'-Dichlorobenzidine	0.340	0.352	0.391	0.394	0.363	0.341	0.340	0.360	6.6
Chrysene	1.211	1.008	1.097	1.158	1.076	1.037	1.002	1.084	7.2
bis(2-Ethylhexyl)phthalate	0.429	0.491	0.530	0.572	0.554	0.510	0.525	0.516	9.1
Di-n-octylphthalate	1.088	0.917	0.942	1.021	0.922	0.866	0.829	0.941	9.4
Benzo(b)fluoranthene	0.976	1.194	1.192	1.170	1.263	1.287	1.150	1.176	8.6
Benzo(k)fluoranthene	1.457	1.000	1.071	1.234	1.000	1.220	0.966	1.135	15.7
Benzo(a)pyrene	1.059	0.973	1.024	1.139	1.083	1.052	1.035	1.052	4.9
Indeno(1,2,3-cd)pyrene	1.067	0.949	1.098	1.312	1.335	1.226	1.258	1.178	12.1
Dibenzo(a,h)anthracene	0.886	0.800	0.910	1.088	1.103	1.004	1.020	0.973	11.5
Benzo(g,h,i)perylene	0.977	0.897	1.039	1.144	1.151	1.022	1.026	1.036	8.6
N-Nitrosodimethylamine	0.641	0.611	0.594	0.673	0.614	0.712	0.652	0.642	6.4
Aniline	1.278	1.183	1.390	1.470	1.358	1.387	1.267	1.333	7.2
Benzidine	0.337	0.362	0.447	0.389	0.350	0.317		0.367	12.5
Pyridine		1.017	0.982	1.254	1.114	1.290	1.143	1.133	10.9
1-methylnaphthalene	0.632	0.561	0.591	0.661	0.648	0.581	0.571	0.606	6.6
Azobenzene (1,2-DP-Hydrazine	1.112	1.095	1.036	1.112	1.033	1.080	1.105	1.082	3.1
2-Fluorophenol	0.796	0.909	0.799	1.107	0.974	1.084	0.972	0.949	13.0

(1) Cannot be seperated from Diphenylamine

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-2

6C

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMEATER

Instrument ID: NT4 Calibration Date: 06/09/10

LAB FILE ID: RRF1 =06091005 RRF5 =06091006 RRF10 =06091007
RRF25 =06091004 RRF40 =06091008 RRF60 =06091009
RRF80 =06091010

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
Phenol-d5	0.759	0.829	0.853	0.980	0.939	1.013	0.931	0.900	10.0
2-Chlorophenol-d4	0.917	1.040	0.985	1.142	1.084	1.156	1.057	1.054	8.0
1,2-Dichlorobenzene-d4	0.781	0.820	0.799	0.861	0.820	0.889	0.831	0.829	4.4
Nitrobenzene-d5	0.258	0.277	0.283	0.284	0.279	0.279	0.289	0.278	3.5
2-Fluorobiphenyl	1.286	1.147	1.068	1.250	1.140	1.146	1.084	1.160	6.9
2,4,6-Tribromophenol	0.084	0.142	0.130	0.149	0.135	0.145	0.162	0.135	18.4
Terphenyl-d14	0.690	0.621	0.658	0.732	0.689	0.651	0.610	0.664	6.4

<- Outside QC limits: %RSD <20% or R^2 > 0.990

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMEATER

Instrument ID: NT4 Cont. Calib. Date: 07/07/10

Init. Calib. Date: 06/09/10 Cont. Calib. Time: 1600

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Phenol	1.156	1.098	0.800	AVRG	-5.0	
Bis(2-Chloroethyl)ether	0.886	0.817	0.700	AVRG	-7.8	
2-Chlorophenol	1.186	1.140	0.800	AVRG	-3.9	
1,3-Dichlorobenzene	1.459	1.339	0.010	AVRG	-8.2	
1,4-Dichlorobenzene	1.468	1.334	0.010	AVRG	-9.1	
1,2-Dichlorobenzene	1.409	1.245	0.010	AVRG	-11.6	
Benzyl alcohol	0.597	0.563	0.010	AVRG	-5.7	
2,2'-oxybis(1-Chloropropane)	0.990	0.814	0.010	AVRG	-17.8	
2-Methylphenol	0.990	0.915	0.700	AVRG	-7.6	
Hexachloroethane	0.545	0.474	0.300	AVRG	-13.0	
N-Nitroso-di-n-propylamine	0.611	0.611	0.500	AVRG	0.0	
4-Methylphenol	1.009	0.957	0.600	AVRG	-5.2	
Nitrobenzene	0.345	0.254	0.200	AVRG	-26.4	<-
Isophorone	0.448	0.392	0.400	AVRG	-12.5	*
2-Nitrophenol	0.198	0.190	0.100	AVRG	-4.0	
2,4-Dimethylphenol	0.303	0.268	0.200	AVRG	-11.6	
Bis(2-Chloroethoxy)methane	0.328	0.313	0.300	AVRG	-4.6	
2,4-Dichlorophenol	0.299	0.294	0.200	AVRG	-1.7	
1,2,4-Trichlorobenzene	0.343	0.312	0.010	AVRG	-9.0	
Naphthalene	0.934	0.869	0.700	AVRG	-7.0	
Benzoic acid	50.00	43.62	0.010	LINR	-12.8	
4-Chloroaniline	0.362	0.350	0.010	AVRG	-3.3	
Hexachlorobutadiene	0.194	0.163	0.010	AVRG	-16.0	
4-Chloro-3-methylphenol	0.236	0.210	0.200	AVRG	-11.0	
2-Methylnaphthalene	0.616	0.544	0.400	AVRG	-11.7	
Hexachlorocyclopentadiene	25.00	28.35	0.050	2ORDR	13.4	
2,4,6-Trichlorophenol	0.328	0.328	0.200	AVRG	0.0	
2,4,5-Trichlorophenol	0.331	0.314	0.200	AVRG	-5.1	
2-Chloronaphthalene	1.088	0.959	0.800	AVRG	-11.8	
2-Nitroaniline	0.194	0.170	0.010	AVRG	-12.4	
Acenaphthylene	1.610	1.461	0.900	AVRG	-9.2	
Dimethylphthalate	1.140	0.934	0.010	AVRG	-18.1	
2,6-Dinitrotoluene	0.274	0.265	0.200	AVRG	-3.3	
Acenaphthene	1.023	0.844	0.900	AVRG	-17.5	*
3-Nitroaniline	0.235	0.246	0.010	AVRG	4.7	
2,4-Dinitrophenol	50.00	53.38	0.010	2ORDR	6.8	
Dibenzofuran	1.385	1.255	0.800	AVRG	-9.4	

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-1

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMEATER

Instrument ID: NT4 Cont. Calib. Date: 07/07/10

Init. Calib. Date: 06/09/10 Cont. Calib. Time: 1600

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
4-Nitrophenol	25.00	29.57	0.010	2ORDR	18.3	
2,4-Dinitrotoluene	0.342	0.297	0.200	AVRG	-13.2	
Fluorene	1.180	1.048	0.900	AVRG	-11.2	
4-Chlorophenyl-phenylether	0.577	0.468	0.400	AVRG	-18.9	
Diethylphthalate	1.112	0.925	0.010	AVRG	-16.8	
4-Nitroaniline	0.230	0.226	0.010	AVRG	-1.7	
4,6-Dinitro-2-methylphenol	0.136	0.135	0.010	AVRG	-0.7	
N-Nitrosodiphenylamine(1)	0.521	0.483	0.010	AVRG	-7.3	
4-Bromophenyl-phenylether	0.196	0.177	0.100	AVRG	-9.7	
Hexachlorobenzene	0.216	0.186	0.100	AVRG	-13.9	
Pentachlorophenol	25.00	29.79	0.050	2ORDR	19.2	
Phenanthrene	0.979	0.906	0.700	AVRG	-7.4	
Anthracene	0.996	0.949	0.700	AVRG	-4.7	
Carbazole	0.902	0.875	0.010	AVRG	-3.0	
Di-n-butylphthalate	1.102	0.996	0.010	AVRG	-9.6	
Fluoranthene	0.990	0.924	0.600	AVRG	-6.7	
Pyrene	1.214	1.106	0.600	AVRG	-8.9	
Butylbenzylphthalate	0.572	0.530	0.010	AVRG	-7.3	
Benzo(a)anthracene	1.113	1.017	0.800	AVRG	-8.6	
3,3'-Dichlorobenzidine	0.360	0.355	0.010	AVRG	-1.4	
Chrysene	1.084	0.989	0.700	AVRG	-8.8	
bis(2-Ethylhexyl)phthalate	0.516	0.508	0.010	AVRG	-1.6	
Di-n-octylphthalate	0.941	0.872	0.010	AVRG	-7.3	
Benzo(b)fluoranthene	1.176	1.162	0.700	AVRG	-1.2	
Benzo(k)fluoranthene	1.135	1.043	0.700	AVRG	-8.1	
Benzo(a)pyrene	1.052	0.942	0.700	AVRG	-10.4	
Indeno(1,2,3-cd)pyrene	1.178	1.042	0.500	AVRG	-11.5	
Dibenzo(a,h)anthracene	0.973	0.862	0.400	AVRG	-11.4	
Benzo(g,h,i)perylene	1.036	0.912	0.500	AVRG	-12.0	
N-Nitrosodimethylamine	0.642		0.010	AVRG	NC	*
Aniline	1.333	1.072	0.010	AVRG	-19.6	
Benzidine	0.367		0.010	AVRG		*
Pyridine	1.133		0.010	AVRG	NC	*
1-methylnaphthalene	0.606	0.760	0.010	AVRG	25.4	<-
Azobenzene (1,2-DP-Hydrazine	1.082		0.010	AVRG	NC	*

(1) Cannot be separated from Diphenylamine

<- Exceeds QC limit of 20% D

* RF less than minimum RF

07/07/10

FORM VII SV-2

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMEATER

Instrument ID: NT4 Cont. Calib. Date: 07/07/10

Init. Calib. Date: 06/09/10 Cont. Calib. Time: 1600

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
2-Fluorophenol	0.949	0.987	0.010	AVRG	4.0
Phenol-d5	0.900	0.915	0.010	AVRG	1.7
2-Chlorophenol-d4	1.054	1.047	0.010	AVRG	-0.7
1,2-Dichlorobenzene-d4	0.829	0.733	0.010	AVRG	-11.6
Nitrobenzene-d5	0.278	0.261	0.010	AVRG	-6.1
2-Fluorobiphenyl	1.160	1.019	0.010	AVRG	-12.2
2,4,6-Tribromophenol	0.135	0.141	0.010	AVRG	4.4
Terphenyl-d14	0.664	0.590	0.010	AVRG	-11.1

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-3

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMEATER

Ical Midpoint ID: 06091004 Ical Date: 06/09/10

Instrument ID: NT4 Cont. Cal Date: 07/07/10

		IS1(DCB) AREA	#	RT	#	IS2(NPT) AREA	#	RT	#	IS3(ANT) AREA	#	RT	#
	ICAL MIDPT	537610		5.48		1863052		7.64		1092086		10.42	
	UPPER LIMIT	1075220				3726104				2184172			
	LOWER LIMIT	268805				931526				546043			
	CCAL	605111		4.05		1914030		6.57		1168578		9.37	
	UPPER LIMIT			4.55				7.07				9.87	
	LOWER LIMIT			3.55				6.07				8.87	
01	RC27MBW1	471376		4.06		1483351		6.57		879022		9.37	
02	RC27LCSW1	514587		4.06		1764204		6.57		1019628		9.37	
03	RC27LCSDW1	518225		4.07		1671381		6.57		997865		9.38	
04	NBF-MH108-06	520103		4.06		1632601		6.57		989962		9.37	
05													
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25													

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMEATER

Ical Midpoint ID: 06091004 Ical Date: 06/09/10

Instrument ID: NT4 Cont. Cal Date: 07/07/10

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	ICAL MIDPT	1747331	12.68	1506440	16.83	1599851	18.89
	UPPER LIMIT	3494662		3012880		3199702	
	LOWER LIMIT	873666		753220		799926	
	CCAL	1776951	11.58	1564712	15.63	1535038	17.64
	UPPER LIMIT		12.08		16.13		18.14
	LOWER LIMIT		11.08		15.13		17.14
01	RC27MBW1	1369304	11.58	1095707	15.62	1117517	17.64
02	RC27LCSW1	1644244	11.58	1285361	15.63	1335307	17.64
03	RC27LCSDW1	1543815	11.58	1276354	15.63	1234462	17.64
04	NBF-MH108-06	1547074	11.58	1247625	15.63	1253306	17.64
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IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMEATER

Ical Midpoint ID: 06091004 Ical Date: 06/09/10

Instrument ID: NT4 Cont. Cal Date: 07/07/10

		IS7 AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	2182594	18.19				
	UPPER LIMIT	4365188					
	LOWER LIMIT	1091297					
	CCAL	2157734	17.12				
	UPPER LIMIT		17.62				
	LOWER LIMIT		16.62				
01	RC27MBW1	1429628	17.11				
02	RC27LCSW1	1838422	17.11				
03	RC27LCSDW1	1804837	17.11				
04	NBF-MH108-06	1802649	17.11				
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IS7 = Di-n-octylphthalate-d4

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

SIM PAH Analysis
Report and Summary QC Forms

ARI Job ID: RC27, RC29

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS **Sample ID: NBF-MH108-062910-W**
Page 1 of 1 **SAMPLE**

Lab Sample ID: RC27A
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized: VP
Reported: 07/14/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 06/29/10
Date Received: 06/29/10

Date Extracted: 07/01/10
Date Analyzed: 07/13/10 17:36
Instrument/Analyst: NT11/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.027**
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	**Acenaphthene**	**0.010**	**0.018**
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	**Phenanthrene**	**0.010**	**0.019**
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	**Fluoranthene**	**0.010**	**0.030**
129-00-0	**Pyrene**	**0.010**	**0.029**
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	**Chrysene**	**0.010**	**0.012**
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U
TOTBFA	**Total Benzofluoranthenes**	**0.010**	**0.018**

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	76.3%
d14-Dibenzo(a,h)anthracene	115%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	MNP	DBA	TOT OUT
MB-070110	82.0%	109%	0
LCS-070110	83.7%	116%	0
LCSD-070110	88.0%	106%	0
NBF-MH108-062910-W	76.3%	115%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(42-100)	(31-109)
(DBA) = d14-Dibenzo(a,h)anthracene	(40-125)	(10-133)

Prep Method: SW3510C
Log Number Range: 10-15500 to 10-15500

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS **Sample ID: LCS-070110**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-070110
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized: VTS
Reported: 07/14/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 07/01/10

Date Analyzed LCS: 07/13/10 16:48
LCSD: 07/13/10 17:12
Instrument/Analyst LCS: SVOA_MSD/PK
LCSD: SVOA_MSD/PK

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	0.226	0.300	75.3%	0.234	0.300	78.0%	3.5%
2-Methylnaphthalene	0.242	0.300	80.7%	0.257	0.300	85.7%	6.0%
1-Methylnaphthalene	0.249	0.300	83.0%	0.258	0.300	86.0%	3.6%
Acenaphthylene	0.279	0.300	93.0%	0.289	0.300	96.3%	3.5%
Acenaphthene	0.229	0.300	76.3%	0.238	0.300	79.3%	3.9%
Fluorene	0.263	0.300	87.7%	0.270	0.300	90.0%	2.6%
Phenanthrene	0.253	0.300	84.3%	0.248	0.300	82.7%	2.0%
Anthracene	0.302	0.300	101%	0.288	0.300	96.0%	4.7%
Fluoranthene	0.334 Q	0.300	111%	0.315 Q	0.300	105%	5.9%
Pyrene	0.332	0.300	111%	0.308	0.300	103%	7.5%
Benzo(a)anthracene	0.401 Q	0.300	134%	0.374 Q	0.300	125%	7.0%
Chrysene	0.292	0.300	97.3%	0.270	0.300	90.0%	7.8%
Benzo(a)pyrene	0.341	0.300	114%	0.296	0.300	98.7%	14.1%
Indeno(1,2,3-cd)pyrene	0.297	0.300	99.0%	0.256	0.300	85.3%	14.8%
Dibenz(a,h)anthracene	0.292	0.300	97.3%	0.269	0.300	89.7%	8.2%
Benzo(g,h,i)perylene	0.285	0.300	95.0%	0.239	0.300	79.7%	17.6%
Dibenzofuran	0.225	0.300	75.0%	0.226	0.300	75.3%	0.4%
Total Benzofluoranthenes	0.604	0.600	101%	0.537	0.600	89.5%	11.7%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	83.7%	88.0%
d14-Dibenzo(a,h)anthracene	116%	106%

4B
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

RC27MBW1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No: RC27
Project: NBF/GTSP STORMWATER

Lab File ID: 071301
Date Extracted: 07/01/10

Instrument ID: NT11
Date Analyzed: 07/13/10

Matrix: LIQUID
Time Analyzed: 1624

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	RC27LCSW1	RC27LCSW1	071302	07/13/10
02	RC27LCSDW1	RC27LCSDW1	071303	07/13/10
03	NBF-MH108-062910	RC27A	071304	07/13/10
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS **Sample ID: MB-070110**
Page 1 of 1 **METHOD BLANK**

Lab Sample ID: MB-070110
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized: VB
Reported: 07/14/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 07/01/10
Date Analyzed: 07/13/10 16:24
Instrument/Analyst: NT11/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U
TOTBFA	Total Benzofluoranthenes	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	82.0%
d14-Dibenzo(a,h)anthracene	109%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

Instrument ID: NT11 Project: NBF/GTSP STORMWATER

DFTPP Injection Date: 06/12/10 DFTPP Injection Time: 1135

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	24.2
68	Less than 2.0% of mass 69	0.3 (0.6)1
69	Mass 69 relative abundance	52.7
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	10.0 - 80.0% of mass 198	53.2
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	23.8
365	Greater than 1.0% of mass 198	2.70
441	0.0 - 24.0% of mass 442	16.8 (14.5)2
442	50.0 - 200.0% of mass 198	116.2
443	15.0 - 24.0% of mass 442	22.6 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		IC0612A	IC0612A	06/12/10	1149
02		IC0612B	IC0612B	06/12/10	1214
03		IC0612C	IC0612C	06/12/10	1239
04		IC0612D	IC0612D	06/12/10	1304
05		IC0612E	IC0612E	06/12/10	1329
06		IC0612F	IC0612F	06/12/10	1354
07					
08					
09					
10					
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17					
18					
19					
20					
21					
22					

FORM V SV

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

Instrument ID: NT11 Project: NBF/GTSP STORMWATER

DFTPP Injection Date: 07/13/10 DFTPP Injection Time: 1435

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	24.5
68	Less than 2.0% of mass 69	0.4 (0.9)1
69	Mass 69 relative abundance	50.5
70	Less than 2.0% of mass 69	0.2 (0.3)1
127	10.0 - 80.0% of mass 198	54.9
197	Less than 2.0% of mass 198	0.1
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	22.2
365	Greater than 1.0% of mass 198	2.58
441	0.0 - 24.0% of mass 442	12.9 (15.2)2
442	50.0 - 200.0% of mass 198	85.0
443	15.0 - 24.0% of mass 442	16.8 (19.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		PNA 2.5	CC0713	07/13/10	1522
02	RC27MBW1	RC27MBW1	071301	07/13/10	1624
03	RC27LCSW1	RC27LCSW1	071302	07/13/10	1648
04	RC27LCSDW1	RC27LCSDW1	071303	07/13/10	1712
05	NBF-MH108-062910	RC27A	071304	07/13/10	1736
06					
07					
08					
09					
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12					
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17					
18					
19					
20					
21					
22					

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT11 Calibration Date: 06/12/10

LAB FILE ID: RRF10 =IC0612C RRF50 =IC0612E RRF100=IC0612F
RRF250=IC0612A RRF500=IC0612D RRF1000=IC0612B

COMPOUND	RRF 10	RRF 50	RRF 100	RRF 250	RRF 500	RRF 1000	$\overline{RRF}$	%RSD /R^2
Naphthalene	1.077	1.022	0.938	0.902	0.966	0.929	0.972	6.7
2-Methylnaphthalene	0.549	0.533	0.504	0.509	0.552	0.536	0.530	3.8
Acenaphthylene	1.430	1.305	1.252	1.514	1.636	1.722	1.476	12.5
Acenaphthene	1.122	1.065	1.017	1.015	1.106	1.076	1.067	4.2
Dibenzofuran	1.659	1.598	1.492	1.458	1.578	1.537	1.554	4.7
Fluorene	1.065	0.990	0.945	0.996	1.096	1.130	1.037	6.9
Phenanthrene	1.187	1.041	0.971	0.916	0.978	0.956	1.008	9.6
Anthracene	0.782	0.714	0.707	0.799	0.898	0.920	0.803	11.2
Fluoranthene	0.929	0.755	0.758	0.873	0.928	0.969	0.869	10.6
Pyrene	0.972	0.811	0.821	0.954	1.003	1.036	0.933	10.2
Benzo(a)anthracene	1.187	0.953	0.967	1.203	1.197	1.279	1.131	12.1
Chrysene	1.959	1.661	1.592	1.390	1.482	1.404	1.581	13.5
Benzo(a)pyrene	0.979	0.879	0.915	1.144	1.306	1.385	1.101	19.2
Indeno(1,2,3-cd)pyrene	1.483	1.472	1.583	1.640	1.945	1.946	1.678	12.9
Dibenzo(a,h)anthracene	1.137	1.177	1.284	1.280	1.538	1.532	1.325	13.0
Benzo(g,h,i)perylene	1.550	1.324	1.388	1.380	1.619	1.607	1.478	8.7
1-Methylnaphthalene	0.555	0.534	0.502	0.507	0.540	0.522	0.527	3.9
Total Benzofluoranthenes	1.696	1.553	1.594	1.532	1.770	1.754	1.650	6.3
2-Methylnaphthalene-d10	0.547	0.534	0.498	0.501	0.541	0.524	0.524	4.0
Dibenzo(a,h)anthracene-d14	0.758	0.731	0.771	0.876	0.996	1.015	0.858	14.5

<- Outside QC limits: %RSD <20% or R^2 > 0.990

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Instrument ID: NT11 Cont. Calib. Date: 07/13/10

Init. Calib. Date: 06/12/10 Cont. Calib. Time: 1522

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Naphthalene	0.972	0.898	0.700	AVRG	-7.6	
2-Methylnaphthalene	0.530	0.532	0.400	AVRG	0.4	
Acenaphthylene	1.476	1.634	0.900	AVRG	10.7	
Acenaphthene	1.067	0.956	0.900	AVRG	-10.4	
Dibenzofuran	1.554	1.370	0.800	AVRG	-11.8	
Fluorene	1.037	1.011	0.900	AVRG	-2.5	
Phenanthrene	1.008	0.911	0.700	AVRG	-9.6	
Anthracene	0.803	0.862	0.700	AVRG	7.3	
Fluoranthene	0.869	1.065	0.600	AVRG	22.6	<-
Pyrene	0.933	1.086	0.600	AVRG	16.4	
Benzo(a)anthracene	1.131	1.428	0.800	AVRG	26.2	<-
Chrysene	1.581	1.399	0.700	AVRG	-11.5	
Benzo(a)pyrene	1.101	1.240	0.700	AVRG	12.6	
Indeno(1,2,3-cd)pyrene	1.678	1.572	0.500	AVRG	-6.3	
Dibenzo(a,h)anthracene	1.325	1.213	0.400	AVRG	-8.4	
Benzo(g,h,i)perylene	1.478	1.361	0.500	AVRG	-7.9	
1-Methylnaphthalene	0.527	0.518	0.010	AVRG	-1.7	
Total Benzofluoranthenes	1.650	1.434	0.010	AVRG	-13.1	
2-Methylnaphthalene-d10	0.524	0.520	0.010	AVRG	-0.8	
Dibenzo(a,h)anthracene-d14	0.858	0.934	0.010	AVRG	8.8	

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Ical Midpoint ID: IC0612A Ical Date: 06/12/10

Instrument ID: NT11 Cont. Cal Date: 07/13/10

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	ICAL MIDPT	685021	6.20	316807	8.37	537469	10.21
	UPPER LIMIT	1370042		633614		1074938	
	LOWER LIMIT	342510		158404		268734	
	CCAL	611408	6.05	303104	8.24	514792	10.06
	UPPER LIMIT		6.55		8.74		10.56
	LOWER LIMIT		5.55		7.74		9.56
01	RC27MBW1	509750	6.05	262338	8.24	428327	10.06
02	RC27LCSW1	509755	6.07	260721	8.24	439194	10.06
03	RC27LCSDW1	502881	6.05	254329	8.22	423418	10.06
04	NBF-MH108-06	507950	6.07	254685	8.22	429311	10.06
05							
06							
07							
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23							
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25							

IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC27 Project: NBF/GTSP STORMWATER

Ical Midpoint ID: IC0612A Ical Date: 06/12/10

Instrument ID: NT11 Cont. Cal Date: 07/13/10

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	297720	13.52	228743	15.42		
	UPPER LIMIT	595440		457486			
	LOWER LIMIT	148860		114372			
	CCAL	296116	13.36	285660	15.20		
	UPPER LIMIT		13.86		15.70		
	LOWER LIMIT		12.86		14.70		
01	RC27MBW1	208912	13.37	191800	15.20		
02	RC27LCSW1	228660	13.36	198856	15.20		
03	RC27LCSDW1	218067	13.36	196098	15.20		
04	NBF-MH108-06	218472	13.36	190160	15.20		
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06							
07							
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16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

PCB Analysis
Report and Summary QC Forms

ARI Job ID: RC27, RC29

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-MH108-062910-W
SAMPLE

Lab Sample ID: RC27A
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized: VTS
Reported: 07/10/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 06/29/10
Date Received: 06/29/10

Date Extracted: 07/01/10
Date Analyzed: 07/08/10 01:26
Instrument/Analyst: ECD7/MS
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	**Aroclor 1242**	**0.010**	**0.15**
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	**Aroclor 1254**	**0.010**	**0.12**
11096-82-5	Aroclor 1260	0.012	< 0.012 Y
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	71.8%
Tetrachlorometaxylene	68.8%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-070110	66.8%	32-108	34.5%	31-100	0
LCS-070110	74.0%	32-108	44.8%	31-100	0
LCSD-070110	82.5%	32-108	49.2%	31-100	0
NBF-MH108-062910-W	71.8%	19-111	68.8%	21-100	0

Prep Method: SW3510C
Log Number Range: 10-15500 to 10-15500

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-070110
LCS/LCSD

Lab Sample ID: LCS-070110
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized: VTS
Reported: 07/10/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 07/01/10

Date Analyzed LCS: 07/08/10 00:39
LCSD: 07/08/10 01:03

Instrument/Analyst LCS: ECD7/MS
LCSD: ECD7/MS

GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1000 mL
LCSD: 1000 mL

Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL

Dilution Factor LCS: 1.00
LCSD: 1.00

Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.037	0.050	74.0%	0.041	0.050	82.0%	10.3%
Aroclor 1260	0.033	0.050	66.0%	0.039	0.050	78.0%	16.7%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	74.0%	82.5%
Tetrachlorometaxylene	44.8%	49.2%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

RC27MBW1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: RC27
Project: NBF/GTSP STORMWATER

Lab Sample ID: RC27MBW1
Lab File ID: 0707A018

Date Extracted: 07/01/10
Matrix: LIQUID

Date Analyzed: 07/08/10
Instrument ID: ECD7

Time Analyzed: 0015
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	RC27LCSW1	RC27LCSW1	07/08/10
02	RC27LCSDW1	RC27LCSDW1	07/08/10
03	NBF-MH108-062910-W	RC27A	07/08/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MB-070110
METHOD BLANK

Lab Sample ID: MB-070110
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized: VB
Reported: 07/10/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Date Extracted: 07/01/10
Date Analyzed: 07/08/10 00:15
Instrument/Analyst: ECD7/MS
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	66.8%
Tetrachlorometaxylene	34.5%

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 04/30/10

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 5.65- 5.85	1.0769	1.0343	0.9948	0.9860	1.0177	0.9892	1.0165	3.4
DCB 14.43-14.63	1.3736	1.2655	1.1781	1.1031	1.0997	1.0468	1.1778	10.4

Aroclor-1016 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 7.64- 7.84	0.0299	0.0273	0.0249	0.0233	0.0227	0.0213	0.0249	12.8
2 8.16- 8.36	0.0924	0.0860	0.0795	0.0761	0.0755	0.0720	0.0802	9.5
3 8.34- 8.54	0.0380	0.0349	0.0321	0.0301	0.0294	0.0278	0.0320	11.8
4 9.11- 9.31	0.0292	0.0266	0.0240	0.0223	0.0218	0.0204	0.0240	13.8

AROCLOR AVERAGE %RSD = 12.0

Aroclor-1260 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 11.68-11.88	0.1244	0.1150	0.1081	0.1038	0.1029	0.0978	0.1087	8.9
2 12.22-12.42	0.0799	0.0743	0.0695	0.0663	0.0655	0.0623	0.0696	9.3
3 12.58-12.78	0.1805	0.1689	0.1603	0.1552	0.1545	0.1469	0.1611	7.4
4 12.97-13.17	0.0912	0.0826	0.0778	0.0750	0.0754	0.0727	0.0791	8.6
5 13.15-13.35	0.0489	0.0442	0.0410	0.0387	0.0383	0.0367	0.0413	11.0

AROCLOR AVERAGE %RSD = 9.0

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 04/30/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	5.87- 6.07	1.2148	1.1143	1.0477	0.9997	0.9896	0.9608	1.0545	9.0
DCB	14.85-15.05	1.6722	1.4487	1.2882	1.1612	1.1335	1.0907	1.2991	17.3

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.02- 8.22	0.0550	0.0481	0.0439	0.0387	0.0362	0.0332	0.0425	19.1
2	8.78- 8.98	0.1122	0.0966	0.0879	0.0800	0.0757	0.0710	0.0872	17.5
3	9.23- 9.43	0.0265	0.0251	0.0238	0.0212	0.0200	0.0186	0.0225	13.7
4	9.79- 9.99	0.0413	0.0364	0.0321	0.0286	0.0270	0.0251	0.0317	19.4

AROCLOR AVERAGE %RSD = 17.4

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	12.39-12.59	0.0974	0.0926	0.0836	0.0740	0.0689	0.0641	0.0801	16.6
2	12.84-13.04	0.1223	0.1044	0.0938	0.0839	0.0788	0.0738	0.0928	19.5
3	13.10-13.30	0.2254	0.1959	0.1869	0.1707	0.1636	0.1511	0.1823	14.6
4	13.62-13.82	0.1566	0.1381	0.1229	0.1104	0.1053	0.0980	0.1219	18.2

AROCLOR AVERAGE %RSD = 17.2

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	6.192	6.09- 6.29	0.01082
2	6.402	6.30- 6.50	0.00825
3	6.522	6.42- 6.62	0.02708

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	8.250	8.15- 8.35	0.03675
2	8.435	8.34- 8.54	0.01479
3	9.397	9.30- 9.50	0.01265
4	10.115	10.02-10.22	0.01124

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.250	8.15- 8.35	0.06053
2	8.437	8.34- 8.54	0.02411
3	9.396	9.30- 9.50	0.02297
4	10.113	10.01-10.21	0.02026

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	8.863	8.76- 8.96	0.02521
2	9.400	9.30- 9.50	0.03364
3	9.867	9.77- 9.97	0.04309
4	10.118	10.02-10.22	0.03282

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	9.873	9.77- 9.97	0.03999
2	10.203	10.10-10.30	0.05737
3	10.729	10.63-10.83	0.06765
4	11.085	10.98-11.18	0.07083
5	11.773	11.67-11.87	0.06746

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.003	11.90-12.10	0.10625
2	12.680	12.58-12.78	0.18564
3	13.073	12.97-13.17	0.06061
4	13.183	13.08-13.28	0.08269
5	13.251	13.15-13.35	0.08022

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.183	13.08-13.28	0.21641
2	13.250	13.15-13.35	0.21149
3	13.594	13.49-13.69	0.14482
4	14.226	14.13-14.33	0.36411

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	7.093	6.99- 7.19	0.00803
2	7.230	7.13- 7.33	0.02384
3	8.126	8.03- 8.23	0.00879
4	8.882	8.78- 8.98	0.00867

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	7.230	7.13- 7.33	0.01959
2	8.113	8.01- 8.21	0.02060
3	8.880	8.78- 8.98	0.03988
4	9.894	9.79- 9.99	0.01511

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.112	8.01- 8.21	0.03134
2	8.879	8.78- 8.98	0.06382
3	9.891	9.79- 9.99	0.02497
4	10.447	10.35-10.55	0.02147

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.440	9.34- 9.54	0.03035
2	9.895	9.79- 9.99	0.03464
3	10.371	10.27-10.47	0.03936
4	10.816	10.72-10.92	0.04384

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.520	10.42-10.62	0.03574
2	10.692	10.59-10.79	0.04663
3	11.385	11.28-11.48	0.07887
4	12.171	12.07-12.27	0.04808
5	12.398	12.30-12.50	0.05782

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	11.849	11.75-11.95	0.08042
2	12.492	12.39-12.59	0.11178
3	12.944	12.84-13.04	0.11132
4	13.200	13.10-13.30	0.19606
5	13.669	13.57-13.77	0.09494

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.669	13.57-13.77	0.21707
2	13.726	13.63-13.83	0.22359
3	14.052	13.95-14.15	0.14753
4	14.663	14.56-14.76	0.37544

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.73	7.64	7.84	258.4	250.0	3.4
Aroclor-1016-2	8.25	8.16	8.36	264.8	250.0	5.9
Aroclor-1016-3	8.44	8.34	8.54	260.8	250.0	4.3
Aroclor-1016-4	9.20	9.11	9.31	256.3	250.0	2.5

AVERAGE %D = 4.0

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.78	11.68	11.88	298.8	250.0	19.5
Aroclor-1260-2	12.32	12.22	12.42	230.8	250.0	-7.7
Aroclor-1260-3	12.68	12.58	12.78	234.1	250.0	-6.3
Aroclor-1260-4	13.07	12.97	13.17	250.0	250.0	0.0
Aroclor-1260-5	13.25	13.15	13.35	213.0	250.0	-14.8

AVERAGE %D = 9.7

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.02	8.22	244.9	250.0	-2.0
Aroclor-1016-2	8.88	8.78	8.98	253.9	250.0	1.6
Aroclor-1016-3	9.32	9.23	9.43	252.4	250.0	1.0
Aroclor-1016-4	9.89	9.79	9.99	237.0	250.0	-5.2

AVERAGE %D = 2.5

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	212.6	250.0	-15.0
Aroclor-1260-2	12.95	12.84	13.04	230.5	250.0	-7.8
Aroclor-1260-3	13.20	13.10	13.30	227.1	250.0	-9.2
Aroclor-1260-4	13.72	13.62	13.82	230.4	250.0	-7.8

AVERAGE %D = 9.9

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/07/10

Lab Standard ID: AR1242 Time Analyzed :2328

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.25	8.15	8.35	228.9	250.0	-8.4
Aroclor-1242-2	8.44	8.34	8.54	228.0	250.0	-8.8
Aroclor-1242-3	9.40	9.30	9.50	227.1	250.0	-9.2
Aroclor-1242-4	10.11	10.01	10.21	242.5	250.0	-3.0

AVERAGE %D = 7.4

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/07/10

Lab Standard ID: AR1242 Time Analyzed :2328

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.11	8.01	8.21	241.9	250.0	-3.2
Aroclor-1242-2	8.88	8.78	8.98	247.0	250.0	-1.2
Aroclor-1242-3	9.89	9.79	9.99	229.1	250.0	-8.4
Aroclor-1242-4	10.45	10.35	10.55	243.2	250.0	-2.7

AVERAGE %D = 3.9

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/07/10

Lab Standard ID: AR1660 Time Analyzed :2352

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.74	7.64	7.84	248.0	250.0	-0.8
Aroclor-1016-2	8.25	8.16	8.36	252.7	250.0	1.1
Aroclor-1016-3	8.44	8.34	8.54	247.9	250.0	-0.8
Aroclor-1016-4	9.20	9.11	9.31	244.3	250.0	-2.3

AVERAGE %D = 1.2

Date Analyzed :07/07/10

Lab Standard ID: AR1660 Time Analyzed :2352

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.77	11.68	11.88	245.1	250.0	-2.0
Aroclor-1260-2	12.31	12.22	12.42	246.9	250.0	-1.2
Aroclor-1260-3	12.68	12.58	12.78	256.8	250.0	2.7
Aroclor-1260-4	13.07	12.97	13.17	256.7	250.0	2.7
Aroclor-1260-5	13.25	13.15	13.35	252.5	250.0	1.0

AVERAGE %D = 1.9

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/07/10

Lab Standard ID: AR1660 Time Analyzed :2352

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.12	8.02	8.22	251.2	250.0	0.5
Aroclor-1016-2	8.88	8.78	8.98	257.7	250.0	3.1
Aroclor-1016-3	9.32	9.23	9.43	259.7	250.0	3.9
Aroclor-1016-4	9.89	9.79	9.99	247.4	250.0	-1.0

AVERAGE %D = 2.1

Date Analyzed :07/07/10

Lab Standard ID: AR1660 Time Analyzed :2352

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	232.3	250.0	-7.1
Aroclor-1260-2	12.94	12.84	13.04	229.1	250.0	-8.4
Aroclor-1260-3	13.20	13.10	13.30	227.7	250.0	-8.9
Aroclor-1260-4	13.72	13.62	13.82	230.0	250.0	-8.0

AVERAGE %D = 8.1

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/08/10

Lab Standard ID: AR1248 Time Analyzed :0324

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	8.86	8.76	8.96	228.8	250.0	-8.5
Aroclor-1248-2	9.40	9.30	9.50	231.1	250.0	-7.6
Aroclor-1248-3	9.86	9.77	9.97	229.2	250.0	-8.3
Aroclor-1248-4	10.11	10.02	10.22	239.4	250.0	-4.2

AVERAGE %D = 7.2

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/08/10

Lab Standard ID: AR1248 Time Analyzed :0324

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.44	9.34	9.54	246.0	250.0	-1.6
Aroclor-1248-2	9.89	9.79	9.99	237.9	250.0	-4.8
Aroclor-1248-3	10.37	10.27	10.47	242.7	250.0	-2.9
Aroclor-1248-4	10.81	10.72	10.92	241.4	250.0	-3.4

AVERAGE %D = 3.2

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/08/10

Lab Standard ID: AR1660 Time Analyzed :0348

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.74	7.64	7.84	246.1	250.0	-1.6
Aroclor-1016-2	8.25	8.16	8.36	251.9	250.0	0.8
Aroclor-1016-3	8.44	8.34	8.54	246.8	250.0	-1.3
Aroclor-1016-4	9.20	9.11	9.31	244.7	250.0	-2.1

AVERAGE %D = 1.5

Date Analyzed :07/08/10

Lab Standard ID: AR1660 Time Analyzed :0348

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.77	11.68	11.88	245.0	250.0	-2.0
Aroclor-1260-2	12.31	12.22	12.42	246.5	250.0	-1.4
Aroclor-1260-3	12.68	12.58	12.78	256.0	250.0	2.4
Aroclor-1260-4	13.07	12.97	13.17	255.8	250.0	2.3
Aroclor-1260-5	13.25	13.15	13.35	251.0	250.0	0.4

AVERAGE %D = 1.7

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/08/10

Lab Standard ID: AR1660 Time Analyzed :0348

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.02	8.22	250.7	250.0	0.3
Aroclor-1016-2	8.88	8.78	8.98	257.6	250.0	3.0
Aroclor-1016-3	9.32	9.23	9.43	259.4	250.0	3.8
Aroclor-1016-4	9.89	9.79	9.99	247.4	250.0	-1.0

AVERAGE %D = 2.0

Date Analyzed :07/08/10

Lab Standard ID: AR1660 Time Analyzed :0348

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	231.9	250.0	-7.2
Aroclor-1260-2	12.94	12.84	13.04	229.1	250.0	-8.3
Aroclor-1260-3	13.20	13.10	13.30	227.6	250.0	-9.0
Aroclor-1260-4	13.72	13.62	13.82	229.2	250.0	-8.3

AVERAGE %D = 8.2

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 04/30/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	4017288	2.850	2579684	14.785
	UPPER LIMIT	8034576	2.950	5159368	14.885
	LOWER LIMIT	2008644	2.750	1289842	14.685

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	04/30/10	1439	3936344	2.829	2621288	14.785
02	ZZZZZ	ZZZZZ	04/30/10	1503	3932884	2.845	2579995	14.784
03		IB	04/30/10	1526	3901041	2.850	2468003	14.785
04		1660 250	04/30/10	1550	4017288	2.850	2579684	14.785
05		1660 20	04/30/10	1614	3796676	2.851	2472142	14.785
06		1660 50	04/30/10	1637	3918988	2.852	2558363	14.785
07		1660 100	04/30/10	1701	4036526	2.853	2602578	14.784
08		1660 500	04/30/10	1725	3966083	2.850	2565050	14.784
09		1660 1000	04/30/10	1748	3979361	2.850	2581379	14.785
10		AR1660 ICV	04/30/10	1812	3621340	2.851	2336823	14.785
11		AR1242	04/30/10	1836	3723895	2.850	2481457	14.784
12		AR1248	04/30/10	1900	3748224	2.849	2457976	14.785
13		AR1254	04/30/10	1923	3822366	2.851	2498970	14.785
14		AR2162	04/30/10	1947	3616224	2.849	2343683	14.785
15		AR3268	04/30/10	2011	3676337	2.849	2417548	14.785
16	ZZZZZ	ZZZZZ	05/01/10	1116	3788482	2.829	2368120	14.785
17	ZZZZZ	ZZZZZ	05/01/10	1139	3838395	2.848	2321489	14.784
18	ZZZZZ	ZZZZZ	05/01/10	1203	3782952	2.848	2331509	14.784
19	ZZZZZ	ZZZZZ	05/01/10	1226	3742775	2.849	2308898	14.784
20	ZZZZZ	ZZZZZ	05/01/10	1250	3771751	2.849	2310840	14.784
21		AR1242	07/07/10	2328	5467331	2.855	3916260	14.781
22		AR1660	07/07/10	2352	5440140	2.856	3662949	14.781
23	RC27MBW1	RC27MBW1	07/08/10	0015	4469047	2.856	3256299	14.781
24	RC27LCSW1	RC27LCSW1	07/08/10	0039	4330942	2.855	3107798	14.781
25	RC27LCSDW1	RC27LCSDW1	07/08/10	0103	4244296	2.856	2910781	14.782
26	NBF-MH108-06	RC27A	07/08/10	0126	4402525	2.855	3028402	14.782
27		AR1248	07/08/10	0324	6139586	2.856	4373042	14.780
28		AR1660	07/08/10	0348	5669362	2.854	3808312	14.780

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC27 Project: NBF/GTSP

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 04/30/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	7106566	3.752	4223420	15.543
	UPPER LIMIT	14213132	3.852	8446840	15.643
	LOWER LIMIT	3553283	3.652	2111710	15.444

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	04/30/10	1439	6780747	3.725	4060444	15.542
02	ZZZZZ	ZZZZZ	04/30/10	1503	6826681	3.747	4190544	15.542
03		IB	04/30/10	1526	6790071	3.753	4120013	15.543
04		1660 250	04/30/10	1550	7106566	3.752	4223420	15.543
05		1660 20	04/30/10	1614	6696634	3.754	4059565	15.543
06		1660 50	04/30/10	1637	6947371	3.756	4222049	15.544
07		1660 100	04/30/10	1701	7077248	3.756	4259621	15.543
08		1660 500	04/30/10	1725	7052171	3.754	4275348	15.543
09		1660 1000	04/30/10	1748	6967024	3.753	4236712	15.543
10		AR1660 ICV	04/30/10	1812	6401671	3.755	3848836	15.543
11		AR1242	04/30/10	1836	6685900	3.753	4097795	15.543
12		AR1248	04/30/10	1900	6647032	3.752	4152665	15.543
13		AR1254	04/30/10	1923	6762350	3.755	4228711	15.543
14		AR2162	04/30/10	1947	6398967	3.754	3980592	15.543
15		AR3268	04/30/10	2011	6442531	3.753	4068504	15.543
16	ZZZZZ	ZZZZZ	05/01/10	1116	6304260	3.725	3741245	15.540
17	ZZZZZ	ZZZZZ	05/01/10	1139	6522450	3.749	3696451	15.541
18	ZZZZZ	ZZZZZ	05/01/10	1203	6378503	3.749	3740309	15.541
19	ZZZZZ	ZZZZZ	05/01/10	1226	6348333	3.752	3732842	15.541
20	ZZZZZ	ZZZZZ	05/01/10	1250	6422920	3.752	3725419	15.542
21		AR1242	07/07/10	2328	8530312	3.757	6066345	15.539
22		AR1660	07/07/10	2352	8576232	3.757	5809054	15.540
23	RC27MBW1	RC27MBW1	07/08/10	0015	7405497	3.757	5100205	15.539
24	RC27LCSW1	RC27LCSW1	07/08/10	0039	7013657	3.757	4893952	15.539
25	RC27LCSDW1	RC27LCSDW1	07/08/10	0103	6887209	3.757	4568221	15.540
26	NBF-MH108-06	RC27A	07/08/10	0126	7146139	3.756	4829246	15.540
27		AR1248	07/08/10	0324	9509567	3.757	6782704	15.539
28		AR1660	07/08/10	0348	8820965	3.756	5962412	15.540

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

Metals Analysis
Report and Summary QC Forms

ARI Job ID: RC27, RC29

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC27

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
NBF-MH108-062910-W	RC27A	10-15500	
NBF-MH108-062910-WD	RC27ADUP	10-15500	
NBF-MH108-062910-WS	RC27ASPK	10-15500	
PBW	RC27MB1	10-15500	
LCSW	RC27MB1SPK	10-15500	
NBF-MH108-062910-W	RC27B	10-15501	
NBF-MH108-062910-WD	RC27BDUP	10-15501	
NBF-MH108-062910-WS	RC27BSPK	10-15501	
PBW	RC27MB2	10-15501	
LCSW	RC27MB2SPK	10-15501	

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

Comments: _____

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

Signature: _____ Name: Jay Kuhn

Date: 7/1/10 Title: Inorganic Manager

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH108-062910-W
SAMPLE

Lab Sample ID: RC27A
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized:
Reported: 07/07/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 06/29/10
Date Received: 06/29/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/01/10	200.8	07/06/10	**7440-38-2**	**Arsenic**	0.2	**3.0**	
200.8	07/01/10	200.8	07/06/10	7440-43-9	Cadmium	0.2	0.2	U
3010A	07/01/10	6010B	07/06/10	**7440-70-2**	**Calcium**	50	**34,400**	
200.8	07/01/10	200.8	07/06/10	7440-47-3	Chromium	0.5	0.5	U
200.8	07/01/10	200.8	07/06/10	**7440-50-8**	**Copper**	0.5	**3.9**	
200.8	07/01/10	200.8	07/06/10	**7439-92-1**	**Lead**	1	**1**	
3010A	07/01/10	6010B	07/06/10	**7439-95-4**	**Magnesium**	50	**10,400**	
7470A	07/01/10	7470A	07/02/10	7439-97-6	Mercury	0.1	0.1	U
200.8	07/01/10	200.8	07/06/10	**7440-02-0**	**Nickel**	0.5	**1.4**	
200.8	07/01/10	200.8	07/06/10	**7782-49-2**	**Selenium**	0.5	**0.6**	
200.8	07/01/10	200.8	07/06/10	7440-22-4	Silver	0.2	0.2	U
200.8	07/01/10	200.8	07/06/10	**7440-66-6**	**Zinc**	4	**16**	

Calculated Hardness (mg-CaCO3/L): 130

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108-062910-W
MATRIX SPIKE

Lab Sample ID: RC27A
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized:
Reported: 07/07/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 06/29/10
Date Received: 06/29/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	2.96	29.0	25.0	104%	
Cadmium	200.8	0.200 U	24.6	25.0	98.4%	
Calcium	6010B	34,400	43,900	10,000	95.0%	
Chromium	200.8	0.500 U	19.0	25.0	76.0%	
Copper	200.8	3.86	28.0	25.0	96.6%	
Lead	200.8	1.01	25.0	25.0	96.0%	
Magnesium	6010B	10,400	20,700	10,000	103%	
Mercury	7470A	0.100 U	1.06	1.00	106%	
Nickel	200.8	1.45	25.4	25.0	95.8%	
Selenium	200.8	0.560	77.2	80.0	95.8%	
Silver	200.8	0.200 U	24.5	25.0	98.0%	
Zinc	200.8	15.8	81.2	80.0	81.8%	

Reported in µg/L

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-MH108-062910-W
DUPLICATE

Lab Sample ID: RC27A
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized:
Reported: 07/07/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 06/29/10
Date Received: 06/29/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	3.0	3.1	3.3%	+/- 20%	
Cadmium	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Calcium	6010B	34,400	32,300	6.3%	+/- 20%	
Chromium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	200.8	3.9	3.9	0.0%	+/- 20%	
Lead	200.8	1	1	0.0%	+/- 1	L
Magnesium	6010B	10,400	9,710	6.9%	+/- 20%	
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Nickel	200.8	1.4	1.3	7.4%	+/- 0.5	L
Selenium	200.8	0.6	0.6	0.0%	+/- 0.5	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	16	16	0.0%	+/- 4	L

Reported in µg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: LAB CONTROL**

Lab Sample ID: RC27LCS
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized:
Reported: 07/07/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	25.7	25.0	103%	
Cadmium	200.8	24.4	25.0	97.6%	
Calcium	6010B	10400	10000	104%	
Chromium	200.8	23.0	25.0	92.0%	
Copper	200.8	25.8	25.0	103%	
Lead	200.8	25	25	100%	
Magnesium	6010B	10500	10000	105%	
Mercury	7470A	2.1	2.0	105%	
Nickel	200.8	25.8	25.0	103%	
Selenium	200.8	77.4	80.0	96.8%	
Silver	200.8	25.3	25.0	101%	
Zinc	200.8	76	80	95.0%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: RC27MB
LIMS ID: 10-15500
Matrix: Water
Data Release Authorized:
Reported: 07/07/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/01/10	200.8	07/06/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	07/01/10	200.8	07/06/10	7440-43-9	Cadmium	0.2	0.2	U
3010A	07/01/10	6010B	07/06/10	7440-70-2	Calcium	50	50	U
200.8	07/01/10	200.8	07/06/10	7440-47-3	Chromium	0.5	0.5	U
200.8	07/01/10	200.8	07/06/10	7440-50-8	Copper	0.5	0.5	U
200.8	07/01/10	200.8	07/06/10	7439-92-1	Lead	1	1	U
3010A	07/01/10	6010B	07/06/10	7439-95-4	Magnesium	50	50	U
7470A	07/01/10	7470A	07/02/10	7439-97-6	Mercury	0.1	0.1	U
200.8	07/01/10	200.8	07/06/10	7440-02-0	Nickel	0.5	0.5	U
200.8	07/01/10	200.8	07/06/10	7782-49-2	Selenium	0.5	0.5	U
200.8	07/01/10	200.8	07/06/10	7440-22-4	Silver	0.2	0.2	U
200.8	07/01/10	200.8	07/06/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-062910-W
SAMPLE

Lab Sample ID: RC27B
LIMS ID: 10-15501
Matrix: Water
Data Release Authorized:
Reported: 07/07/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 06/29/10
Date Received: 06/29/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/01/10	200.8	07/06/10	**7440-38-2**	**Arsenic**	0.2	**0.9**	
200.8	07/01/10	200.8	07/06/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	07/01/10	200.8	07/06/10	7440-47-3	Chromium	0.5	0.5	U
200.8	07/01/10	200.8	07/06/10	**7440-50-8**	**Copper**	0.5	**1.3**	
200.8	07/01/10	200.8	07/06/10	7439-92-1	Lead	1	1	U
200.8	07/01/10	200.8	07/06/10	**7440-02-0**	**Nickel**	0.5	**1.1**	
200.8	07/01/10	200.8	07/06/10	**7782-49-2**	**Selenium**	0.5	**0.6**	
200.8	07/01/10	200.8	07/06/10	7440-22-4	Silver	0.2	0.2	U
200.8	07/01/10	200.8	07/06/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: NBF-MH108-062910-W
MATRIX SPIKE

Lab Sample ID: RC27B
LIMS ID: 10-15501
Matrix: Water
Data Release Authorized:
Reported: 07/07/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 06/29/10
Date Received: 06/29/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	0.870	27.5	25.0	107%	
Cadmium	200.8	0.200 U	25.0	25.0	100%	
Chromium	200.8	0.500 U	19.3	25.0	77.2%	
Copper	200.8	1.34	26.6	25.0	101%	
Lead	200.8	1.00 U	24.5	25.0	98.0%	
Nickel	200.8	1.14	26.1	25.0	99.8%	
Selenium	200.8	0.560	77.5	80.0	96.2%	
Silver	200.8	0.200 U	25.2	25.0	101%	
Zinc	200.8	4.00 U	69.1	80.0	86.4%	

Reported in µg/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: NBF-MH108-062910-W DUPLICATE

Lab Sample ID: RC27B
LIMS ID: 10-15501
Matrix: Water
Data Release Authorized:
Reported: 07/07/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 06/29/10
Date Received: 06/29/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	0.9	0.9	0.0%	+/- 0.2	L
Cadmium	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Chromium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	200.8	1.3	1.3	0.0%	+/- 0.5	L
Lead	200.8	1 U	1 U	0.0%	+/- 1	L
Nickel	200.8	1.1	1.1	0.0%	+/- 0.5	L
Selenium	200.8	0.6	0.6	0.0%	+/- 0.5	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	4 U	4 U	0.0%	+/- 4	L

Reported in µg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: LAB CONTROL

Lab Sample ID: RC27LCS
LIMS ID: 10-15501
Matrix: Water
Data Release Authorized:
Reported: 07/07/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	25.5	25.0	102%	
Cadmium	200.8	24.4	25.0	97.6%	
Chromium	200.8	22.9	25.0	91.6%	
Copper	200.8	25.9	25.0	104%	
Lead	200.8	25	25	100%	
Nickel	200.8	25.9	25.0	104%	
Selenium	200.8	74.4	80.0	93.0%	
Silver	200.8	25.4	25.0	102%	
Zinc	200.8	74	80	92.5%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: RC27MB
LIMS ID: 10-15501
Matrix: Water
Data Release Authorized:
Reported: 07/07/10

QC Report No: RC27-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/01/10	200.8	07/06/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	07/01/10	200.8	07/06/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	07/01/10	200.8	07/06/10	7440-47-3	Chromium	0.5	0.5	U
200.8	07/01/10	200.8	07/06/10	7440-50-8	Copper	0.5	0.5	U
200.8	07/01/10	200.8	07/06/10	7439-92-1	Lead	1	1	U
200.8	07/01/10	200.8	07/06/10	7440-02-0	Nickel	0.5	0.5	U
200.8	07/01/10	200.8	07/06/10	7782-49-2	Selenium	0.5	0.5	U
200.8	07/01/10	200.8	07/06/10	7440-22-4	Silver	0.2	0.2	U
200.8	07/01/10	200.8	07/06/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

UNITS: ug/L

SDG: RC27

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	PMS	MS070683	50.0	49.93	99.9	50.0	50.53	101.1	50.60	101.2	50.85	101.7	50.85	101.7	50.64	101.3
Cadmium	CD	PMS	MS070683	50.0	49.88	99.8	50.0	50.99	102.0	50.95	101.9	51.14	102.3	51.44	102.9	51.49	103.0
Calcium	CA	ICP	IP070671	2000.0	2189.92	109.5	2000.0	2232.23	111.6	2189.35	109.5	2228.19	111.4	2197.71	109.9		
Chromium	CR	PMS	MS070683	50.0	49.12	98.2	50.0	50.35	100.7	46.87	93.7	46.84	93.7	46.67	93.3	46.37	92.7
Copper	CU	PMS	MS070683	50.0	50.47	100.9	50.0	51.30	102.6	50.80	101.6	51.15	102.3	50.21	100.4	49.28	98.6
Lead	PB	PMS	MS070683	50.0	49.25	98.5	50.0	50.08	100.2	49.31	98.6	49.32	98.6	49.00	98.0	49.07	98.1
Magnesium	MG	ICP	IP070671	2000.0	2119.56	106.0	2000.0	2143.98	107.2	2104.68	105.2	2131.43	106.6	2101.00	105.1		
Mercury	HG	CVA	HG070202	8.0	7.91	98.9	4.0	4.08	102.0	4.06	101.5						
Nickel	NI	PMS	MS070683	50.0	50.62	101.2	50.0	51.16	102.3	51.90	103.8	52.18	104.4	51.22	102.4	50.46	100.9
Selenium	SE	PMS	MS070683	80.0	80.08	100.1	50.0	50.97	101.9	51.57	103.1	52.24	104.5	52.40	104.8	51.81	103.6
Silver	AG	PMS	MS070683	50.0	49.49	99.0	50.0	51.32	102.6	51.24	102.5	50.72	101.4	50.96	101.9	51.29	102.6
Zinc	ZN	PMS	MS070683	50.0	51.86	103.7	50.0	51.47	102.9	50.92	101.8	51.61	103.2	50.74	101.5	50.11	100.2

RC27: 00122

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

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

UNITS: ug/L

SDG: RC27

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Arsenic	AS	PMS	MS070683	0.2	0.23	**115.0**										
Cadmium	CD	PMS	MS070683	0.2	0.22	**110.0**										
Calcium	CA	ICP	IP070671	50.0	51.82	**103.6**										
Chromium	CR	PMS	MS070683	0.5	0.51	**102.0**										
Copper	CU	PMS	MS070683	0.5	0.54	**108.0**										
Lead	PB	PMS	MS070683	1.0	1.03	**103.0**										
Magnesium	MG	ICP	IP070671	50.0	59.31	**118.6**										
Mercury	HG	CVA	HG070202	0.1	0.10	**100.0**										
Nickel	NI	PMS	MS070683	0.5	0.57	**114.0**										
Selenium	SE	PMS	MS070683	0.5	0.55	**110.0**										
Silver	AG	PMS	MS070683	0.2	0.21	**105.0**										
Zinc	ZN	PMS	MS070683	4.0	4.15	**103.8**										

RC27.00123

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

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC27

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	PMS	MS070683	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	CD	PMS	MS070683	5.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Calcium	CA	ICP	IP070671	5000.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U		
Chromium	CR	PMS	MS070683	10.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Copper	CU	PMS	MS070683	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Lead	PB	PMS	MS070683	3.0	1.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	MG	ICP	IP070671	5000.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U		
Mercury	HG	CVA	HG070202	0.2	0.1	0.1	U	0.1	U	0.1	U						
Nickel	NI	PMS	MS070683	40.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Selenium	SE	PMS	MS070683	5.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Silver	AG	PMS	MS070683	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Zinc	ZN	PMS	MS070683	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U

RC27 - 001214

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

ICS SOURCE: I.V.

PROJECT: NBF/GTSP Stormwater

RUNID: IP070671

SDG: RC27

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	206160.6	205830.4	**102.9**						
Antimony		1000	30.0	1056.7	**105.7**						
Arsenic		1000	25.2	1088.8	**108.9**						
Barium		1000	0.6	1011.9	**101.2**						
Beryllium		1000	0.0	1033.2	**103.3**						
Boron			-9.4	-9.7							
Cadmium		1000	-1.4	1033.6	**103.4**						
Calcium	100000	100000	105557.1	105157.0	**105.2**						
Chromium		1000	0.4	1036.4	**103.6**						
Cobalt		1000	-0.2	1000.7	**100.1**						
Copper		1000	2.8	1069.8	**107.0**						
Iron	200000	200000	210414.4	211394.6	**105.7**						
Lead		1000	-7.3	982.7	**98.3**						
Magnesium	100000	100000	106362.4	102417.0	**102.4**						
Manganese		1000	0.3	981.6	**98.2**						
Molybdenum			2.8	3.1							
Nickel		1000	3.8	957.1	**95.7**						
Potassium			-3.5	-44.1							
Selenium		1000	-4.3	1041.9	**104.2**						
Silicon			-18.2	-16.6							
Silver		1000	-0.7	1044.0	**104.4**						
Sodium			12.1	16.0							
Strontium			0.8	0.8							
Thallium		1000	12.8	1001.1	**100.1**						
Tin			-10.1	-9.4							
Titanium			6.8	7.7							
Vanadium		1000	-0.7	986.0	**98.6**						
Zinc		1000	5.4	992.1	**99.2**						

RC27-00125

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

ICS SOURCE: I.V.

PROJECT: NBF/GTSP Stormwater

RUNID: MS070683

SDG: RC27

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Arsenic		20	0.0	19.2	**96.0**						
Cadmium		20	0.1	19.4	**97.0**						
Chromium		20	0.5	18.6	**93.0**						
Cobalt		20	0.0	17.0	**85.0**						
Copper		20	0.5	19.6	**98.0**						
Manganese		20	0.1	18.0	**90.0**						
Molybdenum	400	400	394.1	391.9	**98.0**						
Nickel		20	0.6	20.5	**102.5**						
Selenium			0.1	0.1							
Silver		20	0.0	18.9	**94.5**						
Vanadium			0.0	-0.4							
Zinc		20	1.2	19.9	**99.5**						

RC27.00126

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC27 UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Arsenic	AS	PMS	PE ELAN 6000 MS	0.00		10	0.2	4/1/2010		
Cadmium	CD	PMS	PE ELAN 6000 MS	0.00		5	0.2	4/1/2010		
Calcium	CA	ICP	OPTIMA ICP 2	317.93		5000	50.0	4/1/2010	500000.0	10/6/2009
Chromium	CR	PMS	PE ELAN 6000 MS	0.00		10	0.5	4/1/2010		
Copper	CU	PMS	PE ELAN 6000 MS	0.00		25	0.5	4/1/2010		
Lead	PB	PMS	PE ELAN 6000 MS	0.00		3	1.0	4/1/2010		
Magnesium	MG	ICP	OPTIMA ICP 2	279.08		5000	50.0	4/1/2010	500000.0	10/6/2009
Mercury	HG	CVA	CETAC MERCURY	253.70		0.2	0.1	4/1/2010		
Nickel	NI	PMS	PE ELAN 6000 MS	0.00		40	0.5	4/1/2010		
Selenium	SE	PMS	PE ELAN 6000 MS	0.00		5	0.5	4/1/2010		
Silver	AG	PMS	PE ELAN 6000 MS	0.00		10	0.2	4/1/2010		
Zinc	ZN	PMS	PE ELAN 6000 MS	0.00		20	4.0	4/1/2010		

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

IEC DATE: 6/25/2010

SDG: RC27

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	10.6345000	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.0302010	0.0000000	-0.9445380	1.0514100	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0087705	0.0000000	-0.1163000	0.0000000	0.0000000	0.0917961
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	3.3930900	0.0000000	0.0000000	0.0000000	0.0000000	0.1261800	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.5291320	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0194491	0.0000000	-0.0579845	0.0000000	0.0000000	-0.0470434
Cobalt	228.62	0.0000000	0.0000000	0.1846310	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0124726
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2841270	-0.0424887	0.0000000	-0.0717000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	-0.1693720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.9714800	1.2740100	0.0700135
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.1319490	0.0000000	-1.9410900	-0.9247460	0.0000000	0.5007690
Manganese	257.61	0.0067696	0.0000000	0.0000000	0.0000000	0.0023349	0.0000000	0.0000000	0.0000000	0.0000000	-0.0051882
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0173285	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0679605	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.5126200	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	-5.9937200	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.3133900	0.3288770	0.0000000	-0.1504990
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0462590	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0623399	0.0000000	0.0000000	0.1821360	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.1559900	0.0000000	0.1070520
Zinc	206.20	0.0279274	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3041290	0.0000000	0.0000000

RC27.00128

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

IEC DATE: 6/25/2010

SDG: RC27

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	10.5279000	0.0000000	0.0000000	0.0000000	2.3617300	0.0000000	18.6686000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	-0.3653530	0.0000000	0.0000000	-1.2842400	0.0000000	-3.1614700	0.0000000
Arsenic	188.98	0.0000000	0.0000000	1.5685300	0.0000000	0.0000000	0.0000000	-18.0910000	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.1042590	0.0000000	0.0000000	0.0000000	0.0000000	0.5343320	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0111651	0.0000000	0.5182900	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.6501870	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.1304500	0.0000000	0.1655120	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.2567570	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.1920370	0.1791340	0.0000000	0.0000000	1.6866300	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0228258	0.0000000	0.7071800	0.0000000	0.0000000	0.0000000	0.3708110	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	5.3092800	0.0000000
Lead	220.35	0.0000000	0.0000000	-0.3219480	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-3.4563100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	-0.2309750	0.0000000	0.0000000	0.0000000	-0.0245610	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7107260	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.1962650	0.1355340	0.0000000	0.0000000	0.0000000	-0.0347846	0.0000000	-0.2306430	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	275.8690000	0.0000000	0.0000000	238.7330000
Thallium	190.80	0.0000000	-0.9583370	-3.2391700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	1.5566700	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.6349390	-0.4579360	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	1.2012000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1525300	-0.7369790	0.0000000	0.0000000	0.0000000	0.5819800	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2610670	0.0000000	-0.0597607	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

RC27 : 90126

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC27

ANALYSIS METHOD: ICP

ARI PREP CODE: TWC

PREPDATE: 7/1/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-MH108-062910-W	RC27A	0.000	50.0	50.0
NBF-MH108-062910-WD	RC27ADUP	0.000	50.0	50.0
NBF-MH108-062910-WS	RC27ASPK	0.000	50.0	50.0
PBW	RC27MB1	0.000	50.0	50.0
LCSW	RC27MB1SPK	0.000	50.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC27

ANALYSIS METHOD: PMS

ARI PREP CODE: REN

PREPDATE: 7/1/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-MH108-062910-W	RC27A	0.000	50.0	25.0
NBF-MH108-062910-WD	RC27ADUP	0.000	50.0	25.0
NBF-MH108-062910-WS	RC27ASPK	0.000	50.0	25.0
NBF-MH108-062910-W	RC27B	0.000	50.0	25.0
NBF-MH108-062910-WD	RC27BDUP	0.000	50.0	25.0
NBF-MH108-062910-WS	RC27BSPK	0.000	50.0	25.0
PBW	RC27MB1	0.000	50.0	25.0
LCSW	RC27MB1SPK	0.000	50.0	25.0
PBW	RC27MB2	0.000	50.0	25.0
LCSW	RC27MB2SPK	0.000	50.0	25.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC27

ANALYSIS METHOD: CVA

ARI PREP CODE: TWM

PREPDATE: 7/1/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-MH108-062910-W	RC27A	0.000	20.0	20.0
NBF-MH108-062910-WD	RC27ADUP	0.000	20.0	20.0
NBF-MH108-062910-WS	RC27ASPK	0.000	20.0	20.0
PBW	RC27MB1	0.000	20.0	20.0
LCSW	RC27MB1SPK	0.000	20.0	20.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 7/6/2010

SDG: RC27 | RUNID: IP070671 | METHOD: ICP | END DATE: 7/6/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10401								X								X														
S2	S2	1.00	10435																														
S3	S3	1.00	10451																														
S4	S4	1.00	10471																														
S5	S5	1.00	10485								X								X														
ICV	ICV	1.00	10554								X								X														
ICB	ICB	1.00	10590								X								X														
ZZZZZZ	ZZZZZZ	1.00	11025																														
ZZZZZZ	ZZZZZZ	1.00	11063																														
ZZZZZZ	ZZZZZZ	1.00	11102																														
CCV	CCV1	1.00	11134								X								X														
CCB	CCB1	1.00	11170								X								X														
S5	S5	1.00	11213								X								X														
CCV	CCV2	1.00	11232								X								X														
CCB	CCB2	1.00	11264								X								X														
CRI	CRII	1.00	11303								X								X														
ICSA	ICSAI	1.00	11341								X								X														
ICSAB	ICSABI	1.00	11380								X								X														
CCV	CCV3	1.00	11412								X								X														
CCB	CCB3	1.00	11445								X								X														
ZZZZZZ	DICHECK	1.00	11483																														
ZZZZZZ	PF67MB	2.00	11521																														
ZZZZZZ	QC21	1.00	11560																														
ZZZZZZ	QC7M	1.00	11594																														
ZZZZZZ	PF67A	2.00	12033																														
ZZZZZZ	PF67B	2.00	12070																														
ZZZZZZ	PF67C	2.00	12103																														
ZZZZZZ	PF67D	2.00	12140																														
ZZZZZZ	PF67E	2.00	12173																														
ZZZZZZ	PF67MBSPK	2.00	12210																														
CCV	CCV4	1.00	12243								X								X														
CCB	CCB4	1.00	12275								X								X														
S0	S0	1.00	09152								X								X														
S2	S2	1.00	09192																														
S3	S3	1.00	09210																														

FORM XIV

RC27:00133

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 7/6/2010

SDG: RC27 | RUNID: IP070671 | METHOD: ICP | END DATE: 7/6/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S4	S4	1.00	09233																														
S5	S5	1.00	09254								X								X														
ICV	ICV	1.00	09445								X								X														
ICB	ICB	1.00	09491								X								X														
CRI	CRII	1.00	09543								X								X														
ICSA	ICSAI	1.00	09592								X								X														
ICSAB	ICSABI	1.00	10033								X								X														
ZZZZZZ	HiPurQC7M	1.00	10072																														
ZZZZZZ	SPEXQC21	1.00	10111																														
ZZZZZZ	DICHECK	1.00	10152																														
CCV	CCV1	1.00	10192								X								X														
CCB	CCB1	1.00	10233								X								X														
ZZZZZZ	RC73MB1	2.00	10272																														
PBW	RC27MB1	1.00	10312								X								X														
NBF-MH108-062910-WD	RC27ADUP	1.00	10351								X								X														
NBF-MH108-062910-W	RC27A	1.00	10392								X								X														
NBF-MH108-062910-WS	RC27ASPK	1.00	10433								X								X														
ZZZZZZ	RC73ADUP	2.00	10474																														
ZZZZZZ	RC73A	2.00	10515																														
ZZZZZZ	RC73ASPK	2.00	10555																														
ZZZZZZ	RC73MB1SPK	2.00	10594																														
LCSW	RC27MB1SPK	1.00	11035								X								X														
CCV	CCV2	1.00	11080								X								X														
CCB	CCB2	1.00	11122								X								X														

RC27 00134

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 7/6/2010

SDG: RC27 | RUNID: MS070683 | METHOD: PMS | END DATE: 7/6/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	11160		X		X					X		X	X								X	X		X							X
S1	S1	1.00	11240		X		X					X		X	X								X	X		X							X
S2	S2	1.00	11320		X		X					X		X	X								X	X		X							X
S3	S3	1.00	11400		X		X					X		X	X								X	X		X							X
S4	S4	1.00	11470		X		X					X		X	X								X	X		X							X
ZZZZZZ	Rinse Sampl	1.00	11550																														
ICV	MICV	1.00	12030		X		X					X		X	X								X	X		X							X
ICB	ICB	1.00	12100		X		X					X		X	X								X	X		X							X
CCV	MCCV1	1.00	12170		X		X					X		X	X								X	X		X							X
CCB	CCB1	1.00	12240		X		X					X		X	X								X	X		X							X
ZZZZZZ	ZZZZZZ	1.00	12320																														
ZZZZZZ	ZZZZZZ	1.00	12390																														
ZZZZZZ	ZZZZZZ	1.00	12460																														
ZZZZZZ	LR200	1.00	12540																														
ZZZZZZ	LR300	1.00	13010																														
CCV	MCCV2	1.00	13090		X		X					X		X	X								X	X		X							X
CCB	CCB2	1.00	13160		X		X					X		X	X								X	X		X							X
S0	S0	1.00	13230		X		X					X		X	X								X	X		X							X
CCV	MCCV3	1.00	13310		X		X					X		X	X								X	X		X							X
CCB	CCB3	1.00	13380		X		X					X		X	X								X	X		X							X
CRI	MCRI	1.00	13450		X		X					X		X	X								X	X		X							X
ICSA	ICSAI	1.00	13530		X		X					X		X	X								X	X		X							X
ICSAB	ICSABI	1.00	14000		X		X					X		X	X								X	X		X							X
CCV	MCCV4	1.00	14080		X		X					X		X	X								X	X		X							X
CCB	CCB4	1.00	14150		X		X					X		X	X								X	X		X							X
PBW	RC27MB1	2.00	14220		X		X					X		X	X								X	X		X							X
PBW	RC27MB2	2.00	14290		X		X					X		X	X								X	X		X							X
LCSW	RC27MB2SPK	2.00	14350		X		X					X		X	X								X	X		X							X
LCSW	RC27MB1SPK	2.00	14420		X		X					X		X	X								X	X		X							X
NBF-MH108-062910-WD	RC27ADUP	2.00	14480		X		X					X		X	X								X	X		X							X
NBF-MH108-062910-W	RC27A	2.00	14550		X		X					X		X	X								X	X		X							X
NBF-MH108-062910-WS	RC27ASPK	2.00	15010		X		X					X		X	X								X	X		X							X
NBF-MH108-062910-WD	RC27BDUP	2.00	15080		X		X					X		X	X								X	X		X							X
NBF-MH108-062910-W	RC27B	2.00	15150		X		X					X		X	X								X	X		X							X
NBF-MH108-062910-WS	RC27BSPK	2.00	15210		X		X					X		X	X								X	X		X							X

FORM XIV

RC27:00135

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 7/6/2010

SDG: RC27 | RUNID: MS070683 | METHOD: PMS | END DATE: 7/6/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
CCV	MCCV5	1.00	15280		X		X					X		X	X								X	X		X							X
CCB	CCB5	1.00	15350		X		X					X		X	X								X	X		X							X

RC27:00136

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater | INSTRUMENT ID: CETAC MERCURY | START DATE: 7/2/2010

SDG: RC27 | RUNID: HG070202 | METHOD: CVA | END DATE: 7/2/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	18061														X																
S0.1	S0.1	1.00	18074														X																
S0.5	S0.5	1.00	18092														X																
S1	S1	1.00	18110														X																
S2	S2	1.00	18123														X																
S5	S5	1.00	18141														X																
S10	S10	1.00	18155														X																
ICV	AICV	1.00	18190														X																
ICB	ICB	1.00	18204														X																
CCV	ACCV1	1.00	18221														X																
CCB	CCB1	1.00	18240														X																
CRA	CRA	1.00	18253														X																
PBW	RC27MB1	1.00	18271														X																
LCSW	RC27MB1SPK	1.00	18284														X																
NBF-MH108-062910-W	RC27A	1.00	18302														X																
NBF-MH108-062910-WD	RC27ADUP	1.00	18320														X																
NBF-MH108-062910-WS	RC27ASPK	1.00	18333														X																
ZZZZZZ	RC46MB1	1.00	18351																														
ZZZZZZ	RC46MB1SPK	1.00	18365																														
ZZZZZZ	RC46A	1.00	18382																														
ZZZZZZ	RC46ADUP	1.00	18400																														
CCV	ACCV2	1.00	18414														X																
CCB	CCB2	1.00	18432														X																

RC27:00197

Mercury Analysis
Report and Summary QC Forms

ARI Job ID: RC27, RC29

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC29

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
NBF-MH108-062910-W	RC29A	10-15502	
NBF-MH108-062910-WD	RC29ADUP	10-15502	
NBF-MH108-062910-WS	RC29ASPK	10-15502	
PBW	RC29MB1	10-15502	
LCSW	RC29MB1SPK	10-15502	

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

Comments: _____

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

Signature: _____ Name: Jay Kuhn

Date: 7/9/10 Title: Inorganic Manager

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
Dissolved Mercury by Method SW7470A

Data Release Authorized:
Reported: 07/09/10
Date Received: 06/29/10
Page 1 of 1

QC Report No: RC29-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
NBF-MH108-062910-W RC29A 10-15502	06/29/10	Water	07/01/10 07/08/10	20.0	20.0 U
MB-070110 Method Blank	NA	Water	07/01/10 07/08/10	20.0	20.0 U

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-062910-W
MATRIX SPIKE

Lab Sample ID: RC29A
LIMS ID: 10-15502
Matrix: Water
Data Release Authorized:
Reported: 07/09/10

QC Report No: RC29-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 06/29/10
Date Received: 06/29/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7470A	20.0 U	98.7	100	98.7%	

Reported in ng/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-MH108-062910-W
DUPLICATE

Lab Sample ID: RC29A
LIMS ID: 10-15502
Matrix: Water
Data Release Authorized:
Reported: 07/09/10

QC Report No: RC29-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: 06/29/10
Date Received: 06/29/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7470A	20.0 U	20.0 U	0.0%	+/- 20.0	L

Reported in ng/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: RC29LCS
LIMS ID: 10-15502
Matrix: Water
Data Release Authorized:
Reported: 07/09/10

QC Report No: RC29-Science App. International Corp
Project: NBF/GTSP Stormwater Sampling

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	189	200	94.5%	

Reported in ng/L

N-Control limit not met
Control Limits: 80-120%

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

UNITS: ng/L

SDG: RC29

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Mercury	HG	CVL	HG070801	500.0	469.00	93.8	500.0	474.00	94.8	482.00	96.4						

RC27.00111

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

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC29

UNITS: ng/L

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Mercury	HG	CVL	HG070801		20.0	18.40	**92.0**										

RC27.00115

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

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC29

UNITS: ng/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Mercury	HG	CVL	HG070801	25.0	20.0	20.0	U	20.0	U	20.0	U						

RC27:00146

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC29 UNITS: ng/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ng/L)	ICP LR DATE
Mercury	HG	CVL	CETAC MERCURY	253.70		25	20.0	4/1/2010		

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater

SDG: RC29

ANALYSIS METHOD: CVL

ARI PREP CODE: DLM

PREPDATE: 7/1/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-MH108-062910-W	RC29A	0.000	20.0	20.0
NBF-MH108-062910-WD	RC29ADUP	0.000	20.0	20.0
NBF-MH108-062910-WS	RC29ASPK	0.000	20.0	20.0
PBW	RC29MB1	0.000	20.0	20.0
LCSW	RC29MB1SPK	0.000	20.0	20.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF/GTSP Stormwater | INSTRUMENT ID: CETAC MERCURY | START DATE: 7/8/2010

SDG: RC29 | RUNID: HG070801 | METHOD: CVL | END DATE: 7/8/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10563														X																
S20	S20	1.00	10591														X																
S50	S50	1.00	11015														X																
S100	S100	1.00	11044														X																
S200	S200	1.00	11072														X																
S400	S400	1.00	11100														X																
S1000	S1000	1.00	11125														X																
ICV	AICV	1.00	11523														X																
ICB	ICB	1.00	11550														X																
CCV	ACCV1	1.00	11575														X																
CCB	CCB1	1.00	12003														X																
CRA	CRA	1.00	12032														X																
PBW	RC29MB1	1.00	12060														X																
LCSW	RC29MB1SPK	1.00	12084														X																
NBF-MH108-062910-W	RC29A	1.00	12112														X																
NBF-MH108-062910-WD	RC29ADUP	1.00	12140														X																
NBF-MH108-062910-WS	RC29ASPK	1.00	12164														X																
ZZZZZZ	RC42MB	1.00	12192																														
ZZZZZZ	RC42MBSPK	1.00	12221																														
ZZZZZZ	RC42A	1.00	12245																														
ZZZZZZ	RC63MB1	1.00	12273																														
CCV	ACCV2	1.00	12302														X																
CCB	CCB2	1.00	12330														X																

RC27-00119

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: RC27, RC29

SAMPLE RESULTS-CONVENTIONALS
RC27-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/06/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 06/29/10
Date Received: 06/29/10

Client ID: NBF-MH108-062910-W
ARI ID: 10-15500 RC27A

Analyte	Date Batch	Method	Units	RL	Sample
pH	06/29/10 062910#1	EPA 150.1	std units	0.01	7.39
Alkalinity	06/30/10 063010#1	SM 2320	mg/L CaCO3	1.0	140
Carbonate	06/30/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	06/30/10	SM 2320	mg/L CaCO3	1.0	140
Hydroxide	06/30/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	07/02/10 070210#1	EPA 160.2	mg/L	5.0	35.0
Chloride	06/30/10 063010#1	EPA 300.0	mg/L	0.5	5.2
N-Nitrate	06/30/10 063010#1	EPA 300.0	mg-N/L	0.5	1.2
Sulfate	06/30/10 063010#1	EPA 300.0	mg/L	1.0	16.0
Total Organic Carbon	07/01/10 070110#1	EPA 415.1	mg/L	1.50	7.64

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
RC27-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/06/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 06/29/10
Date Received: 06/29/10

Client ID: NBF-MH108-062910-W
ARI ID: 10-15501 RC27B

Analyte	Date Batch	Method	Units	RL	Sample
Dissolved Organic Carbon	07/01/10 070110#1	EPA 415.1	mg/L	1.50	4.48

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
RC27-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/06/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 06/29/10
Date Received: 06/29/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: RC27A Client ID: NBF-MH108-062910-W							
Chloride	EPA 300.0	06/30/10	mg/L	5.2	14.3	10.0	91.0%
N-Nitrate	EPA 300.0	06/30/10	mg-N/L	1.2	10.2	10.0	90.0%
Sulfate	EPA 300.0	06/30/10	mg/L	16.0	34.3	20.0	91.5%
Total Organic Carbon	EPA 415.1	07/01/10	mg/L	7.64	25.7	20.0	90.3%
ARI ID: RC27B Client ID: NBF-MH108-062910-W							
Dissolved Organic Carbon	EPA 415.1	07/01/10	mg/L	4.48	21.2	20.0	83.6%

REPLICATE RESULTS-CONVENTIONALS
RC27-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/06/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: 06/29/10
Date Received: 06/29/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: RC27A Client ID: NBF-MH108-062910-W						
pH	EPA 150.1	06/29/10	std units	7.39	7.41	0.02
Alkalinity	SM 2320	06/30/10	mg/L CaCO3	140	140	0.0%
Carbonate	SM 2320	06/30/10	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	06/30/10	mg/L CaCO3	140	140	0.0%
Hydroxide	SM 2320	06/30/10	mg/L CaCO3	< 1.0	< 1.0	NA
Total Suspended Solids	EPA 160.2	07/02/10	mg/L	35.0	33.5	4.4%
Chloride	EPA 300.0	06/30/10	mg/L	5.2	5.2	0.0%
N-Nitrate	EPA 300.0	06/30/10	mg-N/L	1.2	1.2	0.0%
Sulfate	EPA 300.0	06/30/10	mg/L	16.0	15.9	0.6%
Total Organic Carbon	EPA 415.1	07/01/10	mg/L	7.64	7.20	5.9%
ARI ID: RC27B Client ID: NBF-MH108-062910-W						
Dissolved Organic Carbo	EPA 415.1	07/01/10	mg/L	4.48	4.65	3.7%

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

LAB CONTROL RESULTS-CONVENTIONALS
RC27-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/06/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH EPA 150.1	ICVL	06/29/10	std units	7.01	7.00	0.01
Total Suspended Solids EPA 160.2	ICVL	07/02/10	mg/L	49.8	50.0	99.6%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

METHOD BLANK RESULTS-CONVENTIONALS
RC27-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/06/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Total Suspended Solids	EPA 160.2	07/02/10	mg/L	< 1.0 U	
Chloride	EPA 300.0	06/30/10	mg/L	< 0.1 U	
N-Nitrate	EPA 300.0	06/30/10	mg-N/L	< 0.1 U	
Sulfate	EPA 300.0	06/30/10	mg/L	< 0.1 U	
Total Organic Carbon	EPA 415.1	07/01/10	mg/L	< 1.50 U	
Dissolved Organic Carbon	EPA 415.1	07/01/10	mg/L	< 1.50 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
RC27-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/06/10

Project: NBF/GTSP Stormwater Sampling
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	06/30/10	mg/L CaCO3	86.0	87.7	98.1%
Chloride ERA #230109	EPA 300.0	06/30/10	mg/L	3.0	3.0	100.0%
N-Nitrate ERA #09127	EPA 300.0	06/30/10	mg-N/L	2.9	3.0	96.7%
Sulfate ERA #220109	EPA 300.0	06/30/10	mg/L	3.0	3.0	100.0%
Total Organic Carbon ERA 0513-10-06	EPA 415.1	07/01/10	mg/L	19.8	20.0	99.0%
Dissolved Organic Carbon ERA 0513-10-06	EPA 415.1	07/01/10	mg/L	19.8	20.0	99.0%

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E Jobe
Signature

7/20/10
~~July 15 2010~~
Date

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Run Logs, Continuing Calibrations, and Raw Data	789	833
PCB Raw Data		
Extractions Bench Sheets and Notes	834	839
Initial Calibration	840	946
Run Logs, Continuing Calibrations, and Raw Data	947	1033
Metals Raw Data		
Preparation Bench Sheets and Notes	1034	1045
Run Logs, Calibrations, and Raw Data	1046	1284
Mercury Raw Data		
Preparation Bench Sheets and Notes	1285	1287
Run Logs, Continuing Calibrations, and Raw Data	1288	1295
General Chemistry Raw Data		
Analyst Notes and Raw Data	1296	1357
Geotechnical Raw Data		
Analyst Notes and Raw Data	1358	1362

SO 7/20/10
Signature Date ~~July 15, 2010~~

Analytical Resources, Incorporated
Analytical Chemists and Consultants

July 20, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: RC46, RC63, & RC75

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile RC46/RC63/RC75

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Documentation

ARI Job ID: RC46, RC63, RC75

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: RC75	Turn-around Requested: STAT	Page: 1 of 1	
ARI Client Company: SAIC	Phone: 425-482-3329	Date:	Ice Present? Y
Client Contact: Glen Vedera		No. of Coolers: 2	Cooler Temps: 5.2 5.7
Client Project Name: NBF - Stormwater			
Client Project #:	Samplers: JW / AW / GV		

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

	Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors	Metals + Mercury	Grain Size	Lowlevel PCB Aroclor	DOC Metals+Hg total/dissolved	Hardness pH Alkalinity	TOC DOC TSS Anions	* Dioxins	Notes/Comments
NBF	MH-108A-063010-S	6/30/10	1120	filter	1	X	X	X						* Archive Dioxins
JBF	MH-108B-063010-S		1120	filter	1	X	X	X					X	
JBF	CB-173A-063010S		1130	filter	1	X	X	X						
JBF	CB-173B-063010-S		1130	filter	1	X	X	X					X	
JBF	LS431A-063010-S		1120	filter	1	X	X	X						
JBF	LS431B-063010-S		1120	filter	1	X	X	X					X	
JBF	LS431-063010-W		1145	Water	1				X	X	X	X		

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Alisa Wells	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 6/30/10 1324	Date & Time: 6/30/10 1324	Date & Time:	Date & Time:

RC75 : SSGS

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC

Project Name: NBF-Stormwater

COC No(s): _____ (NA)

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

Assigned ARI Job No: RC46

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)..... 5.2 | 5.7 | ___ | ___ | ___ | ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90877932

Cooler Accepted by: AV Date: 6/30/10 Time: 1324

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: 6/30/10 Equipment: Polypropylene Split by: JW

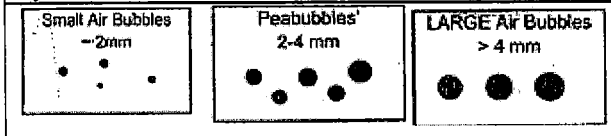
Samples Logged by: _____ Date: _____ Time: _____

***** 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:

By: Date:



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 07/01/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **RC46**

Inquiry Number: NONE
Analysis Requested: 07/01/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: MM
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Cheronne
VTSR: 06/30/10

Project #:
Project: NBF-Stormwater
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-15695 **RC46A**	NBF-LS431-063010-W						TOT Pass					Pass										
10-15696 **RC46B**	NBF-LS431-063010-W						DIS NP									N	X					

X Lab to filter
NP - Not Preserved.

RC46: 00005

Checked By MM Date 7/1/10

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF-Stormwater

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: RC46.63 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)..... 5.2 15.7 ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90877932

Cooler Accepted by: AV Date: 6/30/10 Time: 1324

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: 6/30/10 Equipment: Polypropylene Split by: JW

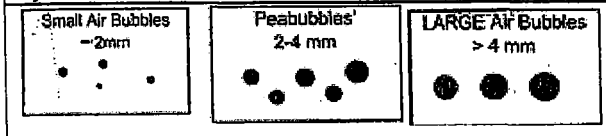
Samples Logged by: _____ Date: _____ Time: _____

***** 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:

By: Date:



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 07/01/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **RC63**

Inquiry Number: NONE
Analysis Requested: 06/30/10
Contact: Verdera, Glen
Client: Science App. International Corp
Logged by: MM
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Cheronne
VTSR: 06/30/10

Project #:
Project: NBF-Stormwater
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-15754 **RC63A**	NBF-LS431-063010-W						DLB NP									N						

RCLG: 06/07

NP - Not Preserved.

Checked By MM Date 7/1/10

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF-Stormwater

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: RC75 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)..... 5.2 15.7 ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90877932

Cooler Accepted by: AV Date: 6/30/10 Time: 1324

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

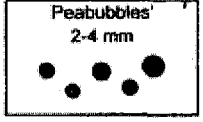
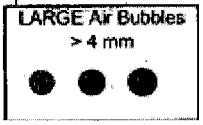
Samples Logged by: AV Date: 7/1/10 Time: 1712

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

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
NBF-MH108A-063010-S	NBFMH-108A-063010S		
NBF-MH108B-063010-S	NBFMH-108B-063010-S		
NBF-CB173A-063010-S	NBFCB-173A-063010-S		
NBF-CB173B-063010-S	NBFCB-173B-063010-S		

Additional Notes, Discrepancies, & Resolutions:

By: AV Date: 7/1/10

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"	
Peabubbles → "pb"	
Large → "lg"	
Headspace → "hs"	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

RC75

Cooler#: 1	Temperature(°C): 15.7	
Sample ID	**Bottle Count**	**Bottle Type**
All filter bags were in the 15.7 cooler. All samples associated with this job arrived out of temp compliance		

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: AU Date: 7/1/10 Time: 1716

Subject: RE: NBF COC
From: "Hafner, William D." <WILLIAM.D.HAFNER@saic.com>
Date: Thu, 1 Jul 2010 13:10:54 -0700
To: "Cheronne Oreiro" <cheronneo@arilabs.com>, "Vedera, Glen T." <GLEN.T.VEDERA@saic.com>

Cheronne,
Please add SIM PAH and VOCs to LS431-063010-W.

Do not analyze LS431B-063010-S, CB173B-063010-S, and MH108B-063010-S for PCBs, metals, and grain size. These three filters are marked as archive for dioxin. We will have these analyzed for dioxins now, so please dry them and ship to Axys.

Thanks, call if you have any questions.
Will

-----Original Message-----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Thursday, July 01, 2010 11:57 AM
To: Vedera, Glen T.
Cc: Hafner, William D.
Subject: NBF COC

Hi Glen,

I noticed this morning the COC doesn't have some of the analyses we usually do for the water samples. SIM PAHs and VOCs seem to be missing. Should I have these analyses added to the water sample?
-Cheronne

--
Cheronne Oreiro
Project Manager
Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168-3240
cheronneo@arilabs.com
(206)-695-6214

NOTE: ARI will be closed Monday (7/5). I will be on vacation Tuesday (7/6) through Friday (7/9).

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: RC46, RC63, RC75

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job Nos.: RC46, RC63, & RC75

Sample Receipt

Six filter-bag samples and one water sample were received on June 30, 2010 under ARI jobs RC46, RC63, and RC75. The cooler temperatures measured by IR thermometer following ARI SOP were 5.2 and 15.7°C. The water sample was submitted in a five-gallon carboy. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The water sample was homogenized using a fourteen-liter churn-splitter and then poured in to individual sample containers for analysis.

Volatile by SW8260C

The sample was analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The continuing calibration of 2-Butanone was outside the 20% control limit high. All detected results for this compound have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits. The LCS and LCSD percent recoveries were within control limits.

Semivolatiles by SW8270D

The sample was extracted and analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The continuing calibration of Nitrobenzene fell outside the 20% control limit low. All detected results have been flagged with a "Q" qualifier. No further corrective action was required.

The continuing calibration of 1-Methylnaphthalene was outside the 20% control limit high. All detected results have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recovery of 2-Fluorophenol was outside the control limits high for **LCSD-070610**. All other surrogate percent recoveries were within control limits. No corrective action was taken.

Bis(2-Ethylhexyl)phthalate was present in **MB-070610** at a level that was greater than the reporting limit. All detected results have been flagged with a "B" qualifier. No further corrective action was required.

The LCS and LCSD percent recoveries of Benzyl Alcohol, 2,6-Dinitrotoluene, and 1-Methylnaphthalene were outside the control limits high for **LCS-070610**. The associated sample was undetected for these compounds. No corrective action was taken.

PAHs SW8270D-SIM

The sample was extracted and analyzed within the recommended holding times, using internal standard methods.

Initial calibrations were within method requirements. Internal standard areas were within limits.

The continuing calibrations of Fluoranthene and Benzo(a)anthracene were outside the 20% control limit high. All detected results for these compounds have been flagged with a "Q" qualifier. No further corrective action was required.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit.

The LCS percent recovery of Anthracene was outside the control limits high for **LCS-070610**. The LCSD percent recovery was within control limits. No corrective action was taken.

The LCS and LCSD percent recoveries of Benzo(a)anthracene and Benzo(a)pyrene were outside the control limits high for **LCS-070610**. The associated sample was undetected for these compounds. No corrective action was taken.

Aroclor PCBs by SW8082

The samples were extracted and analyzed within recommended holding times, using internal standard methods. Please note the plastic rings were removed before extracting the filter-bag samples.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

Total/Dissolved Metals and Total Mercury

All samples were digested and analyzed within method recommended holding times, using internal standard methods. Twelve to eighteen grams of solid material were removed from filter-bag samples to be analyzed for metals and mercury.

The second CCV percent recovery of silver was outside the control limits high. No sample results were associated with this CCV. No corrective action was taken.

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

The matrix spike percent recovery of dissolved silver fell outside the control limits low for sample **NBF-LS431-063010-W**. A post digestion spike was performed and the percent recovery was within control limits. All relevant data have been flagged with an "N" qualifier on the appropriate Form V. No further corrective action was required.

The duplicate RPDs were within the control limit.

Dissolved Low-Level Mercury

The sample was digested and analyzed within method recommended holding times, using internal standards.

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

The matrix spike percent recovery and duplicate RPD were within control limits.

General Chemistry

The sample was prepared and analyzed within method recommended holding times, using internal standards.

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

The SRM percent recoveries were within limits.

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

Geotechnical Parameters

Twenty-three to twenty-five grams of solid material were removed from filter-bags to be analyzed by the geotechnical laboratory. A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science App. International Corp. **ARI Project No.:** RC75

Client Project: NBF/GTSP Stormwater Sampling

Case Narrative

1. Two samples were received on June 30, 2010.
2. The samples were submitted for grain size analysis by means of X-ray diffraction using a Sedigraph 5120. The values are calculated using Stokes' Law of sedimentation and Beer's law of extinction. The samples were submitted with limited sample volume, and there was not enough material to split a triplicate.
3. The standard operating procedure calls for the sample to be measured on the #4 (4750 µm) sieve, down to the 0.1 µm particle size with the Sedigraph 5120. If there were no particles measured at these extremes, the data is not included in the report.
4. The samples contained a percentage of organic material. Organic material does not absorb X-rays, and is not included in the fine portion of the analysis.
5. Due to the apparent high volume of organic material in sample NBF-MH108A-063010-S, some of the fine material data was skewed enough to result in a negative number in the percent retained data.
6. The data is provided in summary tables and plots.
7. There were no other noted anomalies in the samples or methods on this project.

Approved by: _____ Date: July 16, 2010
Lead Technician

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

7/3/2010

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1732-2	ABN	100/150	MEOH	07/30/10
B	1747-2	SIM PNA	15/75	MEOH	10/07/10
C	1705-4	SIM ABN	25/37.5	MEOH	07/30/10
D	1742-1	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1747-1	LOW S. PNA	1.5	MEOH	10/07/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1740-1	TPH	450	MECL2	12/11/10
P	1742-2	HCID	2250	MECL2	05/13/11
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					

LCS SOLUTIONS

7/3/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#		BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1744-3	LOW PEST	0.2/0.4/2	ACETONE	03/08/11
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1738-2	ABN	100	ACETONE	01/31/11
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1730-2	TPHD	15000	ACETONE	04/26/11
12	1741-2	ABN BASE	200	MEOH	07/24/10
13	1716-2	LOW PCB	2	ACETONE	03/30/11
14	1730-1	LOW ABN ACID	10/20	MEOH	07/14/10
15	1726-3	SIM PNA	15/75	MEOH	10/07/10
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18	1726-4	LOW SIM PNA	1.5	ACETONE	10/07/10
19	1746-3	AK103	7500	ACETONE	12/01/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1725-1	SKY/BHT	100	MEOH	03/18/11
22	1728-1	HERB	12.5/12500	MEOH	10/20/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#		DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#		ADD. PEST	4	ACETONE	NA
29#		DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

7/3/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
	*=REVERIFIED SOLUTION				

Analytical Resources,Incorporated
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Spike Recovery Control Limits for Analysis of Aqueous Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 10 mL Purge Volume [1,7]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI Control Limits	ARI ME Control Limits[2]
LCS Spike Recovery [6]		
tert-Butanol	49 - 150	32 - 167
Metyl-*tert*-butylether	47 - 154	29 - 172
Di-*iso*-propylether	43 - 149	25 - 167
Ethyl-*tert*-butylether	45 - 155	27 - 173
tert-Amyl methylether	52 - 151	35 - 168
Dichlorodifluoromethane	59 - 129	47 - 141
Chloromethane	66 - 123	57 - 133
Vinyl Chloride	68 - 121	59 - 130
Bromomethane	55 - 148	40 - 164
Chloroethane	47 - 155	29 - 173
1,1,2-Trichloro-1,2,2-trifluoroethane	70 - 129	60 - 139
Acrolein	24 170	**10** - 194
Trichlorotrifluoroethane	74 - 127	65 - 136
Acetone	70 - 130	60 - 140
1,1-Dichloroethene	72 - **120**	64 - 127
Bromoethane	73 - 131	63 - 141
Methyl Iodide	34 - 183	**10** - 208
Methylene Chloride	70 - 124	61 - 133
Acrylonitrile	71 - 135	60 - 146
Methyl tert-Butyl Ether	78 - **120**	72 - 122
Carbon Disulfide	66 - 129	56 - 140
trans-1,2-Dichloroethene	76 - **120**	70 - 120
Vinyl Acetate	49 - 134	35 - 148
1,1-Dichloroethane	75 - **120**	68 - 124
2-Butanone	78 - 131	69 - 140
2,2-Dichloropropane	68 - 121	59 - 130
cis-1,2-Dichloroethene	80 - **120**	75 - **120**
Chloroform	78 - **120**	72 - 121
Bromodichloromethane	79 - **120**	73 - **120**
1,1,1-Trichloroethane	76 - **120**	69 - 123
1,1-Dichloropropene	78 - **120**	72 - 120
Carbon Tetrachloride	70 - 126	61 - 135
1,2-Dichloroethane	78 - **120**	72 - **120**
Benzene	79 - **120**	73 - **120**
Trichloroethene	78 - **120**	72 - 122
1,2-Dichloropropane	80 - **120**	75 - **120**
Bromochloromethane	78 - **120**	72 - 124

Dibromomethane	80 - **120**	75 - **120**
2-Chloroethylvinylether	68 - 134	57 - 145
4-Methyl-2-Pentanone	73 - 131	63 - 141
cis-1,3-Dichloropropene	78 - **120**	72 - 121
Toluene	79 - **120**	74 - **120**
trans-1,3-Dichloropropene	75 - **120**	68 - 124
2-Hexanone	75 - 130	66 - 139
1,1,2-Trichloroethane	79 - **120**	74 - **120**
1,3-Dichloropropane	78 - **120**	72 - 120
Tetrachloroethene	72 - **120**	65 - 125
Dibromochloromethane	78 - **120**	71 - 125
Ethylene Dibromide	75 - **120**	68 - 125
Chlorobenzene	79 - **120**	73 - **120**
Ethylbenzene	78 - 121	71 - 128
1,1,2,2-Tetrachloroethane	72 - **120**	64 - 127
m,p-Xylene	65 - 129	54 - 140
o-Xylene	76 - 120	69 - 127
Styrene	74 - 121	66 - 129
Isopropylbenzene	74 - 120	66 - 128
Bromoform	71 - 120	63 - 128
1,1,1,2-Tetrachloroethane	75 - **120**	68 - 126
1,2,3-Trichloropropane	73 - 120	65 - 128
trans-1,4-Dichloro-2-butene	65 - 135	53 - 147
n-Propylbenzene	76 - 121	69 - 129
Bromobenzene	72 - **120**	64 - 126
1,3,5-Trimethylbenzene	74 - 123	66 - 131
2-Chlorotoluene	74 - **120**	67 - 127
4-Chlorotoluene	75 - **120**	68 - 125
tert-Butylbenzene	73 - 121	65 - 129
1,2,4-Trimethylbenzene	73 - 124	65 - 133
sec-Butylbenzene	75 - 123	67 - 131
4-Isopropyltoluene	71 - 125	62 - 134
1,3-Dichlorobenzene	72 - **120**	64 - 127
1,4-Dichlorobenzene	76 - **120**	69 - 123
n-Butylbenzene	72 - 124	63 - 133
1,2-Dichlorobenzene	75 - **120**	68 - 124
1,2-Dibromo-3-chloropropane	67 - 121	58 - 130
1,2,4-Trichlorobenzene	71 - 120	63 - 128
Hexachloro-1,3-butadiene	67 - 124	58 - 134
Naphthalene	71 - 125	62 - 134
1,2,3-Trichlorobenzene	61 - 134	49 - 146
MB/LCS Surrogate Recovery		
Dibromofluoromethane	64 - 133	(3)
d4-1,2-Dichloroethane	70 - 132	(3)
d8-Toluene	**80 - 120**	(3)

4-Bromofluorobenzene	**80 - 120**	(3)
d4-1,2-Dichlorobenzene	**80 - 120**	(3)
Sample Surrogate Recovery		
Dibromofluoromethane	30 - 160 [5]	(3)
d4-1,2-Dichloroethane	**80** - 143	(3)
d8-Toluene	**80 - 120**	(3)
4-Bromofluorobenzene	**80 - 120**	(3)
D4-1,2-Dichlorobenzene	**80** - 120	(3)

(1) Control Limits calculated using all data generated 1/1/08 through 4/15/09.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard[4] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances require corrective action.
(3) Marginal Exceedances not allowed for surrogate standards.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) are adjusted from the calculated values as follows:
a) ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
b) Control limits for analyzes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.

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Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
LCS Spike Recovery [8]				
Phenol [3]	50 - **100**	43 - 103	16 - **100**	6 - **100**
Bis-(2-chloroethyl) ether	52 - **100**	45 - 105	41 - 112	29 - 124
2-Chlorophenol	56 - **100**	49 - 103	43 - 111	32 - 122
1,3-Dichlorobenzene	23 - **100**	15 - **100**	32 - **100**	22 - 103
1,4-Dichlorobenzene	25 - **100**	17 - **100**	32 - **100**	22 - 103
Benzyl Alcohol	19 - 100	**10** - 114	22 - 100	9 - 113
1,2-Dichlorobenzene	30 - **100**	22 - **100**	34 - **100**	24 - 104
2-Methylphenol	52 - **100**	44 - 106	36 - 110	24 - 122
2,2'-oxybis(1-chloropropane)	32 - 111	19 - 124	29 - 118	14 - 133
4-Methylphenol	53 - 102	45 - 110	38 - 104	27 - 115
N-Nitroso-di-n-propylamine	43 - 104	33 - 114	38 - 115	25 - 128
Hexachloroethane	12 - **100**	**10** - **100**	24 - **100**	13 - 100
Nitrobenzene	33 - 125	18 - 140	45 - 106	35 - 116
Isophorone	57 - 115	47 - 125	55 - 119	44 - 130
2-Nitrophenol	56 - 102	48 - 110	46 - 118	34 - 130
2,4-Dimethyphenol	29 - **100**	20 - **100**	28 - 105	15 - 118
Bis-(2-chloroethoxy) methane	54 - 101	46 - 109	44 - 118	32 - 130
Benzoic Acid [3]	**10** - 131	**10** - 151	11 - **100**	**10** - **100**
2,4-Dichlorophenol	56 - 104	48 - 112	43 - 121	30 - 134
1,2,4-Trichlorobenzene	27 - **100**	18 - **100**	35 - **100**	25 - 107
Naphthalene	45 - **100**	38 - **100**	36 - 111	24 - 124
4-Chloroaniline [3]	**10** - 139	**10** - 161	10 - 174	**10** - 201
2-Chloronaphthalene	45 - **100**	37 - 105	39 - 118	26 - 131
Hexachlorobutadiene	**10** - **100**	**10** - **100**	24 - **100**	12 - 108
4-Chloro-3-methylphenol	53 - 109	44 - 118	45 - 122	32 - 135
2-Methylnaphthalene	46 - **100**	38 - 100	45 - 103	35 - 113
Hexachlorocyclopentadiene	**10** - **100**	**10** - **100**	23 - 108	**10** - 122
2,4,6-Trichlorophenol	58 - 108	50 - 116	48 - 122	36 - 134
2,4,5-Trichlorophenol	58 - 107	50 - 115	48 - 122	36 - 134
2-Nitroaniline	50 - 107	41 - 117	48 - 118	36 - 130
Dimethylphthalate	58 - 107	50 - 115	50 - 120	38 - 132
Acenaphthylene	57 - 100	50 - 107	50 - 119	39 - 131
2,6-Dinitrotoluene	58 - 112	49 - 121	48 - 133	34 - 147
3-Nitroaniline [3]	21 - 150	**10** - 172	54 - 140	40 - 154
Acenaphthene	51 - **100**	43 - 106	41 - 120	28 - 133
2,4-Dinitrophenol	12 - 169	**10** - 195	23 - 176	**10** - 202

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibenzofuran	57 - 100	50 - 107	51 - 114	41 - 125
4-Nitrophenol [3]	35 - 119	21 - 133	13 - **100**	**10** - **100**
2,4-Dinitrotoluene	58 - 117	48 - 127	51 - 134	37 - 148
Fluorene	56 - 104	48 - 112	50 - 120	38 - 132
Diethylphthlalate	52 - 111	42 - 121	48 - 122	36 - 134
4-Chlorophenyl-phenyl ether	55 - 104	47 - 112	50 - 118	39 - 129
4-Nitroaniline	49 - 112	39 - 123	42 - 136	26 - 152
4,6-Dinitro-2-Methylphenol	13 - 139	**10** - 160	32 - 121	17 - 136
N-Nitrosodiphenylamine	60 - 136	47 - 149	58 - 141	44 - 155
4-Bromophenyl-phenyl ether	55 - 103	47 - 111	50 - 122	38 - 134
Hexachlorobenzene	54 - 106	45 - 115	47 - 125	34 - 138
Pentachlorophenol	46 - 114	35 - 125	35 - 130	19 - 146
Phenanthrene	56 - 102	48 - 110	49 - 120	37 - 132
Anthracene	56 - 101	49 - 109	53 - 116	43 - 127
Carbazole	60 - 108	52 - 116	57 - 122	46 - 133
Di-n-butylphthalate	56 - 112	47 - 121	57 - 121	46 - 132
Fluoranthene	57 - 110	48 - 119	56 - 119	46 - 130
Pyrene	48 - 119	36 - 131	37 - 143	19 - 161
Butylbenzylphthalate	51 - 114	41 - 125	34 - 152	14 - 172
Benzo(a)Anthracene	55 - 105	47 - 113	49 - 129	36 - 142
3,3'-Dichlorbenzidine [3]	**10** - 128	**10** - 148	50 - 128	37 - 141
Chrysene	55 - 104	47 - 112	45 - 128	31 - 142
bis(2-Ethylhexyl) phthalate	28 - 164	**10** - 187	57 - 133	44 - 146
Di-n-octylphthalate	57 - 107	49 - 115	52 - 120	41 - 131
Benzo(b)Fluoranthene	53 - 112	43 - 122	50 - 126	37 - 139
Benzo(k)Fluoranthene	50 - 116	39 - 127	49 - 126	36 - 139
Benzo(a)Pyrene	45 - 103	35 - 113	46 - 109	36 - 120
Indeno(1,2,3-cd)Pyrene	35 - 118	21 - 132	34 - 136	17 - 153
Dibenz(a,h)anthracene	42 - 119	29 - 132	41 - 134	26 - 150
Benzo(g,h,i)Perylene	39 - 123	25 - 137	41 - 133	26 - 148
Aniline [3]	**10** - **100**	**10** - **100**	28 - 126	12 - 142
1,2-Diphenylhydrazine /Azobenzene	57 - 109	48 - 118	55 - 119	44 - 130
N-Nitrosodimethylamine	49 - **100**	41 - 104	31 - **100**	21 - 105
1-Methylnaphthalene	46 - **100**	37 - 107	43 - 115	31 - 127
1,4-Dioxane	40 - **100**	30 - 108	30 - 160 [4]	30 - 160 [4]
Pyridine	-	-	25 - **100**	15 - **100**
Tributyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]

Analytical Resources,Incorporated
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Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibutyl Phenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butyl Diphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Triphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butylated Hydroxytoluene (BHT)	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
MB / LCS Surrogate Recovery				
d4-2-Chlorophenol	53 - 100	(5)	49 - 101	(5)
d4-1,2-Dichlorobenzene	38 - **100**	(5)	40 - **100**	(5)
2,4,6-Tribromophenol	52 - 123	(5)	51 - 122	(5)
2-Fluorophenol	46 - **100**	(5)	31 - **100**	(5)
d5-Phenol [3]	50 - 100	52 - 108	19 - **100**	12 - **100**
d5-Nitrobenzene	46 - 100	(5)	46 - 101	(5)
2-Fluorobiphenyl	49 - **100**	(5)	49 - 103	(5)
d14-p-Terphenyl	53 - 119	(5)	49 - 130	(5)
d8-1,4-Dioxane	45 - **100**	(5)	30 - 160 [4]	(5)
Sample Surrogate Recovery				
d4-2-Chlorophenol	44 - **100**	(5)	23 - 104	(5)
d4-1,2-Dichlorobenzene	32 - **100**	(5)	22 - **100**	(5)
2,4,6-Tribromophenol	48 - 118	(5)	22 - 125	(5)
2-Fluorophenol	38 - **100**	(5)	18 - **100**	(5)
d5-Phenol	41 - **100**	32 - 104	**10** - **100**	17 - **100**
d5-Nitrobenzene	39 - **100**	(5)	21 - 106	(5)
2-Fluorobiphenyl	42 - **100**	(5)	26 - 104	(5)
d14-p-Terphenyl	26 - 114	(5)	11 - 132	(5)
d8-1,4-Dioxane	32 - **100**	(5)	30 - 160 [4]	(5)

(1) Control Limits calculated using all data generated 1/1/07 through 12/1/07.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [6] as beyond the CL but still within the ME limits. ARI defines ME limits as between 3 and 4 standard deviations around the mean with upper limit ≥ 100%. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances in an analysis require corrective action.
(3) These are "**poor performers**" defined in the DoD QSM[7] as compounds that "produce low mean recoveries and high standard deviations, resulting in wide LCS control limits with particularly low lower control limits (sometimes-negative values). ARI does not control batch acceptance based on these compounds since there is a high level of uncertainty in their recovery."
(4) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(5) Marginal Exceedances not allowed for surrogate unless it is a "poor performer".
(6) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(7) Page 182 of: **Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 Final, March 2005** Prepared By Environmental Data Quality Workgroup, Department of Navy, Lead Service (Based On National Environmental Laboratory Accreditation Conference (NELAC) Chapter 5 (Quality Systems) NELAC Voted Version – 5 June 2003
(8) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(9) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Analytical Resources,Incorporated
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Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified Low Level Aqueous Samples[1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Volume / Final Volume	500 mL to 0.5 mL	
	Control Limits	ME Limits [2]
LCS Spike Recovery [6]		
Napthalene	41 - 101	31 - 111
2-Methylnapthalene	47 - **100**	39 - 103
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	35 - **100**	25 - 104
Acenapthene	43 - 104	33 - 114
Dibenzofuran	37 - **100**	27 - 108
Fluorene	51 - 103	42 - 112
Phenanthrene	55 - 109	46 - 118
Anthracene	30 - 101	18 - 113
Fluoranthene	49 - 123	37 - 135
Pyrene	48 - 120	36 - 132
Benz(a)anthracene	43 - 113	31 - 125
Chrysene	59 - 112	50 - 121
Benzo(b)fluoranthene	44 - 121	31 - 134
Benzo(k)fluoranthene	50 - 117	39 - 128
Benzo(a)pyrene	**10** - **100**	**10** - 109
Indeno(1,2,3-cd)pyrene	43 - 112	32 - 124
Dibenzo(a,h)anthracene	42 - 114	30 - 126
Benzo(g,h,i)perylene	31 - 118	17 - 133
MB / LCS Surrogate Recovery		
d10-2-Methylnaphthalene	42 - **100**	(4)
d14-Dibenzo(a,h)anthracene	40 - 125	(4)
Sample Surrogate Recovery		
d10-2-Methylnaphthalene	31 - 109	(4)
d14-Dibenzo(a,h)anthracene	**10** - 133	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/1/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6)Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Analytical Resources,Incorporated
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Spike Recovery Control Limits Analysis of PCB / Aroclors in Aqueous Samples - EPA SW-846 Methods 8081 & 8082 [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Analytical Method:	Standard Analysis	MTCA Analysis	Low Level Analysis	Manchester Extraction
Sample Weight / Final Volume:	500 / 5 mL	500 / 1 mL	1000 / 0.5 mL	3000 / 1 mL
LCS Spike Recovery [4]				
Aroclor 1016	45 - 121	36 - **100**	44 - 117	30 - 160[3]
Aroclor 1260	54 - 129	41 - 113	46 - 131	30 - 160[3]
Method Blank/LCS Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	40 - 118	29 - **100**	31 - **100**	30 - 160[3]
Decachlorobiphenyl	41 - 111	35 - 116	32 - 108	30 - 160[3]
Sample Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	38 - 118	25 - **100**	21 - **100**	30 - 160[3]
Decachlorobiphenyl	29 - 118	**10** - 128	19 - 111	30 - 160[3]

(1) Control Limits calculated using all data generated 1/1/08 through 12/1/08.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Summary of Laboratory Control Limits

Default limits of 30-160% recovery and 30% RPD apply for all organic analytes when laboratory generated control limits are not available on ARI's web site. Default limits for all inorganic analytes are 75-125% recovery and 25% RPD.

ARI's laboratory generated Quality Control Limits may be superseded by project specific data quality objectives (DQO) provided by ARI's clients. The use of project specific DQO must be approved by ARI's Laboratory and QA Program Managers.

Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

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Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

Volatile Analysis
Report and Summary QC Forms

ARI Job ID: RC46, RC63, RC75

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: NBF-LS431-063010-W**
Page 1 of 2 **SAMPLE**

Lab Sample ID: RC46A
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VM
Reported: 07/13/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 07/08/10 19:52

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.5**	**2.1**	
67-64-1	**Acetone**	**5.0**	**7.8**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**5.0**	**11**	**Q**
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U

Lab Sample ID: RC46A QC Report No: RC46-Science App. International Corp
LIMS ID: 10-15695 Project: NBF-Stormwater
Matrix: Water
Date Analyzed: 07/08/10 19:52

CAS Number	Analyte	RL	Result	Q
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	86.4%
d8-Toluene	94.3%
Bromofluorobenzene	87.7%
d4-1,2-Dichlorobenzene	101%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-070810	Method Blank	10	94.6%	96.9%	94.5%	101%	0
LCS-070810	Lab Control	10	97.1%	97.3%	97.3%	102%	0
LCSD-070810	Lab Control Dup	10	95.9%	97.7%	96.6%	100%	0
RC46A	NBF-LS431-063010-W	10	86.4%	94.3%	87.7%	101%	0

	LCS/MB LIMITS	QC LIMITS
SW8260C		
(DCE) = d4-1,2-Dichloroethane	70-132	80-143
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 10-15695 to 10-15695

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-070810**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-070810
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VT
Reported: 07/13/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT5/PKC
LCSD: NT5/PKC
Date Analyzed LCS: 07/08/10 10:53
LCSD: 07/08/10 11:19

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	10.8	10.0	108%	10.5	10.0	105%	2.8%
Bromomethane	10.0	10.0	100%	9.7	10.0	97.0%	3.0%
Vinyl Chloride	10.0	10.0	100%	10.1	10.0	101%	1.0%
Chloroethane	10.6	10.0	106%	10.4	10.0	104%	1.9%
Methylene Chloride	10.8	10.0	108%	10.6	10.0	106%	1.9%
Acetone	53.9	50.0	108%	52.0	50.0	104%	3.6%
Carbon Disulfide	10.3	10.0	103%	10.4	10.0	104%	1.0%
1,1-Dichloroethene	10.6	10.0	106%	10.4	10.0	104%	1.9%
1,1-Dichloroethane	10.5	10.0	105%	10.3	10.0	103%	1.9%
trans-1,2-Dichloroethene	10.2	10.0	102%	10.0	10.0	100%	2.0%
cis-1,2-Dichloroethene	10.5	10.0	105%	10.2	10.0	102%	2.9%
Chloroform	10.4	10.0	104%	10.2	10.0	102%	1.9%
1,2-Dichloroethane	10.3	10.0	103%	10.0	10.0	100%	3.0%
2-Butanone	56.8 Q	50.0	114%	56.3 Q	50.0	113%	0.9%
1,1,1-Trichloroethane	10.2	10.0	102%	10.1	10.0	101%	1.0%
Carbon Tetrachloride	10.2	10.0	102%	10.0	10.0	100%	2.0%
Vinyl Acetate	10.9	10.0	109%	10.9	10.0	109%	0.0%
Bromodichloromethane	10.3	10.0	103%	10.2	10.0	102%	1.0%
1,2-Dichloropropane	10.6	10.0	106%	10.6	10.0	106%	0.0%
cis-1,3-Dichloropropene	10.2	10.0	102%	10.2	10.0	102%	0.0%
Trichloroethene	10.3	10.0	103%	10.2	10.0	102%	1.0%
Dibromochloromethane	9.9	10.0	99.0%	9.9	10.0	99.0%	0.0%
1,1,2-Trichloroethane	10.2	10.0	102%	10.2	10.0	102%	0.0%
Benzene	10.6	10.0	106%	10.4	10.0	104%	1.9%
trans-1,3-Dichloropropene	10.0	10.0	100%	10.0	10.0	100%	0.0%
2-Chloroethylvinylether	11.1	10.0	111%	11.1	10.0	111%	0.0%
Bromoform	9.9	10.0	99.0%	9.9	10.0	99.0%	0.0%
4-Methyl-2-Pentanone (MIBK)	56.4	50.0	113%	55.5	50.0	111%	1.6%
2-Hexanone	56.2	50.0	112%	56.0	50.0	112%	0.4%
Tetrachloroethene	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
1,1,2,2-Tetrachloroethane	9.8	10.0	98.0%	10.0	10.0	100%	2.0%
Toluene	10.2	10.0	102%	10.1	10.0	101%	1.0%
Chlorobenzene	9.7	10.0	97.0%	9.8	10.0	98.0%	1.0%
Ethylbenzene	9.8	10.0	98.0%	10.0	10.0	100%	2.0%
Styrene	10.1	10.0	101%	10.2	10.0	102%	1.0%
Trichlorofluoromethane	10.2	10.0	102%	9.9	10.0	99.0%	3.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.5	10.0	105%	10.3	10.0	103%	1.9%
m,p-Xylene	20.4	20.0	102%	20.4	20.0	102%	0.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-070810**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-070810 QC Report No: RC46-Science App. International Corp
LIMS ID: 10-15695 Project: NBF-Stormwater
Matrix: Water

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
o-Xylene	9.9	10.0	99.0%	10.1	10.0	101%	2.0%
1,2-Dichlorobenzene	9.7	10.0	97.0%	9.8	10.0	98.0%	1.0%
1,3-Dichlorobenzene	9.7	10.0	97.0%	9.9	10.0	99.0%	2.0%
1,4-Dichlorobenzene	9.7	10.0	97.0%	9.8	10.0	98.0%	1.0%
Acrolein	56.2	50.0	112%	55.1	50.0	110%	2.0%
Methyl Iodide	10.5	10.0	105%	10.3	10.0	103%	1.9%
Bromoethane	10.0	10.0	100%	9.7	10.0	97.0%	3.0%
Acrylonitrile	10.5	10.0	105%	10.2	10.0	102%	2.9%
1,1-Dichloropropene	10.2	10.0	102%	10.2	10.0	102%	0.0%
Dibromomethane	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
1,1,1,2-Tetrachloroethane	10.1	10.0	101%	10.2	10.0	102%	1.0%
1,2-Dibromo-3-chloropropane	9.5	10.0	95.0%	10.0	10.0	100%	5.1%
1,2,3-Trichloropropane	9.9	10.0	99.0%	9.9	10.0	99.0%	0.0%
trans-1,4-Dichloro-2-butene	10.5	10.0	105%	10.4	10.0	104%	1.0%
1,3,5-Trimethylbenzene	10.0	10.0	100%	10.0	10.0	100%	0.0%
1,2,4-Trimethylbenzene	10.1	10.0	101%	10.2	10.0	102%	1.0%
Hexachlorobutadiene	9.3	10.0	93.0%	9.2	10.0	92.0%	1.1%
Ethylene Dibromide	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
Bromochloromethane	10.2	10.0	102%	10.0	10.0	100%	2.0%
2,2-Dichloropropane	10.6	10.0	106%	10.2	10.0	102%	3.8%
1,3-Dichloropropane	10.0	10.0	100%	10.0	10.0	100%	0.0%
Isopropylbenzene	10.2	10.0	102%	10.3	10.0	103%	1.0%
n-Propylbenzene	10.3	10.0	103%	10.3	10.0	103%	0.0%
Bromobenzene	9.5	10.0	95.0%	9.6	10.0	96.0%	1.0%
2-Chlorotoluene	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
4-Chlorotoluene	10.1	10.0	101%	10.1	10.0	101%	0.0%
tert-Butylbenzene	10.0	10.0	100%	10.1	10.0	101%	1.0%
sec-Butylbenzene	10.2	10.0	102%	10.2	10.0	102%	0.0%
4-Isopropyltoluene	10.2	10.0	102%	10.3	10.0	103%	1.0%
n-Butylbenzene	10.3	10.0	103%	10.3	10.0	103%	0.0%
1,2,4-Trichlorobenzene	10.3	10.0	103%	10.4	10.0	104%	1.0%
Naphthalene	11.7	10.0	117%	12.0	10.0	120%	2.5%
1,2,3-Trichlorobenzene	11.8	10.0	118%	12.3	10.0	123%	4.1%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	97.1%	95.9%
d8-Toluene	97.3%	97.7%
Bromofluorobenzene	97.3%	96.6%
d4-1,2-Dichlorobenzene	102%	100%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0708

Lab Name: ANALYTICAL RESOURCES, INC
Client: SCIENCE APP. INTERNATION

ARI Job No: RC46
Project: NBF-STORMWATER

Lab File ID: 07081005
Lab Sample ID: MB0708

Date Analyzed: 07/08/10
Time Analyzed: 1145

Instrument ID: NT5
Heated Purge: (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0708	LCS0708	07081003	1053
02	LCSD0708	LCSD0708	07081004	1119
03	NBF-LS431-06	RC46A	07081024	1952
04				
05				
06				
07				
08				
09				
10				
11				
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30				

COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-070810**
 METHOD BLANK

Lab Sample ID: MB-070810 QC Report No: RC46-Science App. International Corp
LIMS ID: 10-15695 Project: NBF-Stormwater
Matrix: Water
Data Release Authorized: VTS Date Sampled: NA
Reported: 07/13/10 Date Received: NA

Instrument/Analyst: NT5/PKC Sample Amount: 10.0 mL
Date Analyzed: 07/08/10 11:45 Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.5	< 0.5	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.5	< 0.5	U
67-64-1	Acetone	5.0	< 5.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	1.0	< 1.0	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	1.0	< 1.0	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
179601-23-1	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U

Lab Sample ID: MB-070810 QC Report No: RC46-Science App. International Corp
LIMS ID: 10-15695 Project: NBF-Stormwater
Matrix: Water
Date Analyzed: 07/08/10 11:45

CAS Number	Analyte	RL	Result	Q
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	1.0	< 1.0	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	94.6%
d8-Toluene	96.9%
Bromofluorobenzene	94.5%
d4-1,2-Dichlorobenzene	101%

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES, INC Contract: SCIENCE APP. INTERNATIONAL CORP

Lab Code: ARI Case No.: NBF-STORMWATER SDG No.: RC46

Lab File ID: 07061004 BFB Injection Date: 07/06/10

Instrument ID: NT5 BFB Injection Time: 1416

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.1
75	30.0 - 66.0% of mass 95	49.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.3 (0.5)1
174	50.0 - 101.0% of mass 95	65.0
175	4.0 - 9.0% of mass 174	4.7 (7.3)1
176	93.0 - 101.0% of mass 174	62.2 (95.8)1
177	5.0 - 9.0% of mass 176	4.1 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	60 PPB	60 0706	07061005	07/06/10	1522
02	40 PPB	40 0706	07061006	07/06/10	1548
03	20 PPB	20 0706	07061007	07/06/10	1613
04	10 PPB	10 0706	07061008	07/06/10	1639
05	2 PPB	2 0706	07061009	07/06/10	1705
06	1 PPB	1 0706	07061010	07/06/10	1730
07	0.5 PPB	0.5 0706	07061011	07/06/10	1756
08	0.2 PPB	0.2 0706	07061012	07/06/10	1822
09	ICV 10	ICV 0706	07061013	07/06/10	1847
10					
11					
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19					
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21					
22					

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES, INC Contract: SCIENCE APP. INTERNATIONAL CORP

Lab Code: ARI Case No.: NBF-STORMWATER SDG No.: RC46

Lab File ID: 07081001 BFB Injection Date: 07/08/10

Instrument ID: NT5 BFB Injection Time: 0951

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.2
75	30.0 - 66.0% of mass 95	50.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.3 (0.5)1
174	50.0 - 101.0% of mass 95	62.6
175	4.0 - 9.0% of mass 174	4.9 (7.8)1
176	93.0 - 101.0% of mass 174	60.2 (96.2)1
177	5.0 - 9.0% of mass 176	3.9 (6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0708	CC0708	07081002	07/08/10	1027
02	LCS0708	LCS0708	07081003	07/08/10	1053
03	LCSD0708	LCSD0708	07081004	07/08/10	1119
04	MB0708	MB0708	07081005	07/08/10	1145
05	NBF-LS431-063010	RC46A	07081024	07/08/10	1952
06					
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FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF0.2: 07061012 RF0.5: 07061011 RF1: 07061010
RF2: 07061009 RF10: 07061008

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
Chloromethane	1.234	1.085	0.954	1.093	1.055
Vinyl Chloride	1.305	1.109	0.981	1.067	1.012
Bromomethane	0.593	0.543	0.522	0.547	0.543
Chloroethane	0.657	0.745	0.620	0.669	0.656
Trichlorofluoromethane	1.080	1.004	1.001	1.130	1.060
Acrolein			0.063	0.071	0.067
112Trichloro122Trifluoroetha	0.758	0.682	0.658	0.758	0.699
Acetone		0.116	0.090	0.101	0.086
1,1-Dichloroethene	0.777	0.707	0.674	0.767	0.711
Bromoethane	0.532	0.472	0.464	0.531	0.514
Iodomethane		0.809	0.786	0.904	0.902
Methylene Chloride		1.238	0.935	0.851	0.760
Acrylonitrile			0.154	0.159	0.138
Carbon Disulfide	3.177	2.788	2.621	2.923	2.665
Trans-1,2-Dichloroethene	0.920	0.806	0.777	0.872	0.794
Vinyl Acetate			1.046	1.143	1.085
1,1-Dichloroethane	1.703	1.500	1.424	1.622	1.490
2-Butanone		0.052	0.046	0.043	0.049
2,2-Dichloropropane	1.311	1.157	1.130	1.327	1.270
Cis-1,2-Dichloroethene	0.928	0.804	0.778	0.887	0.826
Chloroform	1.431	1.313	1.252	1.419	1.342
Bromochloromethane	0.351	0.321	0.285	0.330	0.312
1,1,1-Trichloroethane	1.198	1.078	1.076	1.254	1.201
1,1-Dichloropropene	0.703	0.599	0.558	0.652	0.629
Carbon Tetrachloride	0.508	0.460	0.441	0.531	0.513
1,2-Dichloroethane	0.498	0.443	0.401	0.475	0.454
Benzene	2.037	1.751	1.659	1.921	1.838
Trichloroethene	0.424	0.371	0.355	0.423	0.418
1,2-Dichloropropane	0.446	0.420	0.393	0.465	0.452
Bromodichloromethane	0.527	0.470	0.446	0.529	0.514
Dibromomethane	0.222	0.186	0.168	0.188	0.180
2-Chloroethyl Vinyl Ether			0.133	0.157	0.174
4-Methyl-2-Pentanone		0.075	0.072	0.084	0.086
Cis 1,3-dichloropropene	0.778	0.647	0.613	0.719	0.693
Toluene	1.321	1.113	1.030	1.202	1.160
Trans 1,3-Dichloropropene	0.683	0.547	0.494	0.574	0.563
2-Hexanone		0.137	0.135	0.157	0.157

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF0.2: 07061012 RF0.5: 07061011 RF1: 07061010
RF2: 07061009 RF10: 07061008

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
1,1,2-Trichloroethane	0.291	0.250	0.240	0.280	0.270
1,3-Dichloropropane	0.703	0.572	0.531	0.609	0.583
Tetrachloroethene	0.461	0.387	0.360	0.420	0.405
Chlorodibromomethane	0.355	0.308	0.285	0.345	0.332
1,2-Dibromoethane	0.298	0.248	0.232	0.260	0.254
Chlorobenzene	1.541	1.280	1.196	1.401	1.280
Ethyl Benzene	0.830	0.718	0.687	0.802	0.766
1,1,1,2-Tetrachloroethane	0.404	0.364	0.350	0.416	0.412
m,p-xylene	1.022	0.890	0.840	0.977	0.908
o-Xylene	0.932	0.823	0.784	0.951	0.878
Styrene	1.546	1.323	1.239	1.456	1.454
Bromoform	0.380	0.316	0.301	0.351	0.342
1,1,2,2-Tetrachloroethane	0.898	0.732	0.662	0.767	0.716
1,2,3-Trichloropropane		0.181	0.175	0.189	0.176
Trans-1,4-Dichloro 2-Butene		0.234	0.198	0.214	0.228
N-Propyl Benzene	6.762	5.862	5.677	6.508	5.892
Bromobenzene	1.181	0.927	0.878	0.992	0.947
Isopropyl Benzene	5.300	4.689	4.564	5.276	4.913
2-Chloro Toluene	3.990	3.474	3.235	3.713	3.493
4-Chloro Toluene	3.866	3.409	3.246	3.700	3.551
T-Butyl Benzene	3.525	3.133	3.056	3.576	3.323
1,3,5-Trimethyl Benzene	4.566	3.812	3.756	4.280	4.015
1,2,4-Trimethylbenzene	4.401	3.933	3.757	4.315	4.015
S-Butyl Benzene	5.690	5.077	4.868	5.615	5.084
4-Isopropyl Toluene	4.352	3.845	3.766	4.339	3.986
1,3-Dichlorobenzene	2.272	1.888	1.797	2.093	1.933
1,4-Dichlorobenzene	2.375	1.930	1.876	2.092	1.941
N-Butyl Benzene	4.483	3.905	3.727	4.332	3.982
1,2-Dichlorobenzene	1.973	1.783	1.636	1.855	1.711
1,2-Dibromo 3-Chloropropane		0.126	0.119	0.123	0.112
1,2,4-Trichlorobenzene		0.937	0.888	1.049	1.010
Hexachloro 1,3-Butadiene		0.365	0.344	0.416	0.371
Naphthalene		1.614	1.529	1.921	1.884
1,2,3-Trichlorobenzene		0.543	0.524	0.646	0.637
Dichlorodifluoromethane	0.810	0.740	0.698	0.764	0.738
Methyl tert butyl ether	1.834	1.601	1.530	1.771	1.673

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF0.2: 07061012 RF0.5: 07061011 RF1: 07061010
RF2: 07061009 RF10: 07061008

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
d4-1,2-Dichloroethane	0.480	0.493	0.505	0.480	0.469
d8-Toluene	1.035	1.034	1.045	1.007	1.020
4-Bromofluorobenzene	0.407	0.413	0.414	0.405	0.408
d4-1,2-Dichlorobenzene	0.889	0.883	0.893	0.888	0.885
Dibromofluoromethane	0.431	0.445	0.454	0.435	0.430

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF20: 07061007 RF40: 07061006 RF60: 07061005

COMPOUND	RF20	RF40	RF60
Chloromethane	1.092	1.054	1.101
Vinyl Chloride	1.087	1.042	1.093
Bromomethane	0.563	0.561	0.552
Chloroethane	0.664	0.643	0.673
Trichlorofluoromethane	1.106	1.040	1.009
Acrolein	0.069	0.070	0.070
112Trichloro122Trifluoroetha	0.695	0.695	0.701
Acetone	0.083	0.088	0.084
1,1-Dichloroethene	0.730	0.697	0.694
Bromoethane	0.493	0.499	0.508
Iodomethane	0.905	0.894	0.868
Methylene Chloride	0.794	0.725	0.762
Acrylonitrile		0.141	0.142
Carbon Disulfide	2.601	2.612	2.551
Trans-1,2-Dichloroethene	0.805	0.776	0.766
Vinyl Acetate	1.076	1.077	1.031
1,1-Dichloroethane	1.521	1.456	1.411
2-Butanone	0.050	0.050	0.050
2,2-Dichloropropane	1.305	1.255	1.211
Cis-1,2-Dichloroethene	0.845	0.814	0.785
Chloroform	1.375	1.302	1.255
Bromochloromethane	0.316	0.301	0.294
1,1,1-Trichloroethane	1.230	1.165	1.131
1,1-Dichloropropene	0.643	0.622	0.599
Carbon Tetrachloride	0.526	0.506	0.494
1,2-Dichloroethane	0.474	0.449	0.419
Benzene	1.843	1.665	1.569
Trichloroethene	0.426	0.406	0.392
1,2-Dichloropropane	0.461	0.442	0.442
Bromodichloromethane	0.522	0.499	0.492
Dibromomethane	0.183	0.176	0.172
2-Chloroethyl Vinyl Ether	0.173	0.182	0.181
4-Methyl-2-Pentanone	0.083	0.087	0.086
Cis 1,3-dichloropropene	0.708	0.676	0.649
Toluene	1.149	1.079	1.038
Trans 1,3-Dichloropropene	0.568	0.543	0.531
2-Hexanone	0.151	0.154	0.155

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF20: 07061007 RF40: 07061006 RF60: 07061005

COMPOUND	RF20	RF40	RF60
1,1,2-Trichloroethane	0.268	0.261	0.256
1,3-Dichloropropane	0.588	0.557	0.555
Tetrachloroethene	0.424	0.407	0.406
Chlorodibromomethane	0.346	0.325	0.330
1,2-Dibromoethane	0.257	0.247	0.240
Chlorobenzene	1.288	1.182	1.142
Ethyl Benzene	0.777	0.734	0.729
1,1,1,2-Tetrachloroethane	0.422	0.402	0.406
m,p-xylene		0.816	0.772
o-Xylene	0.893	0.844	0.844
Styrene	1.459	1.340	1.285
Bromoform	0.352	0.331	0.322
1,1,2,2-Tetrachloroethane	0.715	0.672	0.668
1,2,3-Trichloropropane	0.178	0.167	0.166
Trans-1,4-Dichloro 2-Butene	0.235	0.234	0.220
N-Propyl Benzene	5.663	4.704	4.128
Bromobenzene	0.953	0.878	0.848
Isopropyl Benzene	4.804	4.099	3.624
2-Chloro Toluene	3.478	3.110	2.872
4-Chloro Toluene	3.530	3.161	2.939
T-Butyl Benzene	3.295	2.993	2.809
1,3,5-Trimethyl Benzene	3.953	3.498	3.214
1,2,4-Trimethylbenzene	4.003	3.529	3.262
S-Butyl Benzene	5.000	4.294	3.875
4-Isopropyl Toluene	3.970	3.544	3.230
1,3-Dichlorobenzene	1.945	1.810	1.747
1,4-Dichlorobenzene	1.952	1.822	1.756
N-Butyl Benzene	3.981	3.552	3.269
1,2-Dichlorobenzene	1.734	1.611	1.577
1,2-Dibromo 3-Chloropropane	0.111	0.108	0.111
1,2,4-Trichlorobenzene	1.049	0.983	0.768
Hexachloro 1,3-Butadiene	0.392	0.380	0.353
Naphthalene	1.950	1.669	1.038
1,2,3-Trichlorobenzene	0.631	0.419	
Dichlorodifluoromethane	0.781	0.740	0.768
Methyl tert butyl ether	1.683	1.604	1.558

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

LAB FILE ID: RF20: 07061007 RF40: 07061006 RF60: 07061005

COMPOUND	RF20	RF40	RF60
d4-1,2-Dichloroethane	0.468	0.469	0.450
d8-Toluene	1.017	1.035	1.006
4-Bromofluorobenzene	0.409	0.415	0.428
d4-1,2-Dichlorobenzene	0.883	0.884	0.885
Dibromofluoromethane	0.430	0.435	0.422

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
Chloromethane	AVRG	1.084	7.1
Vinyl Chloride	AVRG	1.087	9.0
Bromomethane	AVRG	0.553	3.7
Chloroethane	AVRG	0.666	5.4
Trichlorofluoromethane	AVRG	1.054	4.6
Acrolein	AVRG	0.068	4.4
112Trichloro122Trifluoroetha	AVRG	0.706	5.0
Acetone	AVRG	0.093	12.9
1,1-Dichloroethene	AVRG	0.720	5.0
Bromoethane	AVRG	0.502	5.0
Iodomethane	AVRG	0.867	5.7
Methylene Chloride	LINR		0.9987
Acrylonitrile	AVRG	0.147	6.2
Carbon Disulfide	AVRG	2.742	7.8
Trans-1,2-Dichloroethene	AVRG	0.815	6.6
Vinyl Acetate	AVRG	1.076	3.6
1,1-Dichloroethane	AVRG	1.516	6.6
2-Butanone	AVRG	0.049	6.2
2,2-Dichloropropane	AVRG	1.246	5.9
Cis-1,2-Dichloroethene	AVRG	0.833	6.2
Chloroform	AVRG	1.336	5.1
Bromochloromethane	AVRG	0.314	6.7
1,1,1-Trichloroethane	AVRG	1.166	5.7
1,1-Dichloropropene	AVRG	0.626	6.9
Carbon Tetrachloride	AVRG	0.497	6.3
1,2-Dichloroethane	AVRG	0.452	7.0
Benzene	AVRG	1.785	8.6
Trichloroethene	AVRG	0.402	6.7
1,2-Dichloropropane	AVRG	0.440	5.4
Bromodichloromethane	AVRG	0.500	5.9
Dibromomethane	AVRG	0.184	9.1
2-Chloroethyl Vinyl Ether	AVRG	0.167	11.3
4-Methyl-2-Pentanone	AVRG	0.082	7.4
Cis 1,3-dichloropropene	AVRG	0.685	7.5
Toluene	AVRG	1.136	8.4
Trans 1,3-Dichloropropene	AVRG	0.563	9.7
2-Hexanone	AVRG	0.149	6.4

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
1,1,2-Trichloroethane	AVRG	0.264	6.2
1,3-Dichloropropane	AVRG	0.587	8.9
Tetrachloroethene	AVRG	0.409	7.2
Chlorodibromomethane	AVRG	0.328	6.9
1,2-Dibromoethane	AVRG	0.255	7.8
Chlorobenzene	AVRG	1.289	10.1
Ethyl Benzene	AVRG	0.755	6.2
1,1,1,2-Tetrachloroethane	AVRG	0.397	6.5
m,p-xylene	AVRG	0.889	10.0
o-Xylene	AVRG	0.868	6.4
Styrene	AVRG	1.388	7.6
Bromoform	AVRG	0.337	7.4
1,1,2,2-Tetrachloroethane	AVRG	0.729	10.6
1,2,3-Trichloropropane	AVRG	0.176	4.5
Trans-1,4-Dichloro 2-Butene	AVRG	0.223	6.1
N-Propyl Benzene	AVRG	5.650	15.4
Bromobenzene	AVRG	0.950	11.0
Isopropyl Benzene	AVRG	4.658	12.2
2-Chloro Toluene	AVRG	3.421	10.2
4-Chloro Toluene	AVRG	3.425	8.8
T-Butyl Benzene	AVRG	3.214	8.2
1,3,5-Trimethyl Benzene	AVRG	3.887	10.9
1,2,4-Trimethylbenzene	AVRG	3.902	9.8
S-Butyl Benzene	AVRG	4.938	12.4
4-Isopropyl Toluene	AVRG	3.879	9.8
1,3-Dichlorobenzene	AVRG	1.936	9.0
1,4-Dichlorobenzene	AVRG	1.968	9.8
N-Butyl Benzene	AVRG	3.904	10.1
1,2-Dichlorobenzene	AVRG	1.735	7.7
1,2-Dibromo 3-Chloropropane	AVRG	0.116	5.8
1,2,4-Trichlorobenzene	AVRG	0.955	10.6
Hexachloro 1,3-Butadiene	AVRG	0.375	6.5
Naphthalene	AVRG	1.658	19.2
1,2,3-Trichlorobenzene	AVRG	0.567	15.7
Dichlorodifluoromethane	AVRG	0.755	4.5
Methyl tert butyl ether	AVRG	1.657	6.3

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Calibration Date: 07/06/10

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
d4-1,2-Dichloroethane	AVRG	0.477	3.5
d8-Toluene	AVRG	1.025	1.4
4-Bromofluorobenzene	AVRG	0.412	1.8
d4-1,2-Dichlorobenzene	AVRG	0.886	0.4
Dibromofluoromethane	AVRG	0.435	2.2

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Cont. Calib. Date: 07/08/10

Init. Calib. Date: 07/06/10 Cont. Calib. Time: 1027

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Chloromethane	1.084	1.185	0.100	AVRG	9.3	
Vinyl Chloride	1.087	1.139	0.010	AVRG	4.8	
Bromomethane	0.553	0.553	0.010	AVRG	0.0	
Chloroethane	0.666	0.729	0.010	AVRG	9.4	
Trichlorofluoromethane	1.054	1.119	0.010	AVRG	6.2	
Acrolein	0.068	0.077	0.010	AVRG	13.2	
112Trichloro122Trifluoroetha	0.706	0.782	0.010	AVRG	10.8	
Acetone	0.092	0.106	0.010	AVRG	15.2	
1,1-Dichloroethene	0.720	0.786	0.010	AVRG	9.2	
Bromoethane	0.502	0.536	0.010	AVRG	6.8	
Iodomethane	0.867	0.971	0.010	AVRG	12.0	
Methylene Chloride	10.000	10.602	0.010	LINR	6.0	
Acrylonitrile	0.147	0.167	0.010	AVRG	13.6	
Carbon Disulfide	2.742	3.005	0.010	AVRG	9.6	
Trans-1,2-Dichloroethene	0.814	0.866	0.010	AVRG	6.4	
Vinyl Acetate	1.076	1.246	0.010	AVRG	15.8	
1,1-Dichloroethane	1.516	1.655	0.100	AVRG	9.2	
2-Butanone	0.048	0.058	0.010	AVRG	20.8	<-
2,2-Dichloropropane	1.246	1.401	0.010	AVRG	12.4	
Cis-1,2-Dichloroethene	0.833	0.911	0.010	AVRG	9.4	
Chloroform	1.336	1.443	0.010	AVRG	8.0	
Bromochloromethane	0.314	0.337	0.010	AVRG	7.3	
1,1,1-Trichloroethane	1.167	1.254	0.010	AVRG	7.4	
1,1-Dichloropropene	0.626	0.655	0.010	AVRG	4.6	
Carbon Tetrachloride	0.497	0.513	0.010	AVRG	3.2	
1,2-Dichloroethane	0.452	0.471	0.010	AVRG	4.2	
Benzene	1.785	1.919	0.010	AVRG	7.5	
Trichloroethene	0.402	0.420	0.010	AVRG	4.5	
1,2-Dichloropropane	0.440	0.481	0.010	AVRG	9.3	
Bromodichloromethane	0.500	0.528	0.010	AVRG	5.6	
Dibromomethane	0.184	0.184	0.010	AVRG	0.0	
2-Chloroethyl Vinyl Ether	0.167	0.189	0.010	AVRG	13.2	
4-Methyl-2-Pentanone	0.082	0.094	0.010	AVRG	14.6	
Cis 1,3-dichloropropene	0.685	0.719	0.010	AVRG	5.0	
Toluene	1.136	1.192	0.010	AVRG	4.9	
Trans 1,3-Dichloropropene	0.563	0.573	0.010	AVRG	1.8	
2-Hexanone	0.149	0.166	0.010	AVRG	11.4	

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII VOA

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Cont. Calib. Date: 07/08/10

Init. Calib. Date: 07/06/10 Cont. Calib. Time: 1027

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,1,2-Trichloroethane	0.264	0.277	0.010	AVRG	4.9
1,3-Dichloropropane	0.587	0.576	0.010	AVRG	-1.9
Tetrachloroethene	0.409	0.403	0.010	AVRG	-1.5
Chlorodibromomethane	0.328	0.325	0.010	AVRG	-0.9
1,2-Dibromoethane	0.254	0.256	0.010	AVRG	0.8
Chlorobenzene	1.289	1.251	0.300	AVRG	-2.9
Ethyl Benzene	0.755	0.750	0.010	AVRG	-0.7
1,1,1,2-Tetrachloroethane	0.397	0.407	0.010	AVRG	2.5
m,p-xylene	0.889	0.907	0.010	AVRG	2.0
o-Xylene	0.869	0.868	0.010	AVRG	-0.1
Styrene	1.388	1.435	0.010	AVRG	3.4
Bromoform	0.337	0.329	0.100	AVRG	-2.4
1,1,2,2-Tetrachloroethane	0.729	0.699	0.300	AVRG	-4.1
1,2,3-Trichloropropane	0.176	0.169	0.010	AVRG	-4.0
Trans-1,4-Dichloro 2-Butene	0.223	0.214	0.010	AVRG	-4.0
N-Propyl Benzene	5.650	5.765	0.010	AVRG	2.0
Bromobenzene	0.950	0.896	0.010	AVRG	-5.7
Isopropyl Benzene	4.659	4.733	0.010	AVRG	1.6
2-Chloro Toluene	3.421	3.343	0.010	AVRG	-2.3
4-Chloro Toluene	3.425	3.418	0.010	AVRG	-0.2
T-Butyl Benzene	3.214	3.178	0.010	AVRG	-1.1
1,3,5-Trimethyl Benzene	3.887	3.843	0.010	AVRG	-1.1
1,2,4-Trimethylbenzene	3.902	3.880	0.010	AVRG	-0.6
S-Butyl Benzene	4.938	4.970	0.010	AVRG	0.6
4-Isopropyl Toluene	3.879	3.920	0.010	AVRG	1.0
1,3-Dichlorobenzene	1.936	1.877	0.010	AVRG	-3.0
1,4-Dichlorobenzene	1.968	1.886	0.010	AVRG	-4.2
N-Butyl Benzene	3.904	3.991	0.010	AVRG	2.2
1,2-Dichlorobenzene	1.735	1.666	0.010	AVRG	-4.0
1,2-Dibromo 3-Chloropropane	0.116	0.110	0.010	AVRG	-5.2
1,2,4-Trichlorobenzene	0.955	0.966	0.010	AVRG	1.2
Hexachloro 1,3-Butadiene	0.374	0.348	0.010	AVRG	-7.0
Naphthalene	1.658	1.921	0.010	AVRG	15.9
1,2,3-Trichlorobenzene	0.567	0.657	0.010	AVRG	15.9
Dichlorodifluoromethane	0.755	0.749	0.010	AVRG	-0.8
Methyl tert butyl ether	1.657	1.863	0.010	AVRG	12.4

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII VOA

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL C

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT5 Cont. Calib. Date: 07/08/10

Init. Calib. Date: 07/06/10 Cont. Calib. Time: 1027

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
d4-1,2-Dichloroethane	0.477	0.472	0.010	AVRG	-1.0
d8-Toluene	1.025	1.005	0.010	AVRG	-2.0
4-Bromofluorobenzene	0.412	0.404	0.010	AVRG	-1.9
d4-1,2-Dichlorobenzene	0.886	0.890	0.010	AVRG	0.4
Dibromofluoromethane	0.435	0.439	0.010	AVRG	0.9

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII VOA

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC | Client: SCIENCE APP. INTERNATIONAL CO

ARI Job No: RC46 | Project: NBF-STORMWATER

Ical Midpoint ID: 07061008 | Ical Date: 07/06/10

Instrument ID: NT5 | Project Run Date: 07/06/10

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	666643	4.65	1253133	5.10	1112746	7.56
	UPPER LIMIT	1333286	5.15	2506266	5.60	2225492	8.06
	LOWER LIMIT	333322	4.15	626566	4.60	556373	7.06
	Sample ID						
01	ICV 10	533586	4.66	1031251	5.10	906007	7.56
02							
03							
04							
05							
06							
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22							

IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC | Client: SCIENCE APP. INTERNATIONAL CO

ARI Job No: RC46 | Project: NBF-STORMWATER

Ical Midpoint ID: 07061008 | Ical Date: 07/06/10

Instrument ID: NT5 | Project Run Date: 07/06/10

	Sample ID	IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	517860	9.62				
	UPPER LIMIT	1035720	10.12				
	LOWER LIMIT	258930	9.12				
01	ICV 10	423399	9.62				
02							
03							
04							
05							
06							
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21							
22							

IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC | Client: SCIENCE APP. INTERNATIONAL CO

ARI Job No: RC46 | Project: NBF-STORMWATER

Ical Midpoint ID: 07061008 | Ical Date: 07/06/10

Instrument ID: NT5 | Project Run Date: 07/08/10

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	666643	4.65	1253133	5.10	1112746	7.56
	UPPER LIMIT	1333286	5.15	2506266	5.60	2225492	8.06
	LOWER LIMIT	333322	4.15	626566	4.60	556373	7.06
	Sample ID						
01	LCS0708	572321	4.65	1102395	5.10	997196	7.56
02	LCSD0708	576871	4.65	1094162	5.10	974611	7.56
03	MB0708	558097	4.65	1040737	5.10	921261	7.56
04	NBF-LS431-06	416488	4.65	737200	5.10	673085	7.56
05							
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22							

IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP. INTERNATIONAL CO

ARI Job No: RC46 Project: NBF-STORMWATER

Ical Midpoint ID: 07061008 Ical Date: 07/06/10

Instrument ID: NT5 Project Run Date: 07/08/10

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	517860	9.62				
	UPPER LIMIT	1035720	10.12				
	LOWER LIMIT	258930	9.12				
	Sample ID						
01	LCS0708	470937	9.62				
02	LCSD0708	462625	9.62				
03	MB0708	415979	9.61				
04	NBF-LS431-06	309422	9.61				
05							
06							
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20							
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22							

IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

Semivolatile Analysis
Report and Summary QC Forms

ARI Job ID: RC46, RC63, RC75

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: NBF-LS431-063010-W
SAMPLE

Lab Sample ID: RC46A
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VJ
Reported: 07/10/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater
NA
Date Sampled: 06/30/10
Date Received: 06/30/10

Date Extracted: 07/06/10
Date Analyzed: 07/07/10 21:29
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: NBF-LS431-063010-W
SAMPLE

Lab Sample ID: RC46A
LIMS ID: 10-15695
Matrix: Water
Date Analyzed: 07/07/10 21:29

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater
NA

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	75.2%	2-Fluorobiphenyl	74.8%
d14-p-Terphenyl	85.2%	d4-1,2-Dichlorobenzene	63.2%
d5-Phenol	78.7%	2-Fluorophenol	86.9%
2,4,6-Tribromophenol	95.2%	d4-2-Chlorophenol	75.2%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MB-070610	78.4%	73.6%	91.6%	61.6%	78.7%	86.1%	103%	81.1%	0
LCS-070610	92.0%	80.8%	94.8%	70.0%	97.9%	97.6%	109%	93.9%	0
LCSD-070610	88.0%	83.2%	89.6%	70.4%	96.5%	102%*	108%	92.3%	1
NBF-LS431-063010-W	75.2%	74.8%	85.2%	63.2%	78.7%	86.9%	95.2%	75.2%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 10-15695 to 10-15695

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-070610
LCS/LCSD

Lab Sample ID: LCS-070610
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VJS
Reported: 07/10/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Date Extracted LCS/LCSD: 07/06/10

Sample Amount LCS: 500 mL
LCSD: 500 mL

Date Analyzed LCS: 07/07/10 20:21
LCSD: 07/07/10 20:55

Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL

Instrument/Analyst LCS: NT4/JZ
LCSD: NT4/JZ

Dilution Factor LCS: 1.00
LCSD: 1.00

GPC Cleanup: NO

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	22.0	25.0	88.0%	21.7	25.0	86.8%	1.4%
Bis-(2-Chloroethyl) Ether	20.9	25.0	83.6%	20.8	25.0	83.2%	0.5%
2-Chlorophenol	21.5	25.0	86.0%	21.5	25.0	86.0%	0.0%
1,3-Dichlorobenzene	14.8	25.0	59.2%	15.3	25.0	61.2%	3.3%
1,4-Dichlorobenzene	14.2	25.0	56.8%	15.1	25.0	60.4%	6.1%
Benzyl Alcohol	55.0	50.0	110%	55.4	50.0	111%	0.7%
1,2-Dichlorobenzene	15.6	25.0	62.4%	16.0	25.0	64.0%	2.5%
2-Methylphenol	19.8	25.0	79.2%	19.8	25.0	79.2%	0.0%
2,2'-Oxybis(1-Chloropropane)	18.0	25.0	72.0%	18.4	25.0	73.6%	2.2%
4-Methylphenol	40.3	50.0	80.6%	41.6	50.0	83.2%	3.2%
N-Nitroso-Di-N-Propylamine	18.1	25.0	72.4%	18.6	25.0	74.4%	2.7%
Hexachloroethane	13.0	25.0	52.0%	13.2	25.0	52.8%	1.5%
Nitrobenzene	16.6 Q	25.0	66.4%	16.5 Q	25.0	66.0%	0.6%
Isophorone	23.0	25.0	92.0%	23.0	25.0	92.0%	0.0%
2-Nitrophenol	20.9	25.0	83.6%	20.5	25.0	82.0%	1.9%
2,4-Dimethylphenol	15.2	25.0	60.8%	15.6	25.0	62.4%	2.6%
Benzoic Acid	65.8	75.0	87.7%	66.9	75.0	89.2%	1.7%
bis(2-Chloroethoxy) Methane	20.8	25.0	83.2%	20.7	25.0	82.8%	0.5%
2,4-Dichlorophenol	21.4	25.0	85.6%	21.4	25.0	85.6%	0.0%
1,2,4-Trichlorobenzene	15.8	25.0	63.2%	16.4	25.0	65.6%	3.7%
Naphthalene	19.5	25.0	78.0%	20.2	25.0	80.8%	3.5%
4-Chloroaniline	65.5	60.0	109%	69.6	60.0	116%	6.1%
Hexachlorobutadiene	13.4	25.0	53.6%	14.0	25.0	56.0%	4.4%
4-Chloro-3-methylphenol	21.1	25.0	84.4%	21.7	25.0	86.8%	2.8%
2-Methylnaphthalene	18.6	25.0	74.4%	20.2	25.0	80.8%	8.2%
Hexachlorocyclopentadiene	51.4	75.0	68.5%	52.9	75.0	70.5%	2.9%
2,4,6-Trichlorophenol	22.8	25.0	91.2%	23.6	25.0	94.4%	3.4%
2,4,5-Trichlorophenol	23.4	25.0	93.6%	23.5	25.0	94.0%	0.4%
2-Chloronaphthalene	18.5	25.0	74.0%	19.2	25.0	76.8%	3.7%
2-Nitroaniline	23.9	25.0	95.6%	24.9	25.0	99.6%	4.1%
Dimethylphthalate	21.2	25.0	84.8%	21.3	25.0	85.2%	0.5%
Acenaphthylene	20.7	25.0	82.8%	21.3	25.0	85.2%	2.9%
3-Nitroaniline	82.0 E	64.0	128%	82.7 E	64.0	129%	0.9%
Acenaphthene	19.0	25.0	76.0%	19.2	25.0	76.8%	1.0%
2,4-Dinitrophenol	85.2	75.0	114%	83.6	75.0	111%	1.9%
4-Nitrophenol	25.2	25.0	101%	22.9	25.0	91.6%	9.6%
Dibenzofuran	21.7	25.0	86.8%	21.9	25.0	87.6%	0.9%
2,6-Dinitrotoluene	29.7	25.0	119%	30.8	25.0	123%	3.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: LCS-070610**
 LCS/LCSD

Lab Sample ID: LCS-070610 QC Report No: RC46-Science App. International Corp
LIMS ID: 10-15695 Project: NBF-Stormwater
Matrix: Water
Date Analyzed LCS: 07/07/10 20:21
LCSD: 07/07/10 20:55

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
2,4-Dinitrotoluene	21.3	25.0	85.2%	21.8	25.0	87.2%	2.3%
Diethylphthalate	20.5	25.0	82.0%	20.5	25.0	82.0%	0.0%
4-Chlorophenyl-phenylether	18.5	25.0	74.0%	19.1	25.0	76.4%	3.2%
Fluorene	20.2	25.0	80.8%	20.4	25.0	81.6%	1.0%
4-Nitroaniline	25.6	25.0	102%	26.8	25.0	107%	4.6%
4,6-Dinitro-2-Methylphenol	74.0	75.0	98.7%	73.9	75.0	98.5%	0.1%
N-Nitrosodiphenylamine	20.4	25.0	81.6%	20.6	25.0	82.4%	1.0%
4-Bromophenyl-phenylether	21.1	25.0	84.4%	20.6	25.0	82.4%	2.4%
Hexachlorobenzene	20.3	25.0	81.2%	20.1	25.0	80.4%	1.0%
Pentachlorophenol	25.0	25.0	100%	23.4	25.0	93.6%	6.6%
Phenanthrene	22.6	25.0	90.4%	22.5	25.0	90.0%	0.4%
Carbazole	23.7	25.0	94.8%	24.1	25.0	96.4%	1.7%
Anthracene	21.7	25.0	86.8%	21.6	25.0	86.4%	0.5%
Di-n-Butylphthalate	21.8	25.0	87.2%	22.9	25.0	91.6%	4.9%
Fluoranthene	22.9	25.0	91.6%	23.8	25.0	95.2%	3.9%
Pyrene	22.2	25.0	88.8%	22.6	25.0	90.4%	1.8%
Butylbenzylphthalate	22.1	25.0	88.4%	21.9	25.0	87.6%	0.9%
3,3'-Dichlorobenzidine	58.3	64.0	91.1%	59.4	64.0	92.8%	1.9%
Benzo(a)anthracene	22.6	25.0	90.4%	22.1	25.0	88.4%	2.2%
bis(2-Ethylhexyl)phthalate	23.6 B	25.0	94.4%	23.5 B	25.0	94.0%	0.4%
Chrysene	22.1	25.0	88.4%	22.5	25.0	90.0%	1.8%
Di-n-Octyl phthalate	21.9	25.0	87.6%	21.8	25.0	87.2%	0.5%
Benzo(b)fluoranthene	20.3	25.0	81.2%	20.2	25.0	80.8%	0.5%
Benzo(k)fluoranthene	20.3	25.0	81.2%	20.2	25.0	80.8%	0.5%
Benzo(a)pyrene	18.2	25.0	72.8%	18.4	25.0	73.6%	1.1%
Indeno(1,2,3-cd)pyrene	21.5	25.0	86.0%	22.1	25.0	88.4%	2.8%
Dibenz(a,h)anthracene	21.0	25.0	84.0%	21.8	25.0	87.2%	3.7%
Benzo(g,h,i)perylene	21.2	25.0	84.8%	21.8	25.0	87.2%	2.8%
1-Methylnaphthalene	28.1 Q	25.0	112%	29.8 Q	25.0	119%	5.9%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	92.0%	88.0%
2-Fluorobiphenyl	80.8%	83.2%
d14-p-Terphenyl	94.8%	89.6%
d4-1,2-Dichlorobenzene	70.0%	70.4%
d5-Phenol	97.9%	96.5%
2-Fluorophenol	97.6%	102%
2,4,6-Tribromophenol	109%	108%
d4-2-Chlorophenol	93.9%	92.3%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

RC46MBW1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMWATER

Lab File ID: 07071007 Date Extracted: 07/06/10

Instrument ID: NT4 Date Analyzed: 07/07/10

Matrix: LIQUID Time Analyzed: 1947

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	RC46LCSW1	RC46LCSW1	07071008	07/07/10
02	RC46LCSDW1	RC46LCSDW1	07071009	07/07/10
03	NBF-LS431-063010	RC46A	07071010	07/07/10
04				
05				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-070610
METHOD BLANK

Lab Sample ID: MB-070610
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VB
Reported: 07/10/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater
NA
Date Sampled: NA
Date Received: NA

Date Extracted: 07/06/10
Date Analyzed: 07/07/10 19:47
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	1.0	< 1.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-070610
METHOD BLANK

Lab Sample ID: MB-070610
LIMS ID: 10-15695
Matrix: Water
Date Analyzed: 07/07/10 19:47

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater
NA

CAS Number	Analyte	RL	Result
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**1.0**	**2.4**
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	78.4%	2-Fluorobiphenyl	73.6%
d14-p-Terphenyl	91.6%	d4-1,2-Dichlorobenzene	61.6%
d5-Phenol	78.7%	2-Fluorophenol	86.1%
2,4,6-Tribromophenol	103%	d4-2-Chlorophenol	81.1%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

Instrument ID: NT4 Project: NBF-STORMEATER

DFTPP Injection Date: 06/09/10 DFTPP Injection Time: 1355

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	29.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	32.3
70	Less than 2.0% of mass 69	0.3 (0.8)1
127	10.0 - 80.0% of mass 198	52.3
197	Less than 2.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.4
275	10.0 - 60.0% of mass 198	21.7
365	Greater than 1.0% of mass 198	2.83
441	0.0 - 24.0% of mass 442	9.4 (9.9)2
442	50.0 - 200.0% of mass 198	94.9
443	15.0 - 24.0% of mass 442	18.7 (19.7)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC250609	IC250609	06091004	06/09/10	1432
02	IC010609	IC010609	06091005	06/09/10	1506
03	IC050609	IC050609	06091006	06/09/10	1539
04	IC100609	IC100609	06091007	06/09/10	1613
05	IC400609	IC400609	06091008	06/09/10	1646
06	IC600609	IC600609	06091009	06/09/10	1720
07	IC800609	IC800609	06091010	06/09/10	1753
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

Instrument ID: NT4 Project: NBF-STORMEATER

DFTPP Injection Date: 07/07/10 DFTPP Injection Time: 1600

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	27.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	32.4
70	Less than 2.0% of mass 69	0.5 (1.4)1
127	10.0 - 80.0% of mass 198	50.1
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.2
275	10.0 - 60.0% of mass 198	19.8
365	Greater than 1.0% of mass 198	1.98
441	0.0 - 24.0% of mass 442	12.2 (13.7)2
442	50.0 - 200.0% of mass 198	89.5
443	15.0 - 24.0% of mass 442	17.1 (19.1)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0707	CC0707	07071001	07/07/10	1600
02	RC46MBW1	RC46MBW1	07071007	07/07/10	1947
03	RC46LCSW1	RC46LCSW1	07071008	07/07/10	2021
04	RC46LCSDW1	RC46LCSDW1	07071009	07/07/10	2055
05	NBF-LS431-063010	RC46A	07071010	07/07/10	2129
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FORM V SV

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMEATER

Instrument ID: NT4 Calibration Date: 06/09/10

LAB FILE ID: RRF1 =06091005 RRF5 =06091006 RRF10 =06091007
RRF25 =06091004 RRF40 =06091008 RRF60 =06091009
RRF80 =06091010

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	RRF	%RSD /R^2
Phenol	1.063	0.984	1.122	1.257	1.221	1.221	1.226	1.156	8.9
Bis(2-Chloroethyl)ether	0.838	0.796	0.864	0.966	0.901	0.950	0.888	0.886	6.8
2-Chlorophenol	0.865	1.145	1.142	1.317	1.277	1.299	1.255	1.186	13.3
1,3-Dichlorobenzene	1.452	1.362	1.406	1.569	1.436	1.533	1.458	1.459	4.9
1,4-Dichlorobenzene	1.387	1.388	1.344	1.541	1.441	1.632	1.545	1.468	7.2
1,2-Dichlorobenzene	1.478	1.313	1.320	1.463	1.378	1.496	1.413	1.409	5.3
Benzyl alcohol	0.489	0.450	0.538	0.657	0.646	0.705	0.693	0.597	17.3
2,2'-oxybis(1-Chloropropane)	0.982	0.871	0.948	1.036	0.969	1.100	1.024	0.990	7.4
2-Methylphenol	0.866	1.024	0.900	1.008	0.999	1.104	1.033	0.990	8.2
Hexachloroethane	0.527	0.497	0.518	0.562	0.520	0.618	0.574	0.545	7.6
N-Nitroso-di-n-propylamine	0.605	0.571	0.575	0.617	0.579	0.700	0.628	0.611	7.4
4-Methylphenol	0.932	0.959	0.898	1.033	1.011	1.172	1.061	1.009	9.1
Nitrobenzene	0.361	0.243	0.257	0.389	0.390	0.382	0.396	0.345	19.2
Isophorone	0.440	0.413	0.454	0.456	0.439	0.459	0.472	0.448	4.3
2-Nitrophenol	0.182	0.194	0.195	0.204	0.200	0.200	0.210	0.198	4.5
2,4-Dimethylphenol	0.289	0.302	0.303	0.316	0.304	0.298	0.307	0.303	2.7
Bis(2-Chloroethoxy)methane	0.325	0.298	0.323	0.351	0.321	0.341	0.337	0.328	5.2
2,4-Dichlorophenol	0.246	0.278	0.292	0.328	0.316	0.311	0.321	0.299	9.7
1,2,4-Trichlorobenzene	0.357	0.323	0.334	0.362	0.340	0.340	0.348	0.343	4.0
Naphthalene	1.063	0.906	0.949	1.010	0.907	0.878	0.827	0.934	8.6
Benzoic acid		0.074	0.128	0.196	0.210	0.209	0.222	0.173	0.990
4-Chloroaniline	0.319	0.349	0.380	0.414	0.378	0.350	0.341	0.362	8.7
Hexachlorobutadiene	0.210	0.176	0.183	0.204	0.196	0.191	0.196	0.194	6.0
4-Chloro-3-methylphenol	0.208	0.210	0.228	0.260	0.274	0.230	0.239	0.236	10.4
2-Methylnaphthalene	0.635	0.569	0.603	0.670	0.655	0.597	0.580	0.616	6.2
Hexachlorocyclopentadiene		0.016	0.052	0.180	0.197	0.244	0.261	0.158	0.993
2,4,6-Trichlorophenol	0.272	0.290	0.281	0.372	0.359	0.361	0.364	0.328	13.6
2,4,5-Trichlorophenol	0.278	0.252	0.275	0.388	0.374	0.369	0.380	0.331	17.9
2-Chloronaphthalene	1.222	0.989	1.022	1.179	1.091	1.082	1.033	1.088	7.8
2-Nitroaniline	0.157	0.177	0.187	0.222	0.203	0.204	0.206	0.194	11.1
Acenaphthylene	1.805	1.538	1.634	1.761	1.588	1.543	1.401	1.610	8.6
Dimethylphthalate	1.295	1.044	1.125	1.217	1.116	1.074	1.110	1.140	7.6
2,6-Dinitrotoluene	0.269	0.261	0.266	0.296	0.273	0.271	0.286	0.274	4.5
Acenaphthene	1.074	0.982	0.987	1.111	1.006	1.011	0.991	1.023	4.8
3-Nitroaniline	0.216	0.227	0.267	0.281	0.240	0.216	0.200	0.235	12.5
2,4-Dinitrophenol		0.040	0.085	0.159	0.176	0.194	0.218	0.145	0.997
Dibenzofuran	1.420	1.341	1.393	1.487	1.359	1.356	1.341	1.385	3.8

<- Outside QC limits: %RSD <20% or R^2 > 0.990

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMEATER

Instrument ID: NT4 Calibration Date: 06/09/10

LAB FILE ID: RRF1 =06091005 RRF5 =06091006 RRF10 =06091007
RRF25 =06091004 RRF40 =06091008 RRF60 =06091009
RRF80 =06091010

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	RRF	%RSD /R^2
4-Nitrophenol		0.065	0.091	0.118	0.121	0.116	0.133	0.107	0.995
2,4-Dinitrotoluene	0.280	0.339	0.332	0.371	0.349	0.352	0.373	0.342	9.2
Fluorene	1.231	1.167	1.162	1.232	1.142	1.143	1.181	1.180	3.2
4-Chlorophenyl-phenylether	0.595	0.562	0.542	0.599	0.557	0.568	0.617	0.577	4.7
Diethylphthalate	1.135	1.155	1.079	1.144	1.059	1.074	1.137	1.112	3.6
4-Nitroaniline	0.134	0.230	0.245	0.251	0.235	0.248	0.264	0.230	18.9
4,6-Dinitro-2-methylphenol		0.107	0.123	0.145	0.153	0.139	0.150	0.136	13.2
N-Nitrosodiphenylamine (1)	0.462	0.498	0.538	0.563	0.557	0.510	0.521	0.521	6.8
4-Bromophenyl-phenylether	0.209	0.183	0.186	0.202	0.199	0.195	0.202	0.196	4.7
Hexachlorobenzene	0.259	0.202	0.202	0.217	0.212	0.209	0.212	0.216	9.2
Pentachlorophenol		0.039	0.054	0.081	0.086	0.091	0.097	0.075	0.998
Phenanthrene	1.099	0.947	0.979	1.080	0.979	0.917	0.852	0.979	8.9
Anthracene	1.133	0.957	0.994	1.089	1.002	0.930	0.868	0.996	9.2
Carbazole	0.963	0.868	0.900	1.022	0.918	0.856	0.791	0.902	8.3
Di-n-butylphthalate	1.220	1.006	1.057	1.287	1.192	1.021	0.930	1.102	11.9
Fluoranthene	1.094	0.887	0.959	1.135	1.090	0.917	0.845	0.990	11.6
Pyrene	1.492	1.061	1.158	1.376	1.257	1.140	1.017	1.214	14.1
Butylbenzylphthalate	0.557	0.488	0.579	0.647	0.607	0.575	0.550	0.572	8.6
Benzo(a)anthracene	1.200	1.073	1.106	1.202	1.123	1.059	1.026	1.113	6.1
3,3'-Dichlorobenzidine	0.340	0.352	0.391	0.394	0.363	0.341	0.340	0.360	6.6
Chrysene	1.211	1.008	1.097	1.158	1.076	1.037	1.002	1.084	7.2
bis(2-Ethylhexyl)phthalate	0.429	0.491	0.530	0.572	0.554	0.510	0.525	0.516	9.1
Di-n-octylphthalate	1.088	0.917	0.942	1.021	0.922	0.866	0.829	0.941	9.4
Benzo(b)fluoranthene	0.976	1.194	1.192	1.170	1.263	1.287	1.150	1.176	8.6
Benzo(k)fluoranthene	1.457	1.000	1.071	1.234	1.000	1.220	0.966	1.135	15.7
Benzo(a)pyrene	1.059	0.973	1.024	1.139	1.083	1.052	1.035	1.052	4.9
Indeno(1,2,3-cd)pyrene	1.067	0.949	1.098	1.312	1.335	1.226	1.258	1.178	12.1
Dibenzo(a,h)anthracene	0.886	0.800	0.910	1.088	1.103	1.004	1.020	0.973	11.5
Benzo(g,h,i)perylene	0.977	0.897	1.039	1.144	1.151	1.022	1.026	1.036	8.6
N-Nitrosodimethylamine	0.641	0.611	0.594	0.673	0.614	0.712	0.652	0.642	6.4
Aniline	1.278	1.183	1.390	1.470	1.358	1.387	1.267	1.333	7.2
Benzidine	0.337	0.362	0.447	0.389	0.350	0.317		0.367	12.5
Pyridine		1.017	0.982	1.254	1.114	1.290	1.143	1.133	10.9
1-methylnaphthalene	0.632	0.561	0.591	0.661	0.648	0.581	0.571	0.606	6.6
Azobenzene (1,2-DP-Hydrazine	1.112	1.095	1.036	1.112	1.033	1.080	1.105	1.082	3.1
2-Fluorophenol	0.796	0.909	0.799	1.107	0.974	1.084	0.972	0.949	13.0

(1) Cannot be seperated from Diphenylamine

<- Outside QC limits: %RSD <20% or R^2 > 0.990

6C

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMEATER

Instrument ID: NT4 Calibration Date: 06/09/10

LAB FILE ID: RRF1 =06091005 RRF5 =06091006 RRF10 =06091007
RRF25 =06091004 RRF40 =06091008 RRF60 =06091009
RRF80 =06091010

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
Phenol-d5	0.759	0.829	0.853	0.980	0.939	1.013	0.931	0.900	10.0
2-Chlorophenol-d4	0.917	1.040	0.985	1.142	1.084	1.156	1.057	1.054	8.0
1,2-Dichlorobenzene-d4	0.781	0.820	0.799	0.861	0.820	0.889	0.831	0.829	4.4
Nitrobenzene-d5	0.258	0.277	0.283	0.284	0.279	0.279	0.289	0.278	3.5
2-Fluorobiphenyl	1.286	1.147	1.068	1.250	1.140	1.146	1.084	1.160	6.9
2,4,6-Tribromophenol	0.084	0.142	0.130	0.149	0.135	0.145	0.162	0.135	18.4
Terphenyl-d14	0.690	0.621	0.658	0.732	0.689	0.651	0.610	0.664	6.4

<- Outside QC limits: %RSD <20% or R^2 > 0.990

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMEATER

Instrument ID: NT4 Cont. Calib. Date: 07/07/10

Init. Calib. Date: 06/09/10 Cont. Calib. Time: 1600

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Phenol	1.156	1.098	0.800	AVRG	-5.0	
Bis(2-Chloroethyl)ether	0.886	0.817	0.700	AVRG	-7.8	
2-Chlorophenol	1.186	1.140	0.800	AVRG	-3.9	
1,3-Dichlorobenzene	1.459	1.339	0.010	AVRG	-8.2	
1,4-Dichlorobenzene	1.468	1.334	0.010	AVRG	-9.1	
1,2-Dichlorobenzene	1.409	1.245	0.010	AVRG	-11.6	
Benzyl alcohol	0.597	0.563	0.010	AVRG	-5.7	
2,2'-oxybis(1-Chloropropane)	0.990	0.814	0.010	AVRG	-17.8	
2-Methylphenol	0.990	0.915	0.700	AVRG	-7.6	
Hexachloroethane	0.545	0.474	0.300	AVRG	-13.0	
N-Nitroso-di-n-propylamine	0.611	0.611	0.500	AVRG	0.0	
4-Methylphenol	1.009	0.957	0.600	AVRG	-5.2	
Nitrobenzene	0.345	0.254	0.200	AVRG	-26.4	<-
Isophorone	0.448	0.392	0.400	AVRG	-12.5	*
2-Nitrophenol	0.198	0.190	0.100	AVRG	-4.0	
2,4-Dimethylphenol	0.303	0.268	0.200	AVRG	-11.6	
Bis(2-Chloroethoxy)methane	0.328	0.313	0.300	AVRG	-4.6	
2,4-Dichlorophenol	0.299	0.294	0.200	AVRG	-1.7	
1,2,4-Trichlorobenzene	0.343	0.312	0.010	AVRG	-9.0	
Naphthalene	0.934	0.869	0.700	AVRG	-7.0	
Benzoic acid	50.00	43.62	0.010	LINR	-12.8	
4-Chloroaniline	0.362	0.350	0.010	AVRG	-3.3	
Hexachlorobutadiene	0.194	0.163	0.010	AVRG	-16.0	
4-Chloro-3-methylphenol	0.236	0.210	0.200	AVRG	-11.0	
2-Methylnaphthalene	0.616	0.544	0.400	AVRG	-11.7	
Hexachlorocyclopentadiene	25.00	28.35	0.050	2ORDR	13.4	
2,4,6-Trichlorophenol	0.328	0.328	0.200	AVRG	0.0	
2,4,5-Trichlorophenol	0.331	0.314	0.200	AVRG	-5.1	
2-Chloronaphthalene	1.088	0.959	0.800	AVRG	-11.8	
2-Nitroaniline	0.194	0.170	0.010	AVRG	-12.4	
Acenaphthylene	1.610	1.461	0.900	AVRG	-9.2	
Dimethylphthalate	1.140	0.934	0.010	AVRG	-18.1	
2,6-Dinitrotoluene	0.274	0.265	0.200	AVRG	-3.3	
Acenaphthene	1.023	0.844	0.900	AVRG	-17.5	*
3-Nitroaniline	0.235	0.246	0.010	AVRG	4.7	
2,4-Dinitrophenol	50.00	53.38	0.010	2ORDR	6.8	
Dibenzofuran	1.385	1.255	0.800	AVRG	-9.4	

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-1

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMEATER

Instrument ID: NT4 Cont. Calib. Date: 07/07/10

Init. Calib. Date: 06/09/10 Cont. Calib. Time: 1600

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
4-Nitrophenol	25.00	29.57	0.010	2ORDR	18.3	
2,4-Dinitrotoluene	0.342	0.297	0.200	AVRG	-13.2	
Fluorene	1.180	1.048	0.900	AVRG	-11.2	
4-Chlorophenyl-phenylether	0.577	0.468	0.400	AVRG	-18.9	
Diethylphthalate	1.112	0.925	0.010	AVRG	-16.8	
4-Nitroaniline	0.230	0.226	0.010	AVRG	-1.7	
4,6-Dinitro-2-methylphenol	0.136	0.135	0.010	AVRG	-0.7	
N-Nitrosodiphenylamine(1)	0.521	0.483	0.010	AVRG	-7.3	
4-Bromophenyl-phenylether	0.196	0.177	0.100	AVRG	-9.7	
Hexachlorobenzene	0.216	0.186	0.100	AVRG	-13.9	
Pentachlorophenol	25.00	29.79	0.050	2ORDR	19.2	
Phenanthrene	0.979	0.906	0.700	AVRG	-7.4	
Anthracene	0.996	0.949	0.700	AVRG	-4.7	
Carbazole	0.902	0.875	0.010	AVRG	-3.0	
Di-n-butylphthalate	1.102	0.996	0.010	AVRG	-9.6	
Fluoranthene	0.990	0.924	0.600	AVRG	-6.7	
Pyrene	1.214	1.106	0.600	AVRG	-8.9	
Butylbenzylphthalate	0.572	0.530	0.010	AVRG	-7.3	
Benzo(a)anthracene	1.113	1.017	0.800	AVRG	-8.6	
3,3'-Dichlorobenzidine	0.360	0.355	0.010	AVRG	-1.4	
Chrysene	1.084	0.989	0.700	AVRG	-8.8	
bis(2-Ethylhexyl)phthalate	0.516	0.508	0.010	AVRG	-1.6	
Di-n-octylphthalate	0.941	0.872	0.010	AVRG	-7.3	
Benzo(b)fluoranthene	1.176	1.162	0.700	AVRG	-1.2	
Benzo(k)fluoranthene	1.135	1.043	0.700	AVRG	-8.1	
Benzo(a)pyrene	1.052	0.942	0.700	AVRG	-10.4	
Indeno(1,2,3-cd)pyrene	1.178	1.042	0.500	AVRG	-11.5	
Dibenzo(a,h)anthracene	0.973	0.862	0.400	AVRG	-11.4	
Benzo(g,h,i)perylene	1.036	0.912	0.500	AVRG	-12.0	
N-Nitrosodimethylamine	0.642		0.010	AVRG	NC	*
Aniline	1.333	1.072	0.010	AVRG	-19.6	
Benzidine	0.367		0.010	AVRG		*
Pyridine	1.133		0.010	AVRG	NC	*
1-methylnaphthalene	0.606	0.760	0.010	AVRG	25.4	<-
Azobenzene (1,2-DP-Hydrazine	1.082		0.010	AVRG	NC	*

(1) Cannot be separated from Diphenylamine

<- Exceeds QC limit of 20% D

* RF less than minimum RF

AE 07/08/10

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMEATER

Instrument ID: NT4 Cont. Calib. Date: 07/07/10

Init. Calib. Date: 06/09/10 Cont. Calib. Time: 1600

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
2-Fluorophenol	0.949	0.987	0.010	AVRG	4.0
Phenol-d5	0.900	0.915	0.010	AVRG	1.7
2-Chlorophenol-d4	1.054	1.047	0.010	AVRG	-0.7
1,2-Dichlorobenzene-d4	0.829	0.733	0.010	AVRG	-11.6
Nitrobenzene-d5	0.278	0.261	0.010	AVRG	-6.1
2-Fluorobiphenyl	1.160	1.019	0.010	AVRG	-12.2
2,4,6-Tribromophenol	0.135	0.141	0.010	AVRG	4.4
Terphenyl-d14	0.664	0.590	0.010	AVRG	-11.1

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-3

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMEATER

Ical Midpoint ID: 06091004 Ical Date: 06/09/10

Instrument ID: NT4 Cont. Cal Date: 07/07/10

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	ICAL MIDPT	537610	5.48	1863052	7.64	1092086	10.42
	UPPER LIMIT	1075220		3726104		2184172	
	LOWER LIMIT	268805		931526		546043	
	CCAL	605111	4.05	1914030	6.57	1168578	9.37
	UPPER LIMIT		4.55		7.07		9.87
	LOWER LIMIT		3.55		6.07		8.87
01	RC46MBW1	538405	4.06	1773055	6.57	1008343	9.37
02	RC46LCSW1	584376	4.05	1851986	6.57	1116269	9.38
03	RC46LCSDW1	549854	4.06	1776813	6.57	1050355	9.38
04	NBF-LS431-06	534679	4.07	1776133	6.57	1019032	9.37
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IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMEATER

Ical Midpoint ID: 06091004 Ical Date: 06/09/10

Instrument ID: NT4 Cont. Cal Date: 07/07/10

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	ICAL MIDPT	1747331	12.68	1506440	16.83	1599851	18.89
	UPPER LIMIT	3494662		3012880		3199702	
	LOWER LIMIT	873666		753220		799926	
	CCAL	1776951	11.58	1564712	15.63	1535038	17.64
	UPPER LIMIT		12.08		16.13		18.14
	LOWER LIMIT		11.08		15.13		17.14
01	RC46MBW1	1631385	11.58	1392786	15.62	1512180	17.64
02	RC46LCSW1	1660983	11.58	1491595	15.63	1574913	17.65
03	RC46LCSDW1	1619368	11.58	1452338	15.63	1517115	17.64
04	NBF-LS431-06	1660604	11.58	1401944	15.62	1532324	17.64
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IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMEATER

Ical Midpoint ID: 06091004 Ical Date: 06/09/10

Instrument ID: NT4 Cont. Cal Date: 07/07/10

		IS7 AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	2182594	18.19				
	UPPER LIMIT	4365188					
	LOWER LIMIT	1091297					
	CCAL	2157734	17.12				
	UPPER LIMIT		17.62				
	LOWER LIMIT		16.62				
01	RC46MBW1	2034448	17.11				
02	RC46LCSW1	2082531	17.11				
03	RC46LCSDW1	1966468	17.12				
04	NBF-LS431-06	2072600	17.11				
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IS7 = Di-n-octylphthalate-d4

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-3

SIM PAH Analysis
Report and Summary QC Forms

ARI Job ID: RC46, RC63, RC75

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS **Sample ID: NBF-LS431-063010-W**
Page 1 of 1 **SAMPLE**

Lab Sample ID: RC46A
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VJS
Reported: 07/15/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater
Event: NA
Date Sampled: 06/30/10
Date Received: 06/30/10

Date Extracted: 07/06/10
Date Analyzed: 07/13/10 19:11
Instrument/Analyst: NT11/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	**Naphthalene**	**0.010**	**0.039**
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	**Acenaphthene**	**0.010**	**0.071**
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	**Fluoranthene**	**0.010**	**0.015 Q**
129-00-0	**Pyrene**	**0.010**	**0.012**
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	**Chrysene**	**0.010**	**0.010**
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U
TOTBFA	**Total Benzofluoranthenes**	**0.010**	**0.017**

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	81.3%
d14-Dibenzo(a,h)anthracene	107%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Client ID	MNP	DBA	TOT OUT
MB-070610	82.3%	104%	0
LCS-070610	84.7%	110%	0
LCSD-070610	78.0%	105%	0
NBF-LS431-063010-W	81.3%	107%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(42-100)	(31-109)
(DBA) = d14-Dibenzo(a,h)anthracene	(40-125)	(10-133)

Prep Method: SW3510C
Log Number Range: 10-15695 to 10-15695

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS **Sample ID: LCS-070610**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-070610
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VB
Reported: 07/15/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 07/06/10

Date Analyzed LCS: 07/13/10 18:23
LCSD: 07/13/10 18:47
Instrument/Analyst LCS: SVOA_MSD/PK
LCSD: SVOA_MSD/PK

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	0.227	0.300	75.7%	0.207	0.300	69.0%	9.2%
2-Methylnaphthalene	0.253	0.300	84.3%	0.230	0.300	76.7%	9.5%
1-Methylnaphthalene	0.253	0.300	84.3%	0.229	0.300	76.3%	10.0%
Acenaphthylene	0.286	0.300	95.3%	0.264	0.300	88.0%	8.0%
Acenaphthene	0.233	0.300	77.7%	0.218	0.300	72.7%	6.7%
Fluorene	0.271	0.300	90.3%	0.254	0.300	84.7%	6.5%
Phenanthrene	0.263	0.300	87.7%	0.245	0.300	81.7%	7.1%
Anthracene	0.318	0.300	106%	0.303	0.300	101%	4.8%
Fluoranthene	0.336 Q	0.300	112%	0.332 Q	0.300	111%	1.2%
Pyrene	0.330	0.300	110%	0.317	0.300	106%	4.0%
Benzo(a)anthracene	0.387 Q	0.300	129%	0.383 Q	0.300	128%	1.0%
Chrysene	0.281	0.300	93.7%	0.282	0.300	94.0%	0.4%
Benzo(a)pyrene	0.338	0.300	113%	0.329	0.300	110%	2.7%
Indeno(1,2,3-cd)pyrene	0.277	0.300	92.3%	0.268	0.300	89.3%	3.3%
Dibenz(a,h)anthracene	0.281	0.300	93.7%	0.271	0.300	90.3%	3.6%
Benzo(g,h,i)perylene	0.261	0.300	87.0%	0.251	0.300	83.7%	3.9%
Dibenzofuran	0.222	0.300	74.0%	0.209	0.300	69.7%	6.0%
Total Benzofluoranthenes	0.557	0.600	92.8%	0.541	0.600	90.2%	2.9%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	84.7%	78.0%
d14-Dibenzo(a,h)anthracene	110%	105%

4B
SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

RC46MBW1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No: RC46
Project: NBF-STORMWATER

Lab File ID: 071305
Date Extracted: 07/06/10

Instrument ID: NT11
Date Analyzed: 07/13/10

Matrix: LIQUID
Time Analyzed: 1800

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	RC46LCSW1	RC46LCSW1	071306	07/13/10
02	RC46LCSDW1	RC46LCSDW1	071307	07/13/10
03	NBF-LS431-063010	RC46A	071308	07/13/10
04				
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by Low Level SW8270D-SIM GC/MS **Sample ID: MB-070610**
Page 1 of 1 **METHOD BLANK**

Lab Sample ID: MB-070610
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VTS
Reported: 07/15/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 07/06/10
Date Analyzed: 07/13/10 18:00
Instrument/Analyst: NT11/PK

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	0.010	< 0.010 U
91-57-6	2-Methylnaphthalene	0.010	< 0.010 U
90-12-0	1-Methylnaphthalene	0.010	< 0.010 U
208-96-8	Acenaphthylene	0.010	< 0.010 U
83-32-9	Acenaphthene	0.010	< 0.010 U
86-73-7	Fluorene	0.010	< 0.010 U
85-01-8	Phenanthrene	0.010	< 0.010 U
120-12-7	Anthracene	0.010	< 0.010 U
206-44-0	Fluoranthene	0.010	< 0.010 U
129-00-0	Pyrene	0.010	< 0.010 U
56-55-3	Benzo(a)anthracene	0.010	< 0.010 U
218-01-9	Chrysene	0.010	< 0.010 U
50-32-8	Benzo(a)pyrene	0.010	< 0.010 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.010	< 0.010 U
53-70-3	Dibenz(a,h)anthracene	0.010	< 0.010 U
191-24-2	Benzo(g,h,i)perylene	0.010	< 0.010 U
132-64-9	Dibenzofuran	0.010	< 0.010 U
TOTBFA	Total Benzofluoranthenes	0.010	< 0.010 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	82.3%
d14-Dibenzo(a,h)anthracene	104%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

Instrument ID: NT11 Project: NBF-STORMWATER

DFTPP Injection Date: 06/12/10 DFTPP Injection Time: 1135

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	24.2
68	Less than 2.0% of mass 69	0.3 (0.6)1
69	Mass 69 relative abundance	52.7
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	10.0 - 80.0% of mass 198	53.2
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	23.8
365	Greater than 1.0% of mass 198	2.70
441	0.0 - 24.0% of mass 442	16.8 (14.5)2
442	50.0 - 200.0% of mass 198	116.2
443	15.0 - 24.0% of mass 442	22.6 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		IC0612A	IC0612A	06/12/10	1149
02		IC0612B	IC0612B	06/12/10	1214
03		IC0612C	IC0612C	06/12/10	1239
04		IC0612D	IC0612D	06/12/10	1304
05		IC0612E	IC0612E	06/12/10	1329
06		IC0612F	IC0612F	06/12/10	1354
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FORM V SV

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

Instrument ID: NT11 Project: NBF-STORMWATER

DFTPP Injection Date: 07/13/10 DFTPP Injection Time: 1435

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	24.5
68	Less than 2.0% of mass 69	0.4 (0.9)1
69	Mass 69 relative abundance	50.5
70	Less than 2.0% of mass 69	0.2 (0.3)1
127	10.0 - 80.0% of mass 198	54.9
197	Less than 2.0% of mass 198	0.1
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	22.2
365	Greater than 1.0% of mass 198	2.58
441	0.0 - 24.0% of mass 442	12.9 (15.2)2
442	50.0 - 200.0% of mass 198	85.0
443	15.0 - 24.0% of mass 442	16.8 (19.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		PNA 2.5	CC0713	07/13/10	1522
02	RC46MBW1	RC46MBW1	071305	07/13/10	1800
03	RC46LCSW1	RC46LCSW1	071306	07/13/10	1823
04	RC46LCSDW1	RC46LCSDW1	071307	07/13/10	1847
05	NBF-LS431-063010	RC46A	071308	07/13/10	1911
06					
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FORM V SV

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT11 Calibration Date: 06/12/10

LAB FILE ID: RRF10 =IC0612C RRF50 =IC0612E RRF100=IC0612F
RRF250=IC0612A RRF500=IC0612D RRF1000=IC0612B

COMPOUND	RRF 10	RRF 50	RRF 100	RRF 250	RRF 500	RRF 1000	$\overline{RRF}$	%RSD /R^2
Naphthalene	1.077	1.022	0.938	0.902	0.966	0.929	0.972	6.7
2-Methylnaphthalene	0.549	0.533	0.504	0.509	0.552	0.536	0.530	3.8
Acenaphthylene	1.430	1.305	1.252	1.514	1.636	1.722	1.476	12.5
Acenaphthene	1.122	1.065	1.017	1.015	1.106	1.076	1.067	4.2
Dibenzofuran	1.659	1.598	1.492	1.458	1.578	1.537	1.554	4.7
Fluorene	1.065	0.990	0.945	0.996	1.096	1.130	1.037	6.9
Phenanthrene	1.187	1.041	0.971	0.916	0.978	0.956	1.008	9.6
Anthracene	0.782	0.714	0.707	0.799	0.898	0.920	0.803	11.2
Fluoranthene	0.929	0.755	0.758	0.873	0.928	0.969	0.869	10.6
Pyrene	0.972	0.811	0.821	0.954	1.003	1.036	0.933	10.2
Benzo(a)anthracene	1.187	0.953	0.967	1.203	1.197	1.279	1.131	12.1
Chrysene	1.959	1.661	1.592	1.390	1.482	1.404	1.581	13.5
Benzo(a)pyrene	0.979	0.879	0.915	1.144	1.306	1.385	1.101	19.2
Indeno(1,2,3-cd)pyrene	1.483	1.472	1.583	1.640	1.945	1.946	1.678	12.9
Dibenzo(a,h)anthracene	1.137	1.177	1.284	1.280	1.538	1.532	1.325	13.0
Benzo(g,h,i)perylene	1.550	1.324	1.388	1.380	1.619	1.607	1.478	8.7
1-Methylnaphthalene	0.555	0.534	0.502	0.507	0.540	0.522	0.527	3.9
Total Benzofluoranthenes	1.696	1.553	1.594	1.532	1.770	1.754	1.650	6.3
2-Methylnaphthalene-d10	0.547	0.534	0.498	0.501	0.541	0.524	0.524	4.0
Dibenzo(a,h)anthracene-d14	0.758	0.731	0.771	0.876	0.996	1.015	0.858	14.5

<- Outside QC limits: %RSD <20% or R^2 > 0.990

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMWATER

Instrument ID: NT11 Cont. Calib. Date: 07/13/10

Init. Calib. Date: 06/12/10 Cont. Calib. Time: 1522

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Naphthalene	0.972	0.898	0.700	AVRG	-7.6	
2-Methylnaphthalene	0.530	0.532	0.400	AVRG	0.4	
Acenaphthylene	1.476	1.634	0.900	AVRG	10.7	
Acenaphthene	1.067	0.956	0.900	AVRG	-10.4	
Dibenzofuran	1.554	1.370	0.800	AVRG	-11.8	
Fluorene	1.037	1.011	0.900	AVRG	-2.5	
Phenanthrene	1.008	0.911	0.700	AVRG	-9.6	
Anthracene	0.803	0.862	0.700	AVRG	7.3	
Fluoranthene	0.869	1.065	0.600	AVRG	22.6	<-
Pyrene	0.933	1.086	0.600	AVRG	16.4	
Benzo(a)anthracene	1.131	1.428	0.800	AVRG	26.2	<-
Chrysene	1.581	1.399	0.700	AVRG	-11.5	
Benzo(a)pyrene	1.101	1.240	0.700	AVRG	12.6	
Indeno(1,2,3-cd)pyrene	1.678	1.572	0.500	AVRG	-6.3	
Dibenzo(a,h)anthracene	1.325	1.213	0.400	AVRG	-8.4	
Benzo(g,h,i)perylene	1.478	1.361	0.500	AVRG	-7.9	
1-Methylnaphthalene	0.527	0.518	0.010	AVRG	-1.7	
Total Benzofluoranthenes	1.650	1.434	0.010	AVRG	-13.1	
2-Methylnaphthalene-d10	0.524	0.520	0.010	AVRG	-0.8	
Dibenzo(a,h)anthracene-d14	0.858	0.934	0.010	AVRG	8.8	

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMWATER

Ical Midpoint ID: IC0612A Ical Date: 06/12/10

Instrument ID: NT11 Cont. Cal Date: 07/13/10

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	ICAL MIDPT	685021	6.20	316807	8.37	537469	10.21
	UPPER LIMIT	1370042		633614		1074938	
	LOWER LIMIT	342510		158404		268734	
	CCAL	611408	6.05	303104	8.24	514792	10.06
	UPPER LIMIT		6.55		8.74		10.56
	LOWER LIMIT		5.55		7.74		9.56
01	RC46MBW1	486095	6.05	243818	8.22	383226	10.06
02	RC46LCSW1	498423	6.05	257624	8.22	414276	10.06
03	RC46LCSDW1	490179	6.05	251738	8.22	408361	10.06
04	NBF-LS431-06	471336	6.05	237916	8.22	383184	10.06
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IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RC46 Project: NBF-STORMWATER

Ical Midpoint ID: IC0612A Ical Date: 06/12/10

Instrument ID: NT11 Cont. Cal Date: 07/13/10

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	297720	13.52	228743	15.42		
	UPPER LIMIT	595440		457486			
	LOWER LIMIT	148860		114372			
	CCAL	296116	13.36	285660	15.20		
	UPPER LIMIT		13.86		15.70		
	LOWER LIMIT		12.86		14.70		
01	RC46MBW1	194399	13.36	189705	15.20		
02	RC46LCSW1	221048	13.36	202423	15.20		
03	RC46LCSDW1	216226	13.36	200030	15.20		
04	NBF-LS431-06	191522	13.36	184050	15.20		
05							
06							
07							
08							
09							
10							
11							
12							
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15							
16							
17							
18							
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20							
21							
22							
23							
24							
25							

IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

PCB Analysis
Report and Summary QC Forms

ARI Job ID: RC46, RC63, RC75

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: NBF-LS431-063010-W
SAMPLE

Lab Sample ID: RC46A
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VG
Reported: 07/14/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Date Extracted: 07/06/10
Date Analyzed: 07/09/10 21:18
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	**Aroclor 1242**	**0.010**	**0.016**
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	67.5%
Tetrachlorometaxylene	54.8%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-070610	71.5%	32-108	51.0%	31-100	0
LCS-070610	70.2%	32-108	51.5%	31-100	0
LCSD-070610	64.5%	32-108	47.0%	31-100	0
NBF-LS431-063010-W	67.5%	19-111	54.8%	21-100	0

Prep Method: SW3510C
Log Number Range: 10-15695 to 10-15695

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-070610
LCS/LCSD

Lab Sample ID: LCS-070610
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VJS
Reported: 07/14/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 07/06/10

Date Analyzed LCS: 07/09/10 20:30
LCSD: 07/09/10 20:54
Instrument/Analyst LCS: ECD7/JGR
LCSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1000 mL
LCSD: 1000 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	0.040	0.050	80.0%	0.037	0.050	74.0%	7.8%
Aroclor 1260	0.032	0.050	64.0%	0.031	0.050	62.0%	3.2%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	70.2%	64.5%
Tetrachlorometaxylene	51.5%	47.0%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4

PCB METHOD BLANK SUMMARY

BLANK NO.

RC46MBW1

Lab Name: ANALYTICAL RESOURCES, INC — Client: SAIC

ARI Job No.: RC46 — Project: NBF-STORMWATER

Lab Sample ID: RC46MBW1 — Lab File ID: 0709A028

Date Extracted: 07/06/10 — Matrix: LIQUID

Date Analyzed: 07/09/10 — Instrument ID: ECD7

Time Analyzed: 2007 — GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	RC46LCSW1	RC46LCSW1	07/09/10
02	RC46LCSDW1	RC46LCSDW1	07/09/10
03	NBF-LS431-063010-W	RC46A	07/09/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-070610
METHOD BLANK

Lab Sample ID: MB-070610
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized: VTB
Reported: 07/14/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

Date Extracted: 07/06/10
Date Analyzed: 07/09/10 20:07
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.010	< 0.010 U
53469-21-9	Aroclor 1242	0.010	< 0.010 U
12672-29-6	Aroclor 1248	0.010	< 0.010 U
11097-69-1	Aroclor 1254	0.010	< 0.010 U
11096-82-5	Aroclor 1260	0.010	< 0.010 U
11104-28-2	Aroclor 1221	0.010	< 0.010 U
11141-16-5	Aroclor 1232	0.010	< 0.010 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	71.5%
Tetrachlorometaxylene	51.0%

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 04/30/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	5.64- 5.84	1.0769	1.0343	0.9948	0.9860	1.0177	0.9892	1.0165	3.4
DCB	14.43-14.63	1.3736	1.2655	1.1781	1.1031	1.0997	1.0468	1.1778	10.4

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	7.63- 7.83	0.0299	0.0273	0.0249	0.0233	0.0227	0.0213	0.0249	12.8
2	8.15- 8.35	0.0924	0.0860	0.0795	0.0761	0.0755	0.0720	0.0802	9.5
3	8.33- 8.53	0.0380	0.0349	0.0321	0.0301	0.0294	0.0278	0.0320	11.8
4	9.10- 9.30	0.0292	0.0266	0.0240	0.0223	0.0218	0.0204	0.0240	13.8

AROCLOR AVERAGE %RSD = 12.0

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	11.67-11.87	0.1244	0.1150	0.1081	0.1038	0.1029	0.0978	0.1087	8.9
2	12.21-12.41	0.0799	0.0743	0.0695	0.0663	0.0655	0.0623	0.0696	9.3
3	12.58-12.78	0.1805	0.1689	0.1603	0.1552	0.1545	0.1469	0.1611	7.4
4	12.97-13.17	0.0912	0.0826	0.0778	0.0750	0.0754	0.0727	0.0791	8.6
5	13.15-13.35	0.0489	0.0442	0.0410	0.0387	0.0383	0.0367	0.0413	11.0

AROCLOR AVERAGE %RSD = 9.0

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 04/30/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	5.86- 6.06	1.2148	1.1143	1.0477	0.9997	0.9896	0.9608	1.0545	9.0
DCB	14.85-15.05	1.6722	1.4487	1.2882	1.1612	1.1335	1.0907	1.2991	17.3

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.01- 8.21	0.0550	0.0481	0.0439	0.0387	0.0362	0.0332	0.0425	19.1
2	8.77- 8.97	0.1122	0.0966	0.0879	0.0800	0.0757	0.0710	0.0872	17.5
3	9.22- 9.42	0.0265	0.0251	0.0238	0.0212	0.0200	0.0186	0.0225	13.7
4	9.79- 9.99	0.0413	0.0364	0.0321	0.0286	0.0270	0.0251	0.0317	19.4

AROCLOR AVERAGE %RSD = 17.4

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	12.39-12.59	0.0974	0.0926	0.0836	0.0740	0.0689	0.0641	0.0801	16.6
2	12.84-13.04	0.1223	0.1044	0.0938	0.0839	0.0788	0.0738	0.0928	19.5
3	13.10-13.30	0.2254	0.1959	0.1869	0.1707	0.1636	0.1511	0.1823	14.6
4	13.62-13.82	0.1566	0.1381	0.1229	0.1104	0.1053	0.0980	0.1219	18.2

AROCLOR AVERAGE %RSD = 17.2

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	6.192	6.09- 6.29	0.01082
2	6.402	6.30- 6.50	0.00825
3	6.522	6.42- 6.62	0.02708

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	8.252	8.15- 8.35	0.03675
2	8.438	8.34- 8.54	0.01479
3	9.398	9.30- 9.50	0.01265
4	10.115	10.02-10.22	0.01124

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.251	8.15- 8.35	0.06053
2	8.438	8.34- 8.54	0.02411
3	9.399	9.30- 9.50	0.02297
4	10.117	10.02-10.22	0.02026

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	8.855	8.75- 8.95	0.02521
2	9.393	9.29- 9.49	0.03364
3	9.860	9.76- 9.96	0.04309
4	10.111	10.01-10.21	0.03282

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	9.874	9.77- 9.97	0.03999
2	10.206	10.11-10.31	0.05737
3	10.732	10.63-10.83	0.06765
4	11.088	10.99-11.19	0.07083
5	11.776	11.68-11.88	0.06746

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.003	11.90-12.10	0.10625
2	12.680	12.58-12.78	0.18564
3	13.073	12.97-13.17	0.06061
4	13.183	13.08-13.28	0.08269
5	13.251	13.15-13.35	0.08022

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.182	13.08-13.28	0.21641
2	13.248	13.15-13.35	0.21149
3	13.592	13.49-13.69	0.14482
4	14.225	14.12-14.32	0.36411

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	7.093	6.99- 7.19	0.00803
2	7.230	7.13- 7.33	0.02384
3	8.126	8.03- 8.23	0.00879
4	8.882	8.78- 8.98	0.00867

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	7.231	7.13- 7.33	0.01959
2	8.115	8.01- 8.21	0.02060
3	8.881	8.78- 8.98	0.03988
4	9.893	9.79- 9.99	0.01511

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.113	8.01- 8.21	0.03134
2	8.881	8.78- 8.98	0.06382
3	9.895	9.80-10.00	0.02497
4	10.451	10.35-10.55	0.02147

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.429	9.33- 9.53	0.03035
2	9.885	9.78- 9.98	0.03464
3	10.362	10.26-10.46	0.03936
4	10.807	10.71-10.91	0.04384

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.521	10.42-10.62	0.03574
2	10.694	10.59-10.79	0.04663
3	11.387	11.29-11.49	0.07887
4	12.175	12.08-12.28	0.04808
5	12.401	12.30-12.50	0.05782

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	11.849	11.75-11.95	0.08042
2	12.492	12.39-12.59	0.11178
3	12.944	12.84-13.04	0.11132
4	13.200	13.10-13.30	0.19606
5	13.669	13.57-13.77	0.09494

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.668	13.57-13.77	0.21707
2	13.726	13.63-13.83	0.22359
3	14.051	13.95-14.15	0.14753
4	14.662	14.56-14.76	0.37544

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.73	7.63	7.83	258.4	250.0	3.4
Aroclor-1016-2	8.25	8.15	8.35	264.8	250.0	5.9
Aroclor-1016-3	8.44	8.33	8.53	260.8	250.0	4.3
Aroclor-1016-4	9.20	9.10	9.30	256.3	250.0	2.5

AVERAGE %D = 4.0

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.78	11.67	11.87	298.8	250.0	19.5
Aroclor-1260-2	12.32	12.21	12.41	230.8	250.0	-7.7
Aroclor-1260-3	12.68	12.58	12.78	234.1	250.0	-6.3
Aroclor-1260-4	13.07	12.97	13.17	250.0	250.0	0.0
Aroclor-1260-5	13.25	13.15	13.35	213.0	250.0	-14.8

AVERAGE %D = 9.7

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.01	8.21	244.9	250.0	-2.0
Aroclor-1016-2	8.88	8.77	8.97	253.9	250.0	1.6
Aroclor-1016-3	9.32	9.22	9.42	252.4	250.0	1.0
Aroclor-1016-4	9.89	9.79	9.99	237.0	250.0	-5.2

AVERAGE %D = 2.5

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	212.6	250.0	-15.0
Aroclor-1260-2	12.95	12.84	13.04	230.5	250.0	-7.8
Aroclor-1260-3	13.20	13.10	13.30	227.1	250.0	-9.2
Aroclor-1260-4	13.72	13.62	13.82	230.4	250.0	-7.8

AVERAGE %D = 9.9

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/09/10

Lab Standard ID: AR1248 Time Analyzed :1809

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	8.85	8.75	8.95	229.8	250.0	-8.1
Aroclor-1248-2	9.39	9.29	9.49	232.6	250.0	-7.0
Aroclor-1248-3	9.86	9.76	9.96	229.4	250.0	-8.2
Aroclor-1248-4	10.11	10.01	10.21	241.8	250.0	-3.3

AVERAGE %D = 6.6

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/09/10

Lab Standard ID: AR1248 Time Analyzed :1809

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.43	9.33	9.53	252.4	250.0	1.0
Aroclor-1248-2	9.88	9.78	9.98	243.2	250.0	-2.7
Aroclor-1248-3	10.36	10.26	10.46	251.5	250.0	0.6
Aroclor-1248-4	10.81	10.71	10.91	247.0	250.0	-1.2

AVERAGE %D = 1.4

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/09/10

Lab Standard ID: AR1660 Time Analyzed :1832

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.73	7.63	7.83	245.7	250.0	-1.7
Aroclor-1016-2	8.25	8.15	8.35	250.4	250.0	0.2
Aroclor-1016-3	8.43	8.33	8.53	245.5	250.0	-1.8
Aroclor-1016-4	9.20	9.10	9.30	243.0	250.0	-2.8

AVERAGE %D = 1.6

Date Analyzed :07/09/10

Lab Standard ID: AR1660 Time Analyzed :1832

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.77	11.67	11.87	255.9	250.0	2.4
Aroclor-1260-2	12.31	12.21	12.41	258.4	250.0	3.4
Aroclor-1260-3	12.68	12.58	12.78	268.8	250.0	7.5
Aroclor-1260-4	13.07	12.97	13.17	268.3	250.0	7.3
Aroclor-1260-5	13.25	13.15	13.35	263.2	250.0	5.3

AVERAGE %D = 5.2

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/09/10

Lab Standard ID: AR1660 Time Analyzed :1832

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.01	8.21	253.1	250.0	1.2
Aroclor-1016-2	8.87	8.77	8.97	260.1	250.0	4.0
Aroclor-1016-3	9.32	9.22	9.42	262.6	250.0	5.0
Aroclor-1016-4	9.89	9.79	9.99	249.0	250.0	-0.4

AVERAGE %D = 2.6

Date Analyzed :07/09/10

Lab Standard ID: AR1660 Time Analyzed :1832

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	243.9	250.0	-2.4
Aroclor-1260-2	12.94	12.84	13.04	239.9	250.0	-4.0
Aroclor-1260-3	13.20	13.10	13.30	232.1	250.0	-7.2
Aroclor-1260-4	13.72	13.62	13.82	235.6	250.0	-5.7

AVERAGE %D = 4.8

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/09/10

Lab Standard ID: AR1254 Time Analyzed :2252

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	9.87	9.77	9.97	228.4	250.0	-8.6
Aroclor-1254-2	10.20	10.11	10.31	222.1	250.0	-11.2
Aroclor-1254-3	10.73	10.63	10.83	232.2	250.0	-7.1
Aroclor-1254-4	11.09	10.99	11.19	230.1	250.0	-7.9
Aroclor-1254-5	11.77	11.68	11.88	229.1	250.0	-8.4

AVERAGE %D = 8.6

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/09/10

Lab Standard ID: AR1254 Time Analyzed :2252

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.52	10.42	10.62	222.8	250.0	-10.9
Aroclor-1254-2	10.69	10.59	10.79	238.6	250.0	-4.6
Aroclor-1254-3	11.39	11.29	11.49	239.0	250.0	-4.4
Aroclor-1254-4	12.17	12.08	12.28	239.8	250.0	-4.1
Aroclor-1254-5	12.40	12.30	12.50	239.1	250.0	-4.4

AVERAGE %D = 5.7

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/09/10

Lab Standard ID: AR1660 Time Analyzed :2316

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.74	7.63	7.83	245.1	250.0	-2.0
Aroclor-1016-2	8.25	8.15	8.35	250.1	250.0	0.0
Aroclor-1016-3	8.44	8.33	8.53	245.3	250.0	-1.9
Aroclor-1016-4	9.20	9.10	9.30	243.1	250.0	-2.8

AVERAGE %D = 1.7

Date Analyzed :07/09/10

Lab Standard ID: AR1660 Time Analyzed :2316

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.77	11.67	11.87	256.2	250.0	2.5
Aroclor-1260-2	12.32	12.21	12.41	258.5	250.0	3.4
Aroclor-1260-3	12.68	12.58	12.78	268.7	250.0	7.5
Aroclor-1260-4	13.07	12.97	13.17	268.5	250.0	7.4
Aroclor-1260-5	13.25	13.15	13.35	263.3	250.0	5.3

AVERAGE %D = 5.2

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/09/10

Lab Standard ID: AR1660 Time Analyzed :2316

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.01	8.21	249.9	250.0	-0.0
Aroclor-1016-2	8.88	8.77	8.97	256.3	250.0	2.5
Aroclor-1016-3	9.32	9.22	9.42	257.8	250.0	3.1
Aroclor-1016-4	9.89	9.79	9.99	243.8	250.0	-2.5

AVERAGE %D = 2.0

Date Analyzed :07/09/10

Lab Standard ID: AR1660 Time Analyzed :2316

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	240.8	250.0	-3.7
Aroclor-1260-2	12.94	12.84	13.04	237.1	250.0	-5.1
Aroclor-1260-3	13.20	13.10	13.30	232.0	250.0	-7.2
Aroclor-1260-4	13.72	13.62	13.82	234.6	250.0	-6.2

AVERAGE %D = 5.5

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 04/30/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	4017288	2.850	2579684	14.785
	UPPER LIMIT	8034576	2.950	5159368	14.885
	LOWER LIMIT	2008644	2.750	1289842	14.685

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	04/30/10	1439	3936344	2.829	2621288	14.785
02	ZZZZZ	ZZZZZ	04/30/10	1503	3932884	2.845	2579995	14.784
03		IB	04/30/10	1526	3901041	2.850	2468003	14.785
04		1660 250	04/30/10	1550	4017288	2.850	2579684	14.785
05		1660 20	04/30/10	1614	3796676	2.851	2472142	14.785
06		1660 50	04/30/10	1637	3918988	2.852	2558363	14.785
07		1660 100	04/30/10	1701	4036526	2.853	2602578	14.784
08		1660 500	04/30/10	1725	3966083	2.850	2565050	14.784
09		1660 1000	04/30/10	1748	3979361	2.850	2581379	14.785
10		AR1660 ICV	04/30/10	1812	3621340	2.851	2336823	14.785
11		AR1242	04/30/10	1836	3723895	2.850	2481457	14.784
12		AR1248	04/30/10	1900	3748224	2.849	2457976	14.785
13		AR1254	04/30/10	1923	3822366	2.851	2498970	14.785
14		AR2162	04/30/10	1947	3616224	2.849	2343683	14.785
15		AR3268	04/30/10	2011	3676337	2.849	2417548	14.785
16	ZZZZZ	ZZZZZ	05/01/10	1116	3788482	2.829	2368120	14.785
17	ZZZZZ	ZZZZZ	05/01/10	1139	3838395	2.848	2321489	14.784
18	ZZZZZ	ZZZZZ	05/01/10	1203	3782952	2.848	2331509	14.784
19	ZZZZZ	ZZZZZ	05/01/10	1226	3742775	2.849	2308898	14.784
20	ZZZZZ	ZZZZZ	05/01/10	1250	3771751	2.849	2310840	14.784
21		AR1248	07/09/10	1809	5985204	2.834	4024248	14.784
22		AR1660	07/09/10	1832	5671751	2.848	3603941	14.783
23	RC46MBW1	RC46MBW1	07/09/10	2007	4502157	2.854	3016121	14.784
24	RC46LCSW1	RC46LCSW1	07/09/10	2030	4394355	2.853	3126401	14.783
25	RC46LCSDW1	RC46LCSDW1	07/09/10	2054	4519981	2.852	3233961	14.783
26	NBF-LS431-06	RC46A	07/09/10	2118	4372836	2.853	3072901	14.782
27		AR1254	07/09/10	2252	6141961	2.853	4095771	14.784
28		AR1660	07/09/10	2316	5880290	2.852	3712590	14.783

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC46 Project: NBF STORMWATER

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 04/30/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	7106566	3.752	4223420	15.543
	UPPER LIMIT	14213132	3.852	8446840	15.643
	LOWER LIMIT	3553283	3.652	2111710	15.444

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	04/30/10	1439	6780747	3.725	4060444	15.542
02	ZZZZZ	ZZZZZ	04/30/10	1503	6826681	3.747	4190544	15.542
03		IB	04/30/10	1526	6790071	3.753	4120013	15.543
04		1660 250	04/30/10	1550	7106566	3.752	4223420	15.543
05		1660 20	04/30/10	1614	6696634	3.754	4059565	15.543
06		1660 50	04/30/10	1637	6947371	3.756	4222049	15.544
07		1660 100	04/30/10	1701	7077248	3.756	4259621	15.543
08		1660 500	04/30/10	1725	7052171	3.754	4275348	15.543
09		1660 1000	04/30/10	1748	6967024	3.753	4236712	15.543
10		AR1660 ICV	04/30/10	1812	6401671	3.755	3848836	15.543
11		AR1242	04/30/10	1836	6685900	3.753	4097795	15.543
12		AR1248	04/30/10	1900	6647032	3.752	4152665	15.543
13		AR1254	04/30/10	1923	6762350	3.755	4228711	15.543
14		AR2162	04/30/10	1947	6398967	3.754	3980592	15.543
15		AR3268	04/30/10	2011	6442531	3.753	4068504	15.543
16	ZZZZZ	ZZZZZ	05/01/10	1116	6304260	3.725	3741245	15.540
17	ZZZZZ	ZZZZZ	05/01/10	1139	6522450	3.749	3696451	15.541
18	ZZZZZ	ZZZZZ	05/01/10	1203	6378503	3.749	3740309	15.541
19	ZZZZZ	ZZZZZ	05/01/10	1226	6348333	3.752	3732842	15.541
20	ZZZZZ	ZZZZZ	05/01/10	1250	6422920	3.752	3725419	15.542
21		AR1248	07/09/10	1809	9137187	3.729	6298758	15.542
22		AR1660	07/09/10	1832	8760390	3.746	5721871	15.542
23	RC46MBW1	RC46MBW1	07/09/10	2007	7280364	3.756	4827601	15.544
24	RC46LCSW1	RC46LCSW1	07/09/10	2030	7379015	3.754	4967692	15.543
25	RC46LCSDW1	RC46LCSDW1	07/09/10	2054	7593064	3.753	5149134	15.543
26	NBF-LS431-06	RC46A	07/09/10	2118	7490633	3.755	4895171	15.542
27		AR1254	07/09/10	2252	9834672	3.754	6413658	15.543
28		AR1660	07/09/10	2316	9202940	3.752	5922527	15.543

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-MH108A-063010-S
SAMPLE

Lab Sample ID: RC75A
LIMS ID: 10-15809
Matrix: Filter Bag
Data Release Authorized: VR
Reported: 07/15/10

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Date Extracted: 07/09/10
Date Analyzed: 07/13/10 21:35
Instrument/Analyst: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 500
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	50	< 50 U
53469-21-9	**Aroclor 1242**	**50**	**420**
12672-29-6	Aroclor 1248	50	< 50 U
11097-69-1	**Aroclor 1254**	**50**	**200**
11096-82-5	Aroclor 1260	50	< 50 U
11104-28-2	Aroclor 1221	50	< 50 U
11141-16-5	Aroclor 1232	50	< 50 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-CB173A-063010-S
SAMPLE

Lab Sample ID: RC75D
LIMS ID: 10-15812
Matrix: Filter Bag
Data Release Authorized: VB
Reported: 07/15/10

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Date Extracted: 07/09/10
Date Analyzed: 07/13/10 21:58
Instrument/Analyst: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 500
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	50	< 50 U
53469-21-9	**Aroclor 1242**	**50**	**760**
12672-29-6	Aroclor 1248	50	< 50 U
11097-69-1	**Aroclor 1254**	**50**	**740**
11096-82-5	Aroclor 1260	50	< 50 U
11104-28-2	Aroclor 1221	50	< 50 U
11141-16-5	Aroclor 1232	50	< 50 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-LS431A-063010-S
SAMPLE

Lab Sample ID: RC75G
LIMS ID: 10-15815
Matrix: Filter Bag
Data Release Authorized: VJS
Reported: 07/15/10

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Date Extracted: 07/09/10
Date Analyzed: 07/13/10 22:22
Instrument/Analyst: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 10.0
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	**Aroclor 1242**	**1.0**	**7.4**
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	**Aroclor 1254**	**1.0**	**5.9**
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	78.0%
Tetrachlorometaxylene	76.5%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SURROGATE RECOVERY SUMMARY

Matrix: Filter Bag

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Client ID	DCBP	TCMX	TOT OUT
MB-070910	72.0%	65.0%	0
LCS-070910	74.8%	65.0%	0
LCSD-070910	73.2%	65.2%	0
NBF-MH108A-063010-S	D	D	0
NBF-CB173A-063010-S	D	D	0
NBF-LS431A-063010-S	78.0%	76.5%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(30-160)	(30-160)
(TCMX) = Tetrachlorometaxylene	(30-160)	(30-160)

Prep Method: SW3550B
Log Number Range: 10-15809 to 10-15815

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-070910
LCS/LCSD

Lab Sample ID: LCS-070910
LIMS ID: 10-15809
Matrix: Filter Bag
Data Release Authorized: VTS
Reported: 07/15/10

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Date Extracted LCS/LCSD: 07/09/10

Date Analyzed LCS: 07/13/10 20:48
LCSD: 07/13/10 21:11
Instrument/Analyst LCS: ECD7/AAR
LCSD: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 1.00 Filter Bag
LCSD: 1.00 Filter Bag
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	1.8	2.5	72.0%	1.8	2.5	72.0%	0.0%
Aroclor 1260	1.7	2.5	68.0%	1.7	2.5	68.0%	0.0%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	74.8%	73.2%
Tetrachlorometaxylene	65.0%	65.2%

Reported in Total µg
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

RC75MB1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: RC75
Project: NBF-STORMWATER

Lab Sample ID: RC75MB1
Lab File ID: 0713A031

Date Extracted: 07/09/10
Matrix: SOLID

Date Analyzed: 07/13/10
Instrument ID: ECD7

Time Analyzed: 2024
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
09	RC75LCS1	RC75LCS1	07/13/10
10	RC75LCSD1	RC75LCSD1	07/13/10
11	NBF-MH108A-063010-S	RC75A	07/13/10
12	NBF-CB173A-063010-S	RC75D	07/13/10
13	NBF-LS431A-063010-S	RC75G	07/13/10

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-070910
METHOD BLANK

Lab Sample ID: MB-070910
LIMS ID: 10-15809
Matrix: Filter Bag
Data Release Authorized: VT
Reported: 07/15/10

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

Date Extracted: 07/09/10
Date Analyzed: 07/13/10 20:24
Instrument/Analyst: ECD7/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 1.00 Filter Bag
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.5	< 0.5 U
53469-21-9	Aroclor 1242	0.5	< 0.5 U
12672-29-6	Aroclor 1248	0.5	< 0.5 U
11097-69-1	Aroclor 1254	0.5	< 0.5 U
11096-82-5	Aroclor 1260	0.5	< 0.5 U
11104-28-2	Aroclor 1221	0.5	< 0.5 U
11141-16-5	Aroclor 1232	0.5	< 0.5 U

Reported in Total µg

PCB Surrogate Recovery

Decachlorobiphenyl	72.0%
Tetrachlorometaxylene	65.0%

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 04/30/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	5.64- 5.84	1.0769	1.0343	0.9948	0.9860	1.0177	0.9892	1.0165	3.4
DCB	14.43-14.63	1.3736	1.2655	1.1781	1.1031	1.0997	1.0468	1.1778	10.4

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	7.63- 7.83	0.0299	0.0273	0.0249	0.0233	0.0227	0.0213	0.0249	12.8
2	8.15- 8.35	0.0924	0.0860	0.0795	0.0761	0.0755	0.0720	0.0802	9.5
3	8.33- 8.53	0.0380	0.0349	0.0321	0.0301	0.0294	0.0278	0.0320	11.8
4	9.10- 9.30	0.0292	0.0266	0.0240	0.0223	0.0218	0.0204	0.0240	13.8

AROCLOR AVERAGE %RSD = 12.0

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	11.67-11.87	0.1244	0.1150	0.1081	0.1038	0.1029	0.0978	0.1087	8.9
2	12.21-12.41	0.0799	0.0743	0.0695	0.0663	0.0655	0.0623	0.0696	9.3
3	12.58-12.78	0.1805	0.1689	0.1603	0.1552	0.1545	0.1469	0.1611	7.4
4	12.97-13.17	0.0912	0.0826	0.0778	0.0750	0.0754	0.0727	0.0791	8.6
5	13.15-13.35	0.0489	0.0442	0.0410	0.0387	0.0383	0.0367	0.0413	11.0

AROCLOR AVERAGE %RSD = 9.0

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 04/30/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	5.86- 6.06	1.2148	1.1143	1.0477	0.9997	0.9896	0.9608	1.0545	9.0
DCB	14.85-15.05	1.6722	1.4487	1.2882	1.1612	1.1335	1.0907	1.2991	17.3

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.01- 8.21	0.0550	0.0481	0.0439	0.0387	0.0362	0.0332	0.0425	19.1
2	8.77- 8.97	0.1122	0.0966	0.0879	0.0800	0.0757	0.0710	0.0872	17.5
3	9.22- 9.42	0.0265	0.0251	0.0238	0.0212	0.0200	0.0186	0.0225	13.7
4	9.79- 9.99	0.0413	0.0364	0.0321	0.0286	0.0270	0.0251	0.0317	19.4

AROCLOR AVERAGE %RSD = 17.4

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	12.39-12.59	0.0974	0.0926	0.0836	0.0740	0.0689	0.0641	0.0801	16.6
2	12.84-13.04	0.1223	0.1044	0.0938	0.0839	0.0788	0.0738	0.0928	19.5
3	13.10-13.30	0.2254	0.1959	0.1869	0.1707	0.1636	0.1511	0.1823	14.6
4	13.62-13.82	0.1566	0.1381	0.1229	0.1104	0.1053	0.0980	0.1219	18.2

AROCLOR AVERAGE %RSD = 17.2

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	6.192	6.09- 6.29	0.01082
2	6.402	6.30- 6.50	0.00825
3	6.522	6.42- 6.62	0.02708

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	8.252	8.15- 8.35	0.03675
2	8.438	8.34- 8.54	0.01479
3	9.398	9.30- 9.50	0.01265
4	10.115	10.02-10.22	0.01124

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.251	8.15- 8.35	0.06053
2	8.438	8.34- 8.54	0.02411
3	9.399	9.30- 9.50	0.02297
4	10.117	10.02-10.22	0.02026

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	8.855	8.75- 8.95	0.02521
2	9.393	9.29- 9.49	0.03364
3	9.860	9.76- 9.96	0.04309
4	10.111	10.01-10.21	0.03282

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	9.874	9.77- 9.97	0.03999
2	10.206	10.11-10.31	0.05737
3	10.732	10.63-10.83	0.06765
4	11.088	10.99-11.19	0.07083
5	11.776	11.68-11.88	0.06746

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.003	11.90-12.10	0.10625
2	12.680	12.58-12.78	0.18564
3	13.073	12.97-13.17	0.06061
4	13.183	13.08-13.28	0.08269
5	13.251	13.15-13.35	0.08022

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.182	13.08-13.28	0.21641
2	13.248	13.15-13.35	0.21149
3	13.592	13.49-13.69	0.14482
4	14.225	14.12-14.32	0.36411

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	7.093	6.99- 7.19	0.00803
2	7.230	7.13- 7.33	0.02384
3	8.126	8.03- 8.23	0.00879
4	8.882	8.78- 8.98	0.00867

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	7.231	7.13- 7.33	0.01959
2	8.115	8.01- 8.21	0.02060
3	8.881	8.78- 8.98	0.03988
4	9.893	9.79- 9.99	0.01511

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.113	8.01- 8.21	0.03134
2	8.881	8.78- 8.98	0.06382
3	9.895	9.80-10.00	0.02497
4	10.451	10.35-10.55	0.02147

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.429	9.33- 9.53	0.03035
2	9.885	9.78- 9.98	0.03464
3	10.362	10.26-10.46	0.03936
4	10.807	10.71-10.91	0.04384

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 05/17/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.521	10.42-10.62	0.03574
2	10.694	10.59-10.79	0.04663
3	11.387	11.29-11.49	0.07887
4	12.175	12.08-12.28	0.04808
5	12.401	12.30-12.50	0.05782

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	11.849	11.75-11.95	0.08042
2	12.492	12.39-12.59	0.11178
3	12.944	12.84-13.04	0.11132
4	13.200	13.10-13.30	0.19606
5	13.669	13.57-13.77	0.09494

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.668	13.57-13.77	0.21707
2	13.726	13.63-13.83	0.22359
3	14.051	13.95-14.15	0.14753
4	14.662	14.56-14.76	0.37544

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.73	7.63	7.83	258.4	250.0	3.4
Aroclor-1016-2	8.25	8.15	8.35	264.8	250.0	5.9
Aroclor-1016-3	8.44	8.33	8.53	260.8	250.0	4.3
Aroclor-1016-4	9.20	9.10	9.30	256.3	250.0	2.5

AVERAGE %D = 4.0

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.78	11.67	11.87	298.8	250.0	19.5
Aroclor-1260-2	12.32	12.21	12.41	230.8	250.0	-7.7
Aroclor-1260-3	12.68	12.58	12.78	234.1	250.0	-6.3
Aroclor-1260-4	13.07	12.97	13.17	250.0	250.0	0.0
Aroclor-1260-5	13.25	13.15	13.35	213.0	250.0	-14.8

AVERAGE %D = 9.7

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.01	8.21	244.9	250.0	-2.0
Aroclor-1016-2	8.88	8.77	8.97	253.9	250.0	1.6
Aroclor-1016-3	9.32	9.22	9.42	252.4	250.0	1.0
Aroclor-1016-4	9.89	9.79	9.99	237.0	250.0	-5.2

AVERAGE %D = 2.5

Date Analyzed :04/30/10

Lab Standard ID: AR1660 ICV Time Analyzed :1812

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	212.6	250.0	-15.0
Aroclor-1260-2	12.95	12.84	13.04	230.5	250.0	-7.8
Aroclor-1260-3	13.20	13.10	13.30	227.1	250.0	-9.2
Aroclor-1260-4	13.72	13.62	13.82	230.4	250.0	-7.8

AVERAGE %D = 9.9

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1254 Time Analyzed :1518

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	9.88	9.77	9.97	239.3	250.0	-4.3
Aroclor-1254-2	10.21	10.11	10.31	233.3	250.0	-6.7
Aroclor-1254-3	10.73	10.63	10.83	243.6	250.0	-2.6
Aroclor-1254-4	11.09	10.99	11.19	245.2	250.0	-1.9
Aroclor-1254-5	11.78	11.68	11.88	248.3	250.0	-0.7

AVERAGE %D = 3.2

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1254 Time Analyzed :1518

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.52	10.42	10.62	245.4	250.0	-1.8
Aroclor-1254-2	10.69	10.59	10.79	256.8	250.0	2.7
Aroclor-1254-3	11.39	11.29	11.49	259.6	250.0	3.8
Aroclor-1254-4	12.18	12.08	12.28	264.7	250.0	5.9
Aroclor-1254-5	12.40	12.30	12.50	266.8	250.0	6.7

AVERAGE %D = 4.2

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :1541

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.74	7.63	7.83	234.4	250.0	-6.2
Aroclor-1016-2	8.25	8.15	8.35	240.0	250.0	-4.0
Aroclor-1016-3	8.44	8.33	8.53	237.3	250.0	-5.1
Aroclor-1016-4	9.21	9.10	9.30	236.6	250.0	-5.4

AVERAGE %D = 5.2

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :1541

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.78	11.67	11.87	267.7	250.0	7.1
Aroclor-1260-2	12.32	12.21	12.41	242.2	250.0	-3.1
Aroclor-1260-3	12.68	12.58	12.78	250.4	250.0	0.2
Aroclor-1260-4	13.07	12.97	13.17	251.5	250.0	0.6
Aroclor-1260-5	13.25	13.15	13.35	244.8	250.0	-2.1

AVERAGE %D = 2.6

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :1541

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.12	8.01	8.21	238.4	250.0	-4.6
Aroclor-1016-2	8.88	8.77	8.97	242.2	250.0	-3.1
Aroclor-1016-3	9.33	9.22	9.42	247.1	250.0	-1.2
Aroclor-1016-4	9.90	9.79	9.99	236.3	250.0	-5.5

AVERAGE %D = 3.6

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :1541

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	232.1	250.0	-7.2
Aroclor-1260-2	12.95	12.84	13.04	236.8	250.0	-5.3
Aroclor-1260-3	13.20	13.10	13.30	223.6	250.0	-10.6
Aroclor-1260-4	13.73	13.62	13.82	230.3	250.0	-7.9

AVERAGE %D = 7.8

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1242 Time Analyzed :1937

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.25	8.15	8.35	235.0	250.0	-6.0
Aroclor-1242-2	8.44	8.34	8.54	233.1	250.0	-6.7
Aroclor-1242-3	9.40	9.30	9.50	232.0	250.0	-7.2
Aroclor-1242-4	10.12	10.02	10.22	238.4	250.0	-4.6

AVERAGE %D = 6.1

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1242 Time Analyzed :1937

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.11	8.01	8.21	244.0	250.0	-2.4
Aroclor-1242-2	8.88	8.78	8.98	248.4	250.0	-0.6
Aroclor-1242-3	9.90	9.80	10.00	244.3	250.0	-2.3
Aroclor-1242-4	10.45	10.35	10.55	244.2	250.0	-2.3

AVERAGE %D = 1.9

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :2000

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.74	7.63	7.83	234.3	250.0	-6.3
Aroclor-1016-2	8.25	8.15	8.35	240.4	250.0	-3.8
Aroclor-1016-3	8.44	8.33	8.53	237.3	250.0	-5.1
Aroclor-1016-4	9.20	9.10	9.30	237.1	250.0	-5.1

AVERAGE %D = 5.1

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :2000

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.77	11.67	11.87	247.1	250.0	-1.2
Aroclor-1260-2	12.32	12.21	12.41	223.1	250.0	-10.7
Aroclor-1260-3	12.68	12.58	12.78	231.6	250.0	-7.4
Aroclor-1260-4	13.07	12.97	13.17	232.9	250.0	-6.8
Aroclor-1260-5	13.25	13.15	13.35	226.0	250.0	-9.6

AVERAGE %D = 7.1

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :2000

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.01	8.21	237.2	250.0	-5.1
Aroclor-1016-2	8.88	8.77	8.97	241.4	250.0	-3.4
Aroclor-1016-3	9.32	9.22	9.42	246.5	250.0	-1.4
Aroclor-1016-4	9.89	9.79	9.99	236.0	250.0	-5.6

AVERAGE %D = 3.9

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :2000

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	213.9	250.0	-14.4
Aroclor-1260-2	12.95	12.84	13.04	218.6	250.0	-12.5
Aroclor-1260-3	13.20	13.10	13.30	206.9	250.0	-17.2
Aroclor-1260-4	13.72	13.62	13.82	212.3	250.0	-15.1

AVERAGE %D = 14.8

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1248 Time Analyzed :2246

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	8.86	8.75	8.95	238.6	250.0	-4.6
Aroclor-1248-2	9.40	9.29	9.49	237.5	250.0	-5.0
Aroclor-1248-3	9.87	9.76	9.96	242.5	250.0	-3.0
Aroclor-1248-4	10.12	10.01	10.21	246.5	250.0	-1.4

AVERAGE %D = 3.5

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1248 Time Analyzed :2246

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.44	9.33	9.53	252.1	250.0	0.8
Aroclor-1248-2	9.90	9.78	9.98	246.7	250.0	-1.3
Aroclor-1248-3	10.37	10.26	10.46	247.9	250.0	-0.8
Aroclor-1248-4	10.82	10.71	10.91	250.0	250.0	0.0

AVERAGE %D = 0.7

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :2309

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.74	7.63	7.83	236.0	250.0	-5.6
Aroclor-1016-2	8.25	8.15	8.35	245.7	250.0	-1.7
Aroclor-1016-3	8.44	8.33	8.53	241.4	250.0	-3.4
Aroclor-1016-4	9.20	9.10	9.30	239.5	250.0	-4.2

AVERAGE %D = 3.7

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :2309

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.77	11.67	11.87	262.0	250.0	4.8
Aroclor-1260-2	12.32	12.21	12.41	235.9	250.0	-5.6
Aroclor-1260-3	12.68	12.58	12.78	244.5	250.0	-2.2
Aroclor-1260-4	13.07	12.97	13.17	243.4	250.0	-2.6
Aroclor-1260-5	13.25	13.15	13.35	234.3	250.0	-6.3

AVERAGE %D = 4.3

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 04/30/10

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :2309

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.01	8.21	236.4	250.0	-5.4
Aroclor-1016-2	8.88	8.77	8.97	240.6	250.0	-3.7
Aroclor-1016-3	9.32	9.22	9.42	245.6	250.0	-1.8
Aroclor-1016-4	9.89	9.79	9.99	235.1	250.0	-6.0

AVERAGE %D = 4.2

Date Analyzed :07/13/10

Lab Standard ID: AR1660 Time Analyzed :2309

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	221.3	250.0	-11.5
Aroclor-1260-2	12.94	12.84	13.04	226.1	250.0	-9.6
Aroclor-1260-3	13.20	13.10	13.30	213.4	250.0	-14.6
Aroclor-1260-4	13.72	13.62	13.82	217.6	250.0	-13.0

AVERAGE %D = 12.2

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 04/30/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

			IS1 AREA	RT	IS2 AREA	RT
		ICAL MIDPT	4017288	2.850	2579684	14.785
		UPPER LIMIT	8034576	2.950	5159368	14.885
		LOWER LIMIT	2008644	2.750	1289842	14.685

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	04/30/10	1439	3936344	2.829	2621288	14.785
02	ZZZZZ	ZZZZZ	04/30/10	1503	3932884	2.845	2579995	14.784
03		IB	04/30/10	1526	3901041	2.850	2468003	14.785
04		1660 250	04/30/10	1550	4017288	2.850	2579684	14.785
05		1660 20	04/30/10	1614	3796676	2.851	2472142	14.785
06		1660 50	04/30/10	1637	3918988	2.852	2558363	14.785
07		1660 100	04/30/10	1701	4036526	2.853	2602578	14.784
08		1660 500	04/30/10	1725	3966083	2.850	2565050	14.784
09		1660 1000	04/30/10	1748	3979361	2.850	2581379	14.785
10		AR1660 ICV	04/30/10	1812	3621340	2.851	2336823	14.785
11		AR1242	04/30/10	1836	3723895	2.850	2481457	14.784
12		AR1248	04/30/10	1900	3748224	2.849	2457976	14.785
13		AR1254	04/30/10	1923	3822366	2.851	2498970	14.785
14		AR2162	04/30/10	1947	3616224	2.849	2343683	14.785
15		AR3268	04/30/10	2011	3676337	2.849	2417548	14.785
16	ZZZZZ	ZZZZZ	05/01/10	1116	3788482	2.829	2368120	14.785
17	ZZZZZ	ZZZZZ	05/01/10	1139	3838395	2.848	2321489	14.784
18	ZZZZZ	ZZZZZ	05/01/10	1203	3782952	2.848	2331509	14.784
19	ZZZZZ	ZZZZZ	05/01/10	1226	3742775	2.849	2308898	14.784
20	ZZZZZ	ZZZZZ	05/01/10	1250	3771751	2.849	2310840	14.784
21		AR1254	07/13/10	1518	4391862	2.852	2834154	14.785
22		AR1660	07/13/10	1541	4378454	2.853	2835039	14.785
23	ZZZZZ	ZZZZZ	07/13/10	1605	4597626	2.854	3349412	14.784
24	ZZZZZ	ZZZZZ	07/13/10	1628	4554571	2.853	3412068	14.783
25	ZZZZZ	ZZZZZ	07/13/10	1652	4520856	2.855	2752230	14.783
26	ZZZZZ	ZZZZZ	07/13/10	1715	4523296	2.852	3093713	14.783
27	ZZZZZ	ZZZZZ	07/13/10	1739	4550696	2.853	3212964	14.783
28	ZZZZZ	ZZZZZ	07/13/10	1803	4581866	2.853	3233092	14.784
29	ZZZZZ	ZZZZZ	07/13/10	1826	4579782	2.853	3168635	14.784
30	ZZZZZ	ZZZZZ	07/13/10	1850	4526355	2.854	3229537	14.784
31	ZZZZZ	ZZZZZ	07/13/10	1913	4553839	2.852	3154289	14.784
32		AR1242	07/13/10	1937	5826362	2.853	3961319	14.785

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 04/30/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	4017288	2.850	2579684	14.785
	UPPER LIMIT	8034576	2.950	5159368	14.885
	LOWER LIMIT	2008644	2.750	1289842	14.685

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
33		AR1660	07/13/10	2000	4611568	2.855	3246524	14.784
34	RC75MB1	RC75MB1	07/13/10	2024	4733934	2.851	3416122	14.784
35	RC75LCS1	RC75LCS1	07/13/10	2048	4746864	2.852	3299863	14.785
36	RC75LCSD1	RC75LCSD1	07/13/10	2111	4835954	2.851	3388973	14.785
37	NBF-MH108A-0	RC75A	07/13/10	2135	4339674	2.855	3088621	14.783
38	NBF-CB173A-0	RC75D	07/13/10	2158	4362441	2.854	2953131	14.783
39	NBF-LS431A-0	RC75G	07/13/10	2222	4438604	2.850	2786735	14.784
40		AR1248	07/13/10	2246	4530294	2.852	2991583	14.784
41		AR1660	07/13/10	2309	4857997	2.852	3275518	14.784

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 04/30/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	7106566	3.752	4223420	15.543
	UPPER LIMIT	14213132	3.852	8446840	15.643
	LOWER LIMIT	3553283	3.652	2111710	15.444

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	04/30/10	1439	6780747	3.725	4060444	15.542
02	ZZZZZ	ZZZZZ	04/30/10	1503	6826681	3.747	4190544	15.542
03		IB	04/30/10	1526	6790071	3.753	4120013	15.543
04		1660 250	04/30/10	1550	7106566	3.752	4223420	15.543
05		1660 20	04/30/10	1614	6696634	3.754	4059565	15.543
06		1660 50	04/30/10	1637	6947371	3.756	4222049	15.544
07		1660 100	04/30/10	1701	7077248	3.756	4259621	15.543
08		1660 500	04/30/10	1725	7052171	3.754	4275348	15.543
09		1660 1000	04/30/10	1748	6967024	3.753	4236712	15.543
10		AR1660 ICV	04/30/10	1812	6401671	3.755	3848836	15.543
11		AR1242	04/30/10	1836	6685900	3.753	4097795	15.543
12		AR1248	04/30/10	1900	6647032	3.752	4152665	15.543
13		AR1254	04/30/10	1923	6762350	3.755	4228711	15.543
14		AR2162	04/30/10	1947	6398967	3.754	3980592	15.543
15		AR3268	04/30/10	2011	6442531	3.753	4068504	15.543
16	ZZZZZ	ZZZZZ	05/01/10	1116	6304260	3.725	3741245	15.540
17	ZZZZZ	ZZZZZ	05/01/10	1139	6522450	3.749	3696451	15.541
18	ZZZZZ	ZZZZZ	05/01/10	1203	6378503	3.749	3740309	15.541
19	ZZZZZ	ZZZZZ	05/01/10	1226	6348333	3.752	3732842	15.541
20	ZZZZZ	ZZZZZ	05/01/10	1250	6422920	3.752	3725419	15.542
21		AR1254	07/13/10	1518	6849493	3.753	4476705	15.544
22		AR1660	07/13/10	1541	6901819	3.753	4496164	15.545
23	ZZZZZ	ZZZZZ	07/13/10	1605	7190076	3.754	5256760	15.544
24	ZZZZZ	ZZZZZ	07/13/10	1628	7164844	3.753	5238261	15.544
25	ZZZZZ	ZZZZZ	07/13/10	1652	6857227	3.755	4665106	15.542
26	ZZZZZ	ZZZZZ	07/13/10	1715	6892596	3.753	4872186	15.543
27	ZZZZZ	ZZZZZ	07/13/10	1739	7081938	3.753	4991574	15.543
28	ZZZZZ	ZZZZZ	07/13/10	1803	7119854	3.753	5029859	15.543
29	ZZZZZ	ZZZZZ	07/13/10	1826	7173247	3.753	4951293	15.543
30	ZZZZZ	ZZZZZ	07/13/10	1850	7158741	3.754	5063022	15.543
31	ZZZZZ	ZZZZZ	07/13/10	1913	7020928	3.752	5048427	15.543
32		AR1242	07/13/10	1937	8992824	3.753	6267738	15.544

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RC75 Project: NBF-STORMWATER

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 04/30/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	7106566	3.752	4223420	15.543
	UPPER LIMIT	14213132	3.852	8446840	15.643
	LOWER LIMIT	3553283	3.652	2111710	15.444

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
33		AR1660	07/13/10	2000	7266492	3.755	5099181	15.544
34	RC75MB1	RC75MB1	07/13/10	2024	7351867	3.752	5272531	15.544
35	RC75LCS1	RC75LCS1	07/13/10	2048	7350382	3.752	5111809	15.544
36	RC75LCSD1	RC75LCSD1	07/13/10	2111	7498846	3.753	5263854	15.544
37	NBF-MH108A-0	RC75A	07/13/10	2135	6827324	3.754	4849272	15.543
38	NBF-CB173A-0	RC75D	07/13/10	2158	6831370	3.754	4688293	15.543
39	NBF-LS431A-0	RC75G	07/13/10	2222	6882256	3.751	4557660	15.543
40		AR1248	07/13/10	2246	6995490	3.753	4626494	15.543
41		AR1660	07/13/10	2309	7494743	3.753	5058839	15.543

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

Metals Analysis
Report and Summary QC Forms

ARI Job ID: RC46, RC63, RC75

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC46

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
NBF-LS431-063010-W	RC46A	10-15695	
NBF-LS431-063010-WD	RC46ADUP	10-15695	
NBF-LS431-063010-WS	RC46ASPK	10-15695	
PBW	RC46MB1	10-15695	
LCSW	RC46MB1SPK	10-15695	
NBF-LS431-063010-W	RC46B	10-15696	
NBF-LS431-063010-WD	RC46BDUP	10-15696	
NBF-LS431-063010-WS	RC46BSPK	10-15696	
PBW	RC46MB2	10-15696	
LCSW	RC46MB2SPK	10-15696	

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

Comments: _____

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

Signature: _____ Name: Jay Kuhn

Date: 7/12/10 Title: Inorganic Manager

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-LS431-063010-W
SAMPLE

Lab Sample ID: RC46A
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized:
Reported: 07/12/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/02/10	200.8	07/08/10	**7440-38-2**	**Arsenic**	0.2	**1.4**	
200.8	07/02/10	200.8	07/08/10	7440-43-9	Cadmium	0.2	0.2	U
3010A	07/02/10	6010B	07/07/10	**7440-70-2**	**Calcium**	50	**22,600**	
200.8	07/02/10	200.8	07/08/10	**7440-47-3**	**Chromium**	0.5	**1.1**	
200.8	07/02/10	200.8	07/08/10	**7440-50-8**	**Copper**	0.5	**2.2**	
200.8	07/02/10	200.8	07/08/10	7439-92-1	Lead	1	1	U
3010A	07/02/10	6010B	07/07/10	**7439-95-4**	**Magnesium**	50	**14,200**	
7470A	07/02/10	7470A	07/02/10	7439-97-6	Mercury	0.1	0.1	U
200.8	07/02/10	200.8	07/08/10	**7440-02-0**	**Nickel**	0.5	**1.1**	
200.8	07/02/10	200.8	07/08/10	7782-49-2	Selenium	0.5	0.5	U
200.8	07/02/10	200.8	07/08/10	7440-22-4	Silver	0.2	0.2	U
200.8	07/02/10	200.8	07/08/10	**7440-66-6**	**Zinc**	4	**13**	

Calculated Hardness (mg-CaCO3/L): 110

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-LS431-063010-W
MATRIX SPIKE

Lab Sample ID: RC46A
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized:
Reported: 07/12/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	1.35	26.4	25.0	100%	
Cadmium	200.8	0.200 U	24.7	25.0	98.8%	
Calcium	6010B	22,600	31,400	10,000	88.0%	
Chromium	200.8	1.06	21.0	25.0	79.8%	
Copper	200.8	2.25	26.3	25.0	96.2%	
Lead	200.8	1.00 U	25.6	25.0	102%	
Magnesium	6010B	14,200	23,700	10,000	95.0%	
Mercury	7470A	0.100 U	0.970	1.00	97.0%	
Nickel	200.8	1.07	25.3	25.0	96.9%	
Selenium	200.8	0.500 U	74.6	80.0	93.2%	
Silver	200.8	0.200 U	20.0	25.0	80.0%	
Zinc	200.8	13.3	78.8	80.0	81.9%	

Reported in µg/L

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

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-LS431-063010-W DUPLICATE

Lab Sample ID: RC46A
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized:
Reported: 07/12/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	1.4	1.3	7.4%	+/- 20%	
Cadmium	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Calcium	6010B	22,600	21,900	3.1%	+/- 20%	
Chromium	200.8	1.1	1.2	8.7%	+/- 0.5	L
Copper	200.8	2.2	2.2	0.0%	+/- 0.5	L
Lead	200.8	1 U	1 U	0.0%	+/- 1	L
Magnesium	6010B	14,200	13,900	2.1%	+/- 20%	
Mercury	7470A	0.1 U	0.1 U	0.0%	+/- 0.1	L
Nickel	200.8	1.1	1.0	9.5%	+/- 0.5	L
Selenium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	13	13	0.0%	+/- 4	L

Reported in µg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: LAB CONTROL**

Lab Sample ID: RC46LCS
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized:
Reported: 07/12/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	26.6	25.0	106%	
Cadmium	200.8	26.1	25.0	104%	
Calcium	6010B	9760	10000	97.6%	
Chromium	200.8	24.2	25.0	96.8%	
Copper	200.8	27.0	25.0	108%	
Lead	200.8	27	25	108%	
Magnesium	6010B	9870	10000	98.7%	
Mercury	7470A	2.2	2.0	110%	
Nickel	200.8	26.8	25.0	107%	
Selenium	200.8	79.8	80.0	99.8%	
Silver	200.8	27.0	25.0	108%	
Zinc	200.8	80	80	100%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: RC46MB
LIMS ID: 10-15695
Matrix: Water
Data Release Authorized:
Reported: 07/12/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/02/10	200.8	07/08/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	07/02/10	200.8	07/08/10	7440-43-9	Cadmium	0.2	0.2	U
3010A	07/02/10	6010B	07/07/10	7440-70-2	Calcium	50	50	U
200.8	07/02/10	200.8	07/08/10	7440-47-3	Chromium	0.5	0.5	U
200.8	07/02/10	200.8	07/08/10	7440-50-8	Copper	0.5	0.5	U
200.8	07/02/10	200.8	07/08/10	7439-92-1	Lead	1	1	U
3010A	07/02/10	6010B	07/07/10	7439-95-4	Magnesium	50	50	U
7470A	07/02/10	7470A	07/02/10	7439-97-6	Mercury	0.1	0.1	U
200.8	07/02/10	200.8	07/08/10	7440-02-0	Nickel	0.5	0.5	U
200.8	07/02/10	200.8	07/08/10	7782-49-2	Selenium	0.5	0.5	U
200.8	07/02/10	200.8	07/08/10	7440-22-4	Silver	0.2	0.2	U
200.8	07/02/10	200.8	07/08/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-LS431-063010-W
SAMPLE

Lab Sample ID: RC46B
LIMS ID: 10-15696
Matrix: Water
Data Release Authorized:
Reported: 07/12/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/02/10	200.8	07/09/10	**7440-38-2**	**Arsenic**	0.2	**0.6**	
200.8	07/02/10	200.8	07/09/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	07/02/10	200.8	07/09/10	7440-47-3	Chromium	0.5	0.5	U
200.8	07/02/10	200.8	07/09/10	**7440-50-8**	**Copper**	0.5	**1.2**	
200.8	07/02/10	200.8	07/09/10	7439-92-1	Lead	1	1	U
200.8	07/02/10	200.8	07/09/10	**7440-02-0**	**Nickel**	0.5	**1.0**	
200.8	07/02/10	200.8	07/09/10	7782-49-2	Selenium	0.5	0.5	U
200.8	07/02/10	200.8	07/09/10	7440-22-4	Silver	0.2	0.2	U
200.8	07/02/10	200.8	07/09/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-LS431-063010-W
MATRIX SPIKE

Lab Sample ID: RC46B
LIMS ID: 10-15696
Matrix: Water
Data Release Authorized:
Reported: 07/12/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Arsenic	200.8	0.560	26.2	25.0	103%	
Cadmium	200.8	0.200 U	24.2	25.0	96.8%	
Chromium	200.8	0.500 U	21.1	25.0	84.4%	
Copper	200.8	1.20	26.4	25.0	101%	
Lead	200.8	1.00 U	24.2	25.0	96.8%	
Nickel	200.8	0.980	26.4	25.0	102%	
Selenium	200.8	0.500 U	73.3	80.0	91.6%	
Silver	200.8	0.200 U	17.8	25.0	71.2%	N
Zinc	200.8	4.00 U	68.8	80.0	86.0%	

Reported in µg/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: NBF-LS431-063010-W DUPLICATE

Lab Sample ID: RC46B
LIMS ID: 10-15696
Matrix: Water
Data Release Authorized:
Reported: 07/12/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Arsenic	200.8	0.6	0.6	0.0%	+/- 0.2	L
Cadmium	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Chromium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Copper	200.8	1.2	1.2	0.0%	+/- 0.5	L
Lead	200.8	1 U	1 U	0.0%	+/- 1	L
Nickel	200.8	1.0	1.2	18.2%	+/- 0.5	L
Selenium	200.8	0.5 U	0.5 U	0.0%	+/- 0.5	L
Silver	200.8	0.2 U	0.2 U	0.0%	+/- 0.2	L
Zinc	200.8	4 U	4 U	0.0%	+/- 4	L

Reported in µg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: LAB CONTROL

Lab Sample ID: RC46LCS
LIMS ID: 10-15696
Matrix: Water
Data Release Authorized:
Reported: 07/12/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	25.3	25.0	101%	
Cadmium	200.8	25.4	25.0	102%	
Chromium	200.8	24.2	25.0	96.8%	
Copper	200.8	26.5	25.0	106%	
Lead	200.8	26	25	104%	
Nickel	200.8	26.5	25.0	106%	
Selenium	200.8	74.9	80.0	93.6%	
Silver	200.8	26.7	25.0	107%	
Zinc	200.8	76	80	95.0%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: RC46MB
LIMS ID: 10-15696
Matrix: Water
Data Release Authorized:
Reported: 07/12/10

QC Report No: RC46-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/02/10	200.8	07/08/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	07/02/10	200.8	07/08/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	07/02/10	200.8	07/08/10	7440-47-3	Chromium	0.5	0.5	U
200.8	07/02/10	200.8	07/08/10	7440-50-8	Copper	0.5	0.5	U
200.8	07/02/10	200.8	07/08/10	7439-92-1	Lead	1	1	U
200.8	07/02/10	200.8	07/08/10	7440-02-0	Nickel	0.5	0.5	U
200.8	07/02/10	200.8	07/08/10	7782-49-2	Selenium	0.5	0.5	U
200.8	07/02/10	200.8	07/08/10	7440-22-4	Silver	0.2	0.2	U
200.8	07/02/10	200.8	07/08/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

UNITS: ug/L

SDG: RC46

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	PMS	MS070882	50.0	50.16	100.3	50.0	50.95	101.9	51.08	102.2	50.80	101.6	50.76	101.5	51.07	102.1
Cadmium	CD	PMS	MS070882	50.0	49.94	99.9	50.0	50.73	101.5	52.13	104.3	52.20	104.4	52.10	104.2	51.56	103.1
Calcium	CA	ICP	IP070771	2000.0	2083.73	104.2	2000.0	2135.73	106.8	2098.51	104.9	2115.20	105.8	2091.36	104.6	2076.19	103.8
Chromium	CR	PMS	MS070882	50.0	49.31	98.6	50.0	50.34	100.7	47.87	95.7	47.00	94.0	47.86	95.7	47.58	95.2
Copper	CU	PMS	MS070882	50.0	50.87	101.7	50.0	51.06	102.1	51.04	102.1	50.83	101.7	50.33	100.7	50.27	100.5
Lead	PB	PMS	MS070882	50.0	48.98	98.0	50.0	50.29	100.6	50.16	100.3	50.95	101.9	51.56	103.1	52.01	104.0
Magnesium	MG	ICP	IP070771	2000.0	2042.28	102.1	2000.0	2102.74	105.1	2068.33	103.4	2089.89	104.5	2058.37	102.9	2047.67	102.4
Mercury	HG	CVA	HG070202	8.0	7.91	98.9	4.0	4.08	102.0	4.06	101.5	4.06	101.5				
Nickel	NI	PMS	MS070882	50.0	50.79	101.6	50.0	51.46	102.9	51.61	103.2	51.61	103.2	51.33	102.7	51.05	102.1
Selenium	SE	PMS	MS070882	80.0	79.85	99.8	50.0	51.12	102.2	52.28	104.6	51.94	103.9	51.57	103.1	52.02	104.0
Silver	AG	PMS	MS070882	50.0	49.08	98.2	50.0	50.94	101.9	51.77	103.5	51.85	103.7	51.44	102.9	51.55	103.1
Zinc	ZN	PMS	MS070882	50.0	52.30	104.6	50.0	51.24	102.5	51.00	102.0	51.18	102.4	50.69	101.4	51.23	102.5

RC46 : 90150

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

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC46

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	PMS	MS070981	50.0	50.29	100.6	50.0	50.60	101.2	50.72	101.4	50.34	100.7	50.77	101.5	50.38	100.8
Cadmium	CD	PMS	MS070981	50.0	49.99	100.0	50.0	51.14	102.3	50.98	102.0	51.28	102.6	51.66	103.3	51.11	102.2
Chromium	CR	PMS	MS070981	50.0	49.42	98.8	50.0	50.24	100.5	49.81	99.6	49.05	98.1	49.08	98.2	49.49	99.0
Copper	CU	PMS	MS070981	50.0	51.04	102.1	50.0	51.14	102.3	51.55	103.1	50.98	102.0	51.48	103.0	50.73	101.5
Lead	PB	PMS	MS070981	50.0	48.81	97.6	50.0	49.90	99.8	50.15	100.3	50.34	100.7	50.36	100.7	49.85	99.7
Nickel	NI	PMS	MS070981	50.0	51.16	102.3	50.0	50.98	102.0	51.32	102.6	50.93	101.9	51.52	103.0	50.77	101.5
Selenium	SE	PMS	MS070981	80.0	79.96	100.0	50.0	50.91	101.8	50.96	101.9	50.42	100.8	51.33	102.7	50.70	101.4
Silver	AG	PMS	MS070981	50.0	49.54	99.1	50.0	51.17	102.3	51.08	102.2	51.35	102.7	51.21	102.4	50.81	101.6
Zinc	ZN	PMS	MS070981	50.0	52.17	104.3	50.0	51.54	103.1	51.81	103.6	51.64	103.3	51.86	103.7	51.46	102.9

RC46:00160

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

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

UNITS: ug/L

SDG: RC46

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Arsenic	AS	PMS	MS070981	50.0	50.67	101.3	50.30	100.6	50.09	100.2						
Cadmium	CD	PMS	MS070981	50.0	51.68	103.4	51.03	102.1	51.03	102.1						
Chromium	CR	PMS	MS070981	50.0	49.49	99.0	50.01	100.0	50.51	101.0						
Copper	CU	PMS	MS070981	50.0	50.81	101.6	50.54	101.1	50.91	101.8						
Lead	PB	PMS	MS070981	50.0	51.19	102.4	51.85	103.7	52.21	104.4						
Nickel	NI	PMS	MS070981	50.0	50.38	100.8	50.28	100.6	50.22	100.4						
Selenium	SE	PMS	MS070981	50.0	51.42	102.8	50.89	101.8	50.31	100.6						
Silver	AG	PMS	MS070981	50.0	50.68	101.4	50.34	100.7	50.85	101.7						
Zinc	ZN	PMS	MS070981	50.0	52.02	104.0	52.24	104.5	51.96	103.9						

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

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

UNITS: ug/L

SDG: RC46

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Arsenic	AS	PMS	MS070882	0.2	0.21	**105.0**										
Cadmium	CD	PMS	MS070882	0.2	0.23	**115.0**										
Calcium	CA	ICP	IP070771	50.0	49.81	**99.6**	60.49	**121.0**								
Chromium	CR	PMS	MS070882	0.5	0.51	**102.0**										
Copper	CU	PMS	MS070882	0.5	0.55	**110.0**										
Lead	PB	PMS	MS070882	1.0	1.05	**105.0**										
Magnesium	MG	ICP	IP070771	50.0	56.30	**112.6**	74.41	**148.8**								
Mercury	HG	CVA	HG070202	0.1	0.10	**100.0**										
Nickel	NI	PMS	MS070882	0.5	0.61	**122.0**										
Selenium	SE	PMS	MS070882	0.5	0.54	**108.0**										
Silver	AG	PMS	MS070882	0.2	0.22	**110.0**										
Zinc	ZN	PMS	MS070882	4.0	4.28	**107.0**										
Arsenic	AS	PMS	MS070981	0.2	0.24	**120.0**										
Cadmium	CD	PMS	MS070981	0.2	0.22	**110.0**										
Chromium	CR	PMS	MS070981	0.5	0.50	**100.0**										
Copper	CU	PMS	MS070981	0.5	0.55	**110.0**										
Lead	PB	PMS	MS070981	1.0	1.04	**104.0**										
Nickel	NI	PMS	MS070981	0.5	0.56	**112.0**										
Selenium	SE	PMS	MS070981	0.5	0.55	**110.0**										
Silver	AG	PMS	MS070981	0.2	0.22	**110.0**										
Zinc	ZN	PMS	MS070981	4.0	4.24	**106.0**										

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

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC46

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	PMS	MS070882	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	CD	PMS	MS070882	5.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Calcium	CA	ICP	IP070771	5000.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Chromium	CR	PMS	MS070882	10.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Copper	CU	PMS	MS070882	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Lead	PB	PMS	MS070882	3.0	1.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Magnesium	MG	ICP	IP070771	5000.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Mercury	HG	CVA	HG070202	0.2	0.1	0.1	U	0.1	U	0.1	U	0.1	U				
Nickel	NI	PMS	MS070882	40.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Selenium	SE	PMS	MS070882	5.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Silver	AG	PMS	MS070882	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Zinc	ZN	PMS	MS070882	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U

RC46.00163

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC46

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	PMS	MS070981	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	CD	PMS	MS070981	5.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Chromium	CR	PMS	MS070981	10.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Copper	CU	PMS	MS070981	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Lead	PB	PMS	MS070981	3.0	1.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Nickel	NI	PMS	MS070981	40.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Selenium	SE	PMS	MS070981	5.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Silver	AG	PMS	MS070981	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Zinc	ZN	PMS	MS070981	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U

RC46-001651

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC46

UNITS:ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	C	CCB7	C	CCB8	C	CCB9	C	CCB10	C	CCB11	C
Arsenic	AS	PMS	MS070981	10.0	0.2	0.2	U	0.2	U	0.2	U						
Cadmium	CD	PMS	MS070981	5.0	0.2	0.2	U	0.2	U	0.2	U						
Chromium	CR	PMS	MS070981	10.0	0.5	0.5	U	0.5	U	0.5	U						
Copper	CU	PMS	MS070981	25.0	0.5	0.5	U	0.5	U	0.5	U						
Lead	PB	PMS	MS070981	3.0	1.0	1.0	U	1.0	U	1.0	U						
Nickel	NI	PMS	MS070981	40.0	0.5	0.5	U	0.5	U	0.5	U						
Selenium	SE	PMS	MS070981	5.0	0.5	0.5	U	0.5	U	0.5	U						
Silver	AG	PMS	MS070981	10.0	0.2	0.2	U	0.2	U	0.2	U						
Zinc	ZN	PMS	MS070981	20.0	4.0	4.0	U	4.0	U	4.0	U						

RC46:00165

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

ICS SOURCE: I.V.

PROJECT: NBF-Stormwater

RUNID: IP070771

SDG: RC46

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	202101.9	201976.9	**101.0**	196282.6	200702.8	**100.4**			
Antimony		1000	19.6	1015.9	**101.6**	16.0	986.5	**98.7**			
Arsenic		1000	4.9	984.3	**98.4**	7.5	960.2	**96.0**			
Barium		1000	2.1	970.9	**97.1**	1.8	958.3	**95.8**			
Beryllium		1000	0.1	966.5	**96.7**	0.0	935.2	**93.5**			
Boron			-5.1	-5.2		-6.7	-6.7				
Cadmium		1000	1.3	1007.5	**100.8**	1.3	982.3	**98.2**			
Calcium	100000	100000	101279.6	101860.5	**101.9**	98453.6	98842.2	**98.8**			
Chromium		1000	1.8	990.7	**99.1**	4.3	986.5	**98.7**			
Cobalt		1000	0.1	951.9	**95.2**	0.4	935.6	**93.6**			
Copper		1000	-1.2	995.1	**99.5**	-1.4	958.3	**95.8**			
Iron	200000	200000	193636.0	193960.1	**97.0**	189622.6	193103.7	**96.6**			
Lead		1000	-2.9	942.5	**94.3**	-3.3	918.7	**91.9**			
Magnesium	100000	100000	99122.3	99077.1	**99.1**	101863.3	99863.3	**99.9**			
Manganese		1000	0.7	925.6	**92.6**	0.6	905.0	**90.5**			
Molybdenum			3.4	3.4		2.8	2.4				
Nickel		1000	2.3	928.7	**92.9**	3.4	916.4	**91.6**			
Potassium			20.5	-66.1		51.2	66.7				
Selenium		1000	36.3	1009.5	**101.0**	38.2	991.0	**99.1**			
Silicon			-16.9	-20.1		-11.9	-9.0				
Silver		1000	-0.7	982.7	**98.3**	-0.2	944.7	**94.5**			
Sodium			8.4	14.8		17.1	16.0				
Strontium			3.8	3.7		3.8	3.6				
Thallium		1000	7.5	943.6	**94.4**	6.1	919.6	**92.0**			
Tin			-10.0	-10.4		-11.5	-11.6				
Titanium			1.3	2.1		2.0	2.0				
Vanadium		1000	3.2	959.1	**95.9**	1.9	937.5	**93.8**			
Zinc		1000	2.9	925.4	**92.5**	-0.7	932.3	**93.2**			

RC46:00166

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

ICS SOURCE: I.V.

PROJECT: NBF-Stormwater

RUNID: MS070882

SDG: RC46

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Arsenic		20	0.0	19.3	**96.5**						
Cadmium		20	0.0	19.8	**99.0**						
Chromium		20	0.5	19.0	**95.0**						
Cobalt		20	0.0	17.4	**87.0**						
Copper		20	0.5	19.6	**98.0**						
Lead			0.1	0.1							
Manganese		20	0.1	18.5	**92.5**						
Molybdenum	400	400	407.0	402.9	**100.7**						
Nickel		20	0.5	20.3	**101.5**						
Selenium			-0.1	-0.1							
Silver		20	0.0	19.5	**97.5**						
Vanadium			0.0	-0.3							
Zinc		20	1.2	19.7	**98.5**						

RC46: 00197

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

ICS SOURCE: I.V.

PROJECT: NBF-Stormwater

RUNID: MS070981

SDG: RC46

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Arsenic		20	0.0	19.1	**95.5**						
Cadmium		20	0.0	19.3	**96.5**						
Chromium		20	0.5	19.7	**98.5**						
Cobalt		20	0.0	19.2	**96.0**						
Copper		20	0.5	19.9	**99.5**						
Manganese		20	0.1	19.0	**95.0**						
Molybdenum	400	400	409.1	404.2	**101.1**						
Nickel		20	0.6	20.4	**102.0**						
Silver		20	0.0	19.3	**96.5**						
Vanadium			0.0	-0.4							
Zinc		20	1.2	19.9	**99.5**						

RC46:00168

Post Digest Spike Sample Recovery

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

ANALYSIS METHOD: PMS

SDG: RC46

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	RUNID	SPIKED SAMPLE RESULT	C	SAMPLE RESULT	C	SPIKE ADDED	MATRIX	%R
Silver	NBF-LS431-063010-W	RC46BPOST	MS070981	47.64		0.40	U	50	Water	**95.3**

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC46 UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Arsenic	AS	PMS	PE ELAN 6000 MS	0.00		10	0.2	4/1/2010		
Cadmium	CD	PMS	PE ELAN 6000 MS	0.00		5	0.2	4/1/2010		
Calcium	CA	ICP	OPTIMA ICP 2	317.93		5000	50.0	4/1/2010	500000.0	6/25/2010
Chromium	CR	PMS	PE ELAN 6000 MS	0.00		10	0.5	4/1/2010		
Copper	CU	PMS	PE ELAN 6000 MS	0.00		25	0.5	4/1/2010		
Lead	PB	PMS	PE ELAN 6000 MS	0.00		3	1.0	4/1/2010		
Magnesium	MG	ICP	OPTIMA ICP 2	279.08		5000	50.0	4/1/2010	500000.0	6/25/2010
Mercury	HG	CVA	CETAC MERCURY	253.70		0.2	0.1	4/1/2010		
Nickel	NI	PMS	PE ELAN 6000 MS	0.00		40	0.5	4/1/2010		
Selenium	SE	PMS	PE ELAN 6000 MS	0.00		5	0.5	4/1/2010		
Silver	AG	PMS	PE ELAN 6000 MS	0.00		10	0.2	4/1/2010		
Zinc	ZN	PMS	PE ELAN 6000 MS	0.00		20	4.0	4/1/2010		

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

IEC DATE: 6/25/2010

SDG: RC46

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	10.6345000	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.0302010	0.0000000	-0.9445380	1.0514100	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0087705	0.0000000	-0.1163000	0.0000000	0.0000000	0.0917961
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	3.3930900	0.0000000	0.0000000	0.0000000	0.0000000	0.1261800	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.5291320	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0194491	0.0000000	-0.0579845	0.0000000	0.0000000	-0.0470434
Cobalt	228.62	0.0000000	0.0000000	0.1846310	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0124726
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2841270	-0.0424887	0.0000000	-0.0717000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	-0.1693720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.9714800	1.2740100	0.0700135
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.1319490	0.0000000	-1.9410900	-0.9247460	0.0000000	0.5007690
Manganese	257.61	0.0067696	0.0000000	0.0000000	0.0000000	0.0023349	0.0000000	0.0000000	0.0000000	0.0000000	-0.0051882
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0173285	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0679605	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.5126200	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	-5.9937200	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.3133900	0.3288770	0.0000000	-0.1504990
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0462590	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0623399	0.0000000	0.0000000	0.1821360	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.1559900	0.0000000	0.1070520
Zinc	206.20	0.0279274	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3041290	0.0000000	0.0000000

RC46.0017

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

IEC DATE: 6/25/2010

SDG: RC46

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	10.5279000	0.0000000	0.0000000	0.0000000	2.3617300	0.0000000	18.6686000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	-0.3653530	0.0000000	0.0000000	-1.2842400	0.0000000	-3.1614700	0.0000000
Arsenic	188.98	0.0000000	0.0000000	1.5685300	0.0000000	0.0000000	0.0000000	-18.0910000	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.1042590	0.0000000	0.0000000	0.0000000	0.0000000	0.5343320	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0111651	0.0000000	0.5182900	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.6501870	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.1304500	0.0000000	0.1655120	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.2567570	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.1920370	0.1791340	0.0000000	0.0000000	1.6866300	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0228258	0.0000000	0.7071800	0.0000000	0.0000000	0.0000000	0.3708110	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	5.3092800	0.0000000
Lead	220.35	0.0000000	0.0000000	-0.3219480	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-3.4563100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	-0.2309750	0.0000000	0.0000000	0.0000000	-0.0245610	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7107260	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.1962650	0.1355340	0.0000000	0.0000000	0.0000000	-0.0347846	0.0000000	-0.2306430	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	275.8690000	0.0000000	0.0000000	238.7330000
Thallium	190.80	0.0000000	-0.9583370	-3.2391700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	1.5566700	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.6349390	-0.4579360	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	1.2012000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1525300	-0.7369790	0.0000000	0.0000000	0.0000000	0.5819800	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2610670	0.0000000	-0.0597607	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

RC46 : 60172

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC46

ANALYSIS METHOD: ICP

ARI PREP CODE: TWC

PREPDATE: 7/2/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-LS431-063010-W	RC46A	0.000	50.0	50.0
NBF-LS431-063010-WD	RC46ADUP	0.000	50.0	50.0
NBF-LS431-063010-WS	RC46ASPK	0.000	50.0	50.0
PBW	RC46MB1	0.000	50.0	50.0
LCSW	RC46MB1SPK	0.000	50.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC46

ANALYSIS METHOD: PMS

ARI PREP CODE: REN

PREPDATE: 7/2/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-LS431-063010-W	RC46A	0.000	50.0	25.0
NBF-LS431-063010-WD	RC46ADUP	0.000	50.0	25.0
NBF-LS431-063010-WS	RC46ASPK	0.000	50.0	25.0
NBF-LS431-063010-W	RC46B	0.000	50.0	25.0
NBF-LS431-063010-WD	RC46BDUP	0.000	50.0	25.0
NBF-LS431-063010-WS	RC46BSPK	0.000	50.0	25.0
PBW	RC46MB1	0.000	50.0	25.0
LCSW	RC46MB1SPK	0.000	50.0	25.0
PBW	RC46MB2	0.000	50.0	25.0
LCSW	RC46MB2SPK	0.000	50.0	25.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC46

ANALYSIS METHOD: CVA

ARI PREP CODE: TWM

PREPDATE: 7/2/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-LS431-063010-W	RC46A	0.000	20.0	20.0
NBF-LS431-063010-WD	RC46ADUP	0.000	20.0	20.0
NBF-LS431-063010-WS	RC46ASPK	0.000	20.0	20.0
PBW	RC46MB1	0.000	20.0	20.0
LCSW	RC46MB1SPK	0.000	20.0	20.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 7/7/2010

SDG: RC46 | RUNID: IP070771 | METHOD: ICP | END DATE: 7/7/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	08500								X								X														
S2	S2	1.00	08540																														
S3	S3	1.00	08554																														
S4	S4	1.00	08581																														
S5	S5	1.00	09002								X								X														
ICV	ICV	1.00	09105								X								X														
ICB	ICB	1.00	09151								X								X														
CRI	CRII	1.00	09190								X								X														
ICSA	ICSAI	1.00	09233								X								X														
ICSAB	ICSABI	1.00	09274								X								X														
CCV	CCV1	1.00	09312								X								X														
CCB	CCB1	1.00	09353								X								X														
ZZZZZZ	RC25MB2	1.00	09393																														
ZZZZZZ	RC25K-L	5.00	09433																														
ZZZZZZ	RC25K	1.00	09472																														
ZZZZZZ	RC25KDUP	1.00	09513																														
ZZZZZZ	RC25KSPK	1.00	09554																														
ZZZZZZ	RC25H	1.00	09595																														
ZZZZZZ	RC25I	1.00	10035																														
ZZZZZZ	RC25J	1.00	10080																														
ZZZZZZ	RC25L	1.00	10120																														
ZZZZZZ	RC25MB2SPK	1.00	10161																														
CCV	CCV2	1.00	10202								X								X														
CCB	CCB2	1.00	10243								X								X														
ZZZZZZ	RC20RMB	2.00	10285																														
ZZZZZZ	RC25MB1	1.00	10325																														
ZZZZZZ	RC25M	1.00	10365																														
ZZZZZZ	RC25D-L	5.00	10410																														
ZZZZZZ	RC25D	1.00	10445																														
ZZZZZZ	RC25DDUP	1.00	10490																														
ZZZZZZ	RC25DSPK	1.00	10531																														
ZZZZZZ	RC25A	1.00	10572																														
ZZZZZZ	RC25B	1.00	11011																														
ZZZZZZ	RC25MB1SPK	1.00	11052																														
CCV	CCV3	1.00	11093								X								X														

FORM XIV

RC46:00176

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 7/7/2010

SDG: RC46 | RUNID: IP070771 | METHOD: ICP | END DATE: 7/7/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
CCB	CCB3	1.00	11135								X								X														
ZZZZZZ	RD18MB	2.00	11180																														
ZZZZZZ	RC25C	1.00	11221																														
ZZZZZZ	RC25E	1.00	11262																														
ZZZZZZ	RC25F	1.00	11302																														
ZZZZZZ	RD18A	2.00	11343																														
ZZZZZZ	RD18MBSPK	2.00	11384																														
ZZZZZZ	DIL	1.00	11425																														
CRI	CRIF	1.00	11470								X								X														
ICSA	ICSAF	1.00	11511								X								X														
ICSAB	ICSABF	1.00	11552								X								X														
CCV	CCV4	1.00	11592								X								X														
CCB	CCB4	1.00	12033								X								X														
ZZZZZZ	RC75MB1	2.00	12075																														
PBW	RC46MB1	1.00	12120								X								X														
NBF-LS431-063010-WD	RC46ADUP	1.00	12161								X								X														
NBF-LS431-063010-W	RC46A	1.00	12202								X								X														
NBF-LS431-063010-WS	RC46ASPK	1.00	12243								X								X														
ZZZZZZ	RC75B	2.00	12284																														
ZZZZZZ	RC75E	2.00	12325																														
ZZZZZZ	RC75H	2.00	12364																														
ZZZZZZ	RC75MB1SPK	2.00	12405																														
LCSW	RC46MB1SPK	1.00	12450								X								X														
CCV	CCV5	1.00	12491								X								X														
CCB	CCB5	1.00	12533								X								X														

RC46 0017

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 7/8/2010

SDG: RC46 | RUNID: MS070882 METHOD: PMS | END DATE: 7/8/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	12130		X		X					X		X	X								X	X		X							X
S1	S1	1.00	12210		X		X					X		X	X								X	X		X							X
S2	S2	1.00	12290		X		X					X		X	X								X	X		X							X
S3	S3	1.00	12370		X		X					X		X	X								X	X		X							X
S4	S4	1.00	12450		X		X					X		X	X								X	X		X							X
ZZZZZZ	Rinse Sampl	1.00	12520																														
ICV	MICV	1.00	12590		X		X					X		X	X								X	X		X							X
ICB	ICB	1.00	13070		X		X					X		X	X								X	X		X							X
CCV	MCCV1	1.00	13140		X		X					X		X	X								X	X		X							X
CCB	CCB1	1.00	13210		X		X					X		X	X								X	X		X							X
ZZZZZZ	ZZZZZZ	1.00	13280																														
ZZZZZZ	ZZZZZZ	1.00	13350																														
S0	S0	1.00	13440		X		X					X		X	X								X	X		X							X
CCV	MCCV2	1.00	13510		X		X					X		X	X								X	X		X							X
CCB	CCB2	1.00	13590		X		X					X		X	X								X	X		X							X
CRI	MCRI	1.00	14060		X		X					X		X	X								X	X		X							X
ICSA	ICSAI	1.00	14130		X		X					X		X	X								X	X		X							X
ICSAB	ICSABI	1.00	14200		X		X					X		X	X								X	X		X							X
ZZZZZZ	LR200	1.00	14280																														
ZZZZZZ	LR300	1.00	14350																														
CCV	MCCV3	1.00	14430		X		X					X		X	X								X	X		X							X
CCB	CCB3	1.00	14500		X		X					X		X	X								X	X		X							X
ZZZZZZ	RC45Q-L	250.00	15000																														
ZZZZZZ	RC45Q	50.00	15070																														
ZZZZZZ	RC45QDUP	50.00	15130																														
ZZZZZZ	RC45QSPK	50.00	15200																														
ZZZZZZ	ZZZZZZ	50.00	15270																														
ZZZZZZ	RC45K	50.00	15330																														
ZZZZZZ	RC34ADUP	2.00	15400																														
ZZZZZZ	RC34A	2.00	15460																														
ZZZZZZ	RC34ASPK	2.00	15530																														
ZZZZZZ	RC34B	2.00	15590																														
CCV	MCCV4	1.00	16060		X		X					X		X	X								X	X		X							X
CCB	CCB4	1.00	16130		X		X					X		X	X								X	X		X							X
PBW	RC46MB1	2.00	16210		X		X					X		X	X								X	X		X							X

FORM XIV

RC46: 001 78

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 7/8/2010

SDG: RC46 | RUNID: MS070882 METHOD: PMS | END DATE: 7/8/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
PBW	RC46MB2	2.00	16270		X		X					X		X	X								X	X		X							X
LCSW	RC46MB2SPK	2.00	16340		X		X					X		X	X								X	X		X							X
LCSW	RC46MB1SPK	2.00	16400		X		X					X		X	X								X	X		X							X
ZZZZZZ	RC34C	2.00	16470																														
NBF-LS431-063010-WD	RC46ADUP	2.00	16530		X		X					X		X	X								X	X		X							X
NBF-LS431-063010-W	RC46A	2.00	17000		X		X					X		X	X								X	X		X							X
NBF-LS431-063010-WS	RC46ASPK	2.00	17060		X		X					X		X	X								X	X		X							X
ZZZZZZ	ZZZZZZ	100.00	17130																														
ZZZZZZ	RB91B	20.00	17190																														
CCV	MCCV5	1.00	17260		X		X					X		X	X								X	X		X							X
CCB	CCB5	1.00	17330		X		X					X		X	X								X	X		X							X

RC46:00179

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 7/9/2010

SDG: RC46 | RUNID: MS070981 METHOD: PMS | END DATE: 7/9/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	11360		X		X					X		X	X								X	X		X							X
S1	S1	1.00	11430		X		X					X		X	X								X	X		X							X
S2	S2	1.00	11510		X		X					X		X	X								X	X		X							X
S3	S3	1.00	11590		X		X					X		X	X								X	X		X							X
S4	S4	1.00	12070		X		X					X		X	X								X	X		X							X
ZZZZZZ	Rinse Sampl	1.00	12140																														
ICV	MICV	1.00	12220		X		X					X		X	X								X	X		X							X
ICB	ICB	1.00	12290		X		X					X		X	X								X	X		X							X
CCV	MCCV1	1.00	12360		X		X					X		X	X								X	X		X							X
CCB	CCB1	1.00	12430		X		X					X		X	X								X	X		X							X
CRI	MCRI	1.00	12510		X		X					X		X	X								X	X		X							X
ICSA	ICSAI	1.00	12580		X		X					X		X	X								X	X		X							X
ICSAB	ICSABI	1.00	13050		X		X					X		X	X								X	X		X							X
ZZZZZZ	LR200	1.00	13130																														
ZZZZZZ	LR300	1.00	13200																														
CCV	MCCV2	1.00	13280		X		X					X		X	X								X	X		X							X
CCB	CCB2	1.00	13350		X		X					X		X	X								X	X		X							X
ZZZZZZ	RD50MB1	20.00	13430																														
ZZZZZZ	RD50MB1SPK	20.00	13490																														
ZZZZZZ	RD50A-L	100.00	13560																														
ZZZZZZ	RD50A	20.00	14020																														
ZZZZZZ	RD50ADUP	20.00	14090																														
ZZZZZZ	RD50ASPK	20.00	14150																														
ZZZZZZ	ZZZZZZ	20.00	14220																														
NBF-LS431-063010-WD	RC46BDUP	2.00	14290		X		X					X			X								X	X		X							X
NBF-LS431-063010-W	RC46B	2.00	14350		X		X					X		X	X								X	X		X							X
NBF-LS431-063010-WS	RC46BSPK	2.00	14420		X		X					X		X	X								X	X		X							X
CCV	MCCV3	1.00	14480		X		X					X		X	X								X	X		X							X
CCB	CCB3	1.00	14560		X		X					X		X	X								X	X		X							X
ZZZZZZ	RC78MB	2.00	15030																														
ZZZZZZ	RC78MBSPK	2.00	15090																														
ZZZZZZ	RC78A	2.00	15160																														
ZZZZZZ	RC49N	2.00	15220																														
ZZZZZZ	RC49P	2.00	15290																														
ZZZZZZ	RD50B	20.00	15360																														

RC46:00189

FORM XIV

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 7/9/2010

SDG: RC46 | RUNID: MS070981 METHOD: PMS | END DATE: 7/9/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
ZZZZZZ	RD50C	20.00	15420																														
ZZZZZZ	RD50D	20.00	15490																														
ZZZZZZ	RD50E	20.00	15550																														
ZZZZZZ	RD50F	20.00	16020																														
CCV	MCCV4	1.00	16080		X		X					X		X	X								X	X		X						X
CCB	CCB4	1.00	16150		X		X					X		X	X								X	X		X						X
ZZZZZZ	RC34MB	2.00	16280																														
ZZZZZZ	RC34MBSPK	2.00	16340																														
ZZZZZZ	RC34ADUP	2.00	16410																														
ZZZZZZ	RC34A	2.00	16470																														
ZZZZZZ	RC34ASPK	2.00	16540																														
ZZZZZZ	RC34B	2.00	17000																														
ZZZZZZ	RC34C	2.00	17070																														
ZZZZZZ	RC34ADUP	5.00	17140																														
ZZZZZZ	RC34A	5.00	17200																														
ZZZZZZ	RC34ASPK	5.00	17270																														
CCV	MCCV5	1.00	17330		X		X					X		X	X								X	X		X						X
CCB	CCB5	1.00	17410		X		X					X		X	X								X	X		X						X
ZZZZZZ	RC49MB2	2.00	17480																														
ZZZZZZ	RC49MB2SPK	2.00	17540																														
ZZZZZZ	RC49ODUP	2.00	18010																														
ZZZZZZ	RC49O	2.00	18070																														
ZZZZZZ	RC49OSPK	2.00	18140																														
ZZZZZZ	RC49Q	2.00	18200																														
ZZZZZZ	RC49R	2.00	18270																														
ZZZZZZ	RC49S	2.00	18340																														
ZZZZZZ	RC49T	2.00	18400																														
ZZZZZZ	RC49U	2.00	18470																														
CCV	MCCV6	1.00	18530		X		X					X		X	X								X	X		X						X
CCB	CCB6	1.00	19000		X		X					X		X	X								X	X		X						X
ZZZZZZ	RC52MB	2.00	19080																														
ZZZZZZ	RC52MBSPK	2.00	19140																														
ZZZZZZ	RC52A	2.00	19210																														
ZZZZZZ	RC49V	2.00	19270																														
ZZZZZZ	RC49W	2.00	19340																														

RC46.00121

FORM XIV

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 7/9/2010

SDG: RC46 | RUNID: MS070981 METHOD: PMS | END DATE: 7/9/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
ZZZZZZ	RC49X	2.00	19400																														
ZZZZZZ	RC49Y	2.00	19470																														
CCV	MCCV7	1.00	19530		X		X					X		X	X								X	X		X						X
CCB	CCB7	1.00	20010		X		X					X		X	X								X	X		X						X
NBF-LS431-063010-WD	RC46BDUP	5.00	20080																														
NBF-LS431-063010-W	RC46B	5.00	20140																														
NBF-LS431-063010-WS	RC46BSPK	5.00	20210																														
NBF-LS431-063010-WD	RC46BDUP	2.00	20270											X																			
NBF-LS431-063010-WA	RC46BPOST	2.00	20340		X																												
CCV	MCCV8	1.00	20410		X		X					X		X	X								X	X		X						X
CCB	CCB8	1.00	20480		X		X					X		X	X								X	X		X						X

RC46:00182

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: CETAC MERCURY | START DATE: 7/2/2010

SDG: RC46 | RUNID: HG070202 | METHOD: CVA | END DATE: 7/2/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	18061														X																
S0.1	S0.1	1.00	18074														X																
S0.5	S0.5	1.00	18092														X																
S1	S1	1.00	18110														X																
S2	S2	1.00	18123														X																
S5	S5	1.00	18141														X																
S10	S10	1.00	18155														X																
ICV	AICV	1.00	18190														X																
ICB	ICB	1.00	18204														X																
CCV	ACCV1	1.00	18221														X																
CCB	CCB1	1.00	18240														X																
CRA	CRA	1.00	18253														X																
ZZZZZZ	RC27MB1	1.00	18271																														
ZZZZZZ	RC27MB1SPK	1.00	18284																														
ZZZZZZ	RC27A	1.00	18302																														
ZZZZZZ	RC27ADUP	1.00	18320																														
ZZZZZZ	RC27ASPK	1.00	18333																														
PBW	RC46MB1	1.00	18351														X																
LCSW	RC46MB1SPK	1.00	18365														X																
NBF-LS431-063010-W	RC46A	1.00	18382														X																
NBF-LS431-063010-WD	RC46ADUP	1.00	18400														X																
CCV	ACCV2	1.00	18414														X																
CCB	CCB2	1.00	18432														X																
NBF-LS431-063010-WS	RC46ASPK	1.00	18450														X																
CCV	ACCV3	1.00	18464														X																
CCB	CCB3	1.00	18482														X																

RC46:00183

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC75

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
NBF-MH108A-063010-	RC75B	10-15810	
PBS	RC75MB1	10-15810	
LCSS	RC75MB1SPK	10-15810	
NBF-CB173A-063010-	RC75E	10-15813	
NBF-LS431A-063010-	RC75H	10-15816	

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

Comments: _____

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

Signature: _____ Name: Jay Kuhn

Date: 7/8/10 Title: Inorganic Manager

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-MH108A-063010-S
SAMPLE

Lab Sample ID: RC75B
LIMS ID: 10-15810
Matrix: Sediment
Data Release Authorized:
Reported: 07/08/10

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Percent Total Solids: 18.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/02/10	6010B	07/07/10	**7440-38-2**	**Arsenic**	60	**70**	
3050B	07/02/10	6010B	07/07/10	**7440-43-9**	**Cadmium**	3	**4**	
3050B	07/02/10	6010B	07/07/10	**7440-47-3**	**Chromium**	6	**22**	
3050B	07/02/10	6010B	07/07/10	**7440-50-8**	**Copper**	3	**71**	
3050B	07/02/10	6010B	07/07/10	**7439-92-1**	**Lead**	30	**30**	
CLP	07/02/10	7471A	07/07/10	**7439-97-6**	**Mercury**	0.1	**0.2**	
3050B	07/02/10	6010B	07/07/10	7440-22-4	Silver	4	4	U
3050B	07/02/10	6010B	07/07/10	**7440-66-6**	**Zinc**	10	**320**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-CB173A-063010-S
SAMPLE

Lab Sample ID: RC75E
LIMS ID: 10-15813
Matrix: Sediment
Data Release Authorized:
Reported: 07/08/10

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Percent Total Solids: 26.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/02/10	6010B	07/07/10	**7440-38-2**	**Arsenic**	20	**90**	
3050B	07/02/10	6010B	07/07/10	**7440-43-9**	**Cadmium**	0.7	**11.1**	
3050B	07/02/10	6010B	07/07/10	**7440-47-3**	**Chromium**	2	**74**	
3050B	07/02/10	6010B	07/07/10	**7440-50-8**	**Copper**	0.7	**382**	
3050B	07/02/10	6010B	07/07/10	**7439-92-1**	**Lead**	7	**211**	
CLP	07/02/10	7471A	07/07/10	**7439-97-6**	**Mercury**	0.06	**0.73**	
3050B	07/02/10	6010B	07/07/10	7440-22-4	Silver	1	1	U
3050B	07/02/10	6010B	07/07/10	**7440-66-6**	**Zinc**	3	**2,320**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-LS431A-063010-S
SAMPLE

Lab Sample ID: RC75H
LIMS ID: 10-15816
Matrix: Sediment
Data Release Authorized:
Reported: 07/08/10

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

Percent Total Solids: 23.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/02/10	6010B	07/07/10	7440-38-2	Arsenic	50	50	U
3050B	07/02/10	6010B	07/07/10	**7440-43-9**	**Cadmium**	2	**3**	
3050B	07/02/10	6010B	07/07/10	**7440-47-3**	**Chromium**	5	**27**	
3050B	07/02/10	6010B	07/07/10	**7440-50-8**	**Copper**	2	**26**	
3050B	07/02/10	6010B	07/07/10	7439-92-1	Lead	20	20	U
CLP	07/02/10	7471A	07/07/10	**7439-97-6**	**Mercury**	0.08	**0.15**	
3050B	07/02/10	6010B	07/07/10	7440-22-4	Silver	3	3	U
3050B	07/02/10	6010B	07/07/10	**7440-66-6**	**Zinc**	10	**220**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: RC75LCS
LIMS ID: 10-15810
Matrix: Sediment
Data Release Authorized:
Reported: 07/08/10

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	194	200	97.0%	
Cadmium	6010B	49.5	50.0	99.0%	
Chromium	6010B	49.9	50.0	99.8%	
Copper	6010B	44.5	50.0	89.0%	
Lead	6010B	191	200	95.5%	
Mercury	7471A	0.52	0.50	104%	
Silver	6010B	48.7	50.0	97.4%	
Zinc	6010B	48	50	96.0%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: RC75MB
LIMS ID: 10-15810
Matrix: Sediment
Data Release Authorized:
Reported: 07/08/10

QC Report No: RC75-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/02/10	6010B	07/07/10	7440-38-2	Arsenic	5	5	U
3050B	07/02/10	6010B	07/07/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	07/02/10	6010B	07/07/10	7440-47-3	Chromium	0.5	0.5	U
3050B	07/02/10	6010B	07/07/10	7440-50-8	Copper	0.2	0.2	U
3050B	07/02/10	6010B	07/07/10	7439-92-1	Lead	2	2	U
CLP	07/02/10	7471A	07/07/10	7439-97-6	Mercury	0.02	0.02	U
3050B	07/02/10	6010B	07/07/10	7440-22-4	Silver	0.3	0.3	U
3050B	07/02/10	6010B	07/07/10	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

UNITS: ug/L

SDG: RC75

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	ICP	IP070771	2000.0	1972.90	98.6	2000.0	1997.70	99.9	1986.75	99.3	1971.69	98.6	1980.68	99.0	1957.37	97.9
Cadmium	CD	ICP	IP070771	1000.0	1024.16	102.4	1000.0	1016.26	101.6	1016.33	101.6	1017.78	101.8	1010.10	101.0	997.91	99.8
Chromium	CR	ICP	IP070771	1000.0	1017.76	101.8	1000.0	1032.18	103.2	1028.99	102.9	1032.50	103.3	1020.57	102.1	1015.32	101.5
Copper	CU	ICP	IP070771	1000.0	1001.13	100.1	1000.0	991.15	99.1	987.76	98.8	982.21	98.2	967.08	96.7	955.51	95.6
Lead	PB	ICP	IP070771	2000.0	1965.83	98.3	2000.0	1990.02	99.5	1975.06	98.8	1959.50	98.0	1968.11	98.4	1947.33	97.4
Mercury	HG	CVA	HG070701	8.0	7.83	97.9	4.0	4.05	101.3	4.12	103.0						
Silver	AG	ICP	IP070771	1000.0	1000.80	100.1	1000.0	993.89	99.4	1404.64	140.5	983.34	98.3	972.03	97.2	960.82	96.1
Zinc	ZN	ICP	IP070771	1000.0	965.65	96.6	1000.0	989.24	98.9	984.01	98.4	986.13	98.6	984.03	98.4	984.26	98.4

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

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

UNITS: ug/L

SDG: RC75

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Arsenic	AS	ICP	IP070771	2000.0	1950.43	97.5										
Cadmium	CD	ICP	IP070771	1000.0	994.47	99.4										
Chromium	CR	ICP	IP070771	1000.0	1000.44	100.0										
Copper	CU	ICP	IP070771	1000.0	950.27	95.0										
Lead	PB	ICP	IP070771	2000.0	1941.98	97.1										
Mercury	HG	CVA	HG070701	4.0												
Silver	AG	ICP	IP070771	1000.0	953.04	95.3										
Zinc	ZN	ICP	IP070771	1000.0	968.02	96.8										

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

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

UNITS: ug/L

SDG: RC75

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Arsenic	AS	ICP	IP070771	50.0	49.10	**98.2**	49.28	**98.6**								
Cadmium	CD	ICP	IP070771	2.0	2.22	**111.0**	2.26	**113.0**								
Chromium	CR	ICP	IP070771	5.0	5.90	**118.0**	6.65	**133.0**								
Copper	CU	ICP	IP070771	2.0	1.64	**82.0**	0.81	**40.5**								
Lead	PB	ICP	IP070771	20.0	18.77	**93.9**	20.32	**101.6**								
Mercury	HG	CVA	HG070701	0.1	0.18	**180.0**										
Silver	AG	ICP	IP070771	3.0	3.22	**107.3**	3.30	**110.0**								
Zinc	ZN	ICP	IP070771	10.0	11.33	**113.3**	10.65	**106.5**								

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

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC75

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	ICP	IP070771	10.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Cadmium	CD	ICP	IP070771	5.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Chromium	CR	ICP	IP070771	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Copper	CU	ICP	IP070771	25.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Lead	PB	ICP	IP070771	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Mercury	HG	CVA	HG070701	0.2	0.1	0.1	U	0.1	U	0.1	U						
Silver	AG	ICP	IP070771	10.0	3.0	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Zinc	ZN	ICP	IP070771	20.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC75

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	C	CCB7	C	CCB8	C	CCB9	C	CCB10	C	CCB11	C
Arsenic	AS	ICP	IP070771	10.0	50.0	50.0	U										
Cadmium	CD	ICP	IP070771	5.0	2.0	2.0	U										
Chromium	CR	ICP	IP070771	10.0	5.0	5.0	U										
Copper	CU	ICP	IP070771	25.0	2.0	2.0	U										
Lead	PB	ICP	IP070771	3.0	20.0	20.0	U										
Mercury	HG	CVA	HG070701	0.2	0.1												
Silver	AG	ICP	IP070771	10.0	3.0	3.0	U										
Zinc	ZN	ICP	IP070771	20.0	10.0	10.0	U										

RC15.00151

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC75

ICS SOURCE: I.V.

RUNID: IP070771

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	202101.9	201976.9	**101.0**	196282.6	200702.8	**100.4**			
Antimony		1000	19.6	1015.9	**101.6**	16.0	986.5	**98.7**			
Arsenic		1000	4.9	984.3	**98.4**	7.5	960.2	**96.0**			
Barium		1000	2.1	970.9	**97.1**	1.8	958.3	**95.8**			
Beryllium		1000	0.1	966.5	**96.7**	0.0	935.2	**93.5**			
Boron			-5.1	-5.2		-6.7	-6.7				
Cadmium		1000	1.3	1007.5	**100.8**	1.3	982.3	**98.2**			
Calcium	100000	100000	101279.6	101860.5	**101.9**	98453.6	98842.2	**98.8**			
Chromium		1000	1.8	990.7	**99.1**	4.3	986.5	**98.7**			
Cobalt		1000	0.1	951.9	**95.2**	0.4	935.6	**93.6**			
Copper		1000	-1.2	995.1	**99.5**	-1.4	958.3	**95.8**			
Iron	200000	200000	193636.0	193960.1	**97.0**	189622.6	193103.7	**96.6**			
Lead		1000	-2.9	942.5	**94.3**	-3.3	918.7	**91.9**			
Magnesium	100000	100000	99122.3	99077.1	**99.1**	101863.3	99863.3	**99.9**			
Manganese		1000	0.7	925.6	**92.6**	0.6	905.0	**90.5**			
Molybdenum			3.4	3.4		2.8	2.4				
Nickel		1000	2.3	928.7	**92.9**	3.4	916.4	**91.6**			
Potassium			20.5	-66.1		51.2	66.7				
Selenium		1000	36.3	1009.5	**101.0**	38.2	991.0	**99.1**			
Silicon			-16.9	-20.1		-11.9	-9.0				
Silver		1000	-0.7	982.7	**98.3**	-0.2	944.7	**94.5**			
Sodium			8.4	14.8		17.1	16.0				
Strontium			3.8	3.7		3.8	3.6				
Thallium		1000	7.5	943.6	**94.4**	6.1	919.6	**92.0**			
Tin			-10.0	-10.4		-11.5	-11.6				
Titanium			1.3	2.1		2.0	2.0				
Vanadium		1000	3.2	959.1	**95.9**	1.9	937.5	**93.8**			
Zinc		1000	2.9	925.4	**92.5**	-0.7	932.3	**93.2**			

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC75 UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Arsenic	AS	ICP	OPTIMA ICP 2	197.20		10	50.0	4/1/2010	30000.0	10/6/2009
Cadmium	CD	ICP	OPTIMA ICP 2	228.80		5	2.0	4/1/2010	20000.0	10/6/2009
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2010	100000.0	10/6/2009
Copper	CU	ICP	OPTIMA ICP 2	324.75		25	2.0	4/1/2010	40000.0	10/6/2009
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2010	300000.0	10/6/2009
Mercury	HG	CVA	CETAC MERCURY	253.70		0.2	0.1	4/1/2010		
Silver	AG	ICP	OPTIMA ICP 2	328.07		10	3.0	4/1/2010	5000.0	10/6/2009
Zinc	ZN	ICP	OPTIMA ICP 2	213.86		20	10.0	4/1/2010	100000.0	10/6/2009

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

IEC DATE: 6/25/2010

SDG: RC75

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	10.6345000	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.0302010	0.0000000	-0.9445380	1.0514100	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0087705	0.0000000	-0.1163000	0.0000000	0.0000000	0.0917961
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	3.3930900	0.0000000	0.0000000	0.0000000	0.0000000	0.1261800	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.5291320	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0194491	0.0000000	-0.0579845	0.0000000	0.0000000	-0.0470434
Cobalt	228.62	0.0000000	0.0000000	0.1846310	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0124726
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2841270	-0.0424887	0.0000000	-0.0717000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	-0.1693720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.9714800	1.2740100	0.0700135
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.1319490	0.0000000	-1.9410900	-0.9247460	0.0000000	0.5007690
Manganese	257.61	0.0067696	0.0000000	0.0000000	0.0000000	0.0023349	0.0000000	0.0000000	0.0000000	0.0000000	-0.0051882
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0173285	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0679605	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.5126200	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	-5.9937200	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.3133900	0.3288770	0.0000000	-0.1504990
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0462590	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0623399	0.0000000	0.0000000	0.1821360	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.1559900	0.0000000	0.1070520
Zinc	206.20	0.0279274	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3041290	0.0000000	0.0000000

RC1G 001697

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

IEC DATE: 6/25/2010

SDG: RC75

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	10.5279000	0.0000000	0.0000000	0.0000000	2.3617300	0.0000000	18.6686000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	-0.3653530	0.0000000	0.0000000	-1.2842400	0.0000000	-3.1614700	0.0000000
Arsenic	188.98	0.0000000	0.0000000	1.5685300	0.0000000	0.0000000	0.0000000	-18.0910000	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.1042590	0.0000000	0.0000000	0.0000000	0.0000000	0.5343320	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0111651	0.0000000	0.5182900	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.6501870	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.1304500	0.0000000	0.1655120	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.2567570	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.1920370	0.1791340	0.0000000	0.0000000	1.6866300	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0228258	0.0000000	0.7071800	0.0000000	0.0000000	0.0000000	0.3708110	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	5.3092800	0.0000000
Lead	220.35	0.0000000	0.0000000	-0.3219480	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-3.4563100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	-0.2309750	0.0000000	0.0000000	0.0000000	-0.0245610	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7107260	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.1962650	0.1355340	0.0000000	0.0000000	0.0000000	-0.0347846	0.0000000	-0.2306430	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	275.8690000	0.0000000	0.0000000	238.7330000
Thallium	190.80	0.0000000	-0.9583370	-3.2391700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	1.5566700	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.6349390	-0.4579360	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	1.2012000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1525300	-0.7369790	0.0000000	0.0000000	0.0000000	0.5819800	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2610670	0.0000000	-0.0597607	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

RC46-001198

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC75

ANALYSIS METHOD: ICP

ARI PREP CODE: SWC

PREPDATE: 7/2/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-MH108A-063010-	RC75B	1.063	0.0	50.0
NBF-CB173A-063010-	RC75E	1.083	0.0	50.0
NBF-LS431A-063010-	RC75H	1.026	0.0	50.0
PBS	RC75MB1	1.000	0.0	50.0
LCSS	RC75MB1SPK	1.000	0.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC75

ANALYSIS METHOD: CVA

ARI PREP CODE: SMM

PREPDATE: 7/2/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-MH108A-063010-	RC75B	0.204	0.0	50.0
NBF-CB173A-063010-	RC75E	0.293	0.0	50.0
NBF-LS431A-063010-	RC75H	0.273	0.0	50.0
PBS	RC75MB1	0.200	0.0	50.0
LCSW	RC75MB1SPK	0.200	0.0	50.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 7/7/2010

SDG: RC75 | RUNID: IP070771 | METHOD: ICP | END DATE: 7/7/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	08500		X		X					X		X	X									X									X
S2	S2	1.00	08540									X		X	X																		
S3	S3	1.00	08554		X		X																	X									X
S4	S4	1.00	08581																														
S5	S5	1.00	09002																														
ICV	ICV	1.00	09105		X		X					X		X	X									X									X
ICB	ICB	1.00	09151		X		X					X		X	X									X									X
CRI	CRII	1.00	09190		X		X					X		X	X									X									X
ICSA	ICSAI	1.00	09233		X		X					X		X	X									X									X
ICSAB	ICSABI	1.00	09274		X		X					X		X	X									X									X
CCV	CCV1	1.00	09312		X		X					X		X	X									X									X
CCB	CCB1	1.00	09353		X		X					X		X	X									X									X
ZZZZZZ	RC25MB2	1.00	09393																														
ZZZZZZ	RC25K-L	5.00	09433																														
ZZZZZZ	RC25K	1.00	09472																														
ZZZZZZ	RC25KDUP	1.00	09513																														
ZZZZZZ	RC25KSPK	1.00	09554																														
ZZZZZZ	RC25H	1.00	09595																														
ZZZZZZ	RC25I	1.00	10035																														
ZZZZZZ	RC25J	1.00	10080																														
ZZZZZZ	RC25L	1.00	10120																														
ZZZZZZ	RC25MB2SPK	1.00	10161																														
CCV	CCV2	1.00	10202		X		X					X		X	X									X									X
CCB	CCB2	1.00	10243		X		X					X		X	X									X									X
ZZZZZZ	RC20RMB	2.00	10285																														
ZZZZZZ	RC25MB1	1.00	10325																														
ZZZZZZ	RC25M	1.00	10365																														
ZZZZZZ	RC25D-L	5.00	10410																														
ZZZZZZ	RC25D	1.00	10445																														
ZZZZZZ	RC25DDUP	1.00	10490																														
ZZZZZZ	RC25DSPK	1.00	10531																														
ZZZZZZ	RC25A	1.00	10572																														
ZZZZZZ	RC25B	1.00	11011																														
ZZZZZZ	RC25MB1SPK	1.00	11052																														
CCV	CCV3	1.00	11093		X		X					X		X	X									X									X

RC16: 09201

FORM XIV

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 7/7/2010

SDG: RC75 | RUNID: IP070771 | METHOD: ICP | END DATE: 7/7/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
CCB	CCB3	1.00	11135		X		X					X		X	X									X									X
ZZZZZZ	RD18MB	2.00	11180																														
ZZZZZZ	RC25C	1.00	11221																														
ZZZZZZ	RC25E	1.00	11262																														
ZZZZZZ	RC25F	1.00	11302																														
ZZZZZZ	RD18A	2.00	11343																														
ZZZZZZ	RD18MBSPK	2.00	11384																														
ZZZZZZ	DIL	1.00	11425																														
CRI	CRIF	1.00	11470		X		X					X		X	X									X									X
ICSA	ICSAF	1.00	11511		X		X					X		X	X									X									X
ICSAB	ICSABF	1.00	11552		X		X					X		X	X									X									X
CCV	CCV4	1.00	11592		X		X					X		X	X									X									X
CCB	CCB4	1.00	12033		X		X					X		X	X									X									X
PBS	RC75MB1	2.00	12075		X		X					X		X	X									X									X
ZZZZZZ	RC46MB1	1.00	12120																														
ZZZZZZ	RC46ADUP	1.00	12161																														
ZZZZZZ	RC46A	1.00	12202																														
ZZZZZZ	RC46ASPK	1.00	12243																														
NBF-MH108A-063010-	RC75B	2.00	12284																														
NBF-CB173A-063010-	RC75E	2.00	12325		X		X					X		X	X									X									X
NBF-LS431A-063010-	RC75H	2.00	12364																														
LCSS	RC75MB1SPK	2.00	12405		X		X					X		X	X									X									X
ZZZZZZ	RC46MB1SPK	1.00	12450																														
CCV	CCV5	1.00	12491		X		X					X		X	X									X									X
CCB	CCB5	1.00	12533		X		X					X		X	X									X									X
ZZZZZZ	RC41MB	1.00	12572																														
ZZZZZZ	RC41A	1.00	13013																														
NBF-MH108A-063010-	RC75B	5.00	13054		X		X					X		X	X									X									X
NBF-LS431A-063010-	RC75H	5.00	13102		X		X					X		X	X									X									X
ZZZZZZ	RC41MBSPK	1.00	13144																														
CCV	CCV6	1.00	13185		X		X					X		X	X									X									X
CCB	CCB6	1.00	13230		X		X					X		X	X									X									X

RC46:00202

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: CETAC MERCURY | START DATE: 7/7/2010

SDG: RC75 | RUNID: HG070701 | METHOD: CVA | END DATE: 7/7/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	11563														X																
S0.1	S0.1	1.00	11581														X																
S0.5	S0.5	1.00	11595														X																
S1	S1	1.00	12012														X																
S2	S2	1.00	12030														X																
S5	S5	1.00	12044														X																
S10	S10	1.00	12062														X																
ICV	AICV	1.00	12121														X																
ICB	ICB	1.00	12134														X																
CCV	ACCV1	1.00	12152														X																
CCB	CCB1	1.00	12170														X																
CRA	CRA	1.00	12184														X																
PBW	RC75MB1	1.00	12201														X																
LCSW	RC75MB1SPK	1.00	12215														X																
NBF-MH108A-063010-	RC75B	1.00	12232														X																
NBF-CB173A-063010-	RC75E	1.00	12250														X																
NBF-LS431A-063010-	RC75H	1.00	12264														X																
CCV	ACCV2	1.00	12281														X																
CCB	CCB2	1.00	12300														X																

RC1G90203

Mercury Analysis
Report and Summary QC Forms

ARI Job ID: RC46, RC63, RC75

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC63

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
NBF-LS431-063010-W	RC63A	10-15754	
NBF-LS431-063010-WD	RC63ADUP	10-15754	
NBF-LS431-063010-WS	RC63ASPK	10-15754	
PBW	RC63MB1	10-15754	
LCSW	RC63MB1SPK	10-15754	

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

Comments: _____

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

Signature: _____ Name: Jay Kuhn

Date: 7/9/10 Title: Inorganic Manager

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
Dissolved Mercury by Method SW7470A

Data Release Authorized:
Reported: 07/09/10
Date Received: 06/30/10
Page 1 of 1

QC Report No: RC63-Science App. International Corp
Project: NBF-Stormwater

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
NBF-LS431-063010-W RC63A 10-15754	06/30/10	Water	07/06/10 07/08/10	20.0	20.0 U
MB-070610 Method Blank	NA	Water	07/06/10 07/08/10	20.0	20.0 U

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: NBF-LS431-063010-W
MATRIX SPIKE

Lab Sample ID: RC63A
LIMS ID: 10-15754
Matrix: Water
Data Release Authorized:
Reported: 07/09/10

QC Report No: RC63-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Mercury	7470A	20.0 U	104	100	104%	

Reported in ng/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%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: NBF-LS431-063010-W DUPLICATE

Lab Sample ID: RC63A
LIMS ID: 10-15754
Matrix: Water
Data Release Authorized:
Reported: 07/09/10

QC Report No: RC63-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: 06/30/10
Date Received: 06/30/10

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Mercury	7470A	20.0 U	20.0 U	0.0%	+/- 20.0	L

Reported in ng/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: LAB CONTROL

Lab Sample ID: RC63LCS
LIMS ID: 10-15754
Matrix: Water
Data Release Authorized:
Reported: 07/09/10

QC Report No: RC63-Science App. International Corp
Project: NBF-Stormwater

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	206	200	103%	

Reported in ng/L

N-Control limit not met
Control Limits: 80-120%

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC63

UNITS: ng/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Mercury	HG	CVL	HG070801	500.0	469.00	93.8	500.0	474.00	94.8	482.00	96.4	488.00	97.6				

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

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

UNITS: ng/L

SDG: RC63

ANALYTE	EL	M	RUN	CRA/I	TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Mercury	HG	CVL	HG070801		20.0	18.40	**92.0**										

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

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC63

UNITS: ng/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Mercury	HG	CVL	HG070801	25.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U				

RC46:00212

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC63 UNITS: ng/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ng/L)	ICP LR DATE
Mercury	HG	CVL	CETAC MERCURY	253.70		25	20.0	4/1/2010		

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater

SDG: RC63

ANALYSIS METHOD: CVL

ARI PREP CODE: DLM

PREPDATE: 7/6/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-LS431-063010-W	RC63A	0.000	20.0	20.0
NBF-LS431-063010-WD	RC63ADUP	0.000	20.0	20.0
NBF-LS431-063010-WS	RC63ASPK	0.000	20.0	20.0
PBW	RC63MB1	0.000	20.0	20.0
LCSW	RC63MB1SPK	0.000	20.0	20.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-Stormwater | INSTRUMENT ID: CETAC MERCURY | START DATE: 7/8/2010

SDG: RC63 | RUNID: HG070801 METHOD: CVL | END DATE: 7/8/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10563														X																
S20	S20	1.00	10591														X																
S50	S50	1.00	11015														X																
S100	S100	1.00	11044														X																
S200	S200	1.00	11072														X																
S400	S400	1.00	11100														X																
S1000	S1000	1.00	11125														X																
ICV	AICV	1.00	11523														X																
ICB	ICB	1.00	11550														X																
CCV	ACCV1	1.00	11575														X																
CCB	CCB1	1.00	12003														X																
CRA	CRA	1.00	12032														X																
ZZZZZZ	RC29MB1	1.00	12060																														
ZZZZZZ	RC29MB1SPK	1.00	12084																														
ZZZZZZ	RC29A	1.00	12112																														
ZZZZZZ	RC29ADUP	1.00	12140																														
ZZZZZZ	RC29ASPK	1.00	12164																														
ZZZZZZ	RC42MB	1.00	12192																														
ZZZZZZ	RC42MBSPK	1.00	12221																														
ZZZZZZ	RC42A	1.00	12245																														
PBW	RC63MB1	1.00	12273														X																
CCV	ACCV2	1.00	12302														X																
CCB	CCB2	1.00	12330														X																
LCSW	RC63MB1SPK	1.00	12354														X																
NBF-LS431-063010-W	RC63A	1.00	12382														X																
NBF-LS431-063010-WD	RC63ADUP	1.00	12410														X																
NBF-LS431-063010-WS	RC63ASPK	1.00	12434														X																
ZZZZZZ	RC86MB1	1.00	12463																														
ZZZZZZ	RC86MB1SPK	1.00	12491																														
ZZZZZZ	RC86MB1SPD	1.00	12515																														
ZZZZZZ	RC86A	1.00	12543																														
ZZZZZZ	RC86MB2	1.00	12571																														
ZZZZZZ	RC86MB2SPK	1.00	13000																														
CCV	ACCV3	1.00	13024														X																
CCB	CCB3	1.00	13053														X																

FORM XIV

RC46:00213

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: RC46, RC63, RC75

SAMPLE RESULTS-CONVENTIONALS
RC46-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/07/10

Project: NBF-Stormwater
Event: NA
Date Sampled: 06/30/10
Date Received: 06/30/10

Client ID: NBF-LS431-063010-W
ARI ID: 10-15695 RC46A

Analyte	Date Batch	Method	Units	RL	Sample
pH	07/01/10 070110#1	EPA 150.1	std units	0.01	7.70
Alkalinity	07/01/10 070110#1	SM 2320	mg/L CaCO3	1.0	172
Carbonate	07/01/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	07/01/10	SM 2320	mg/L CaCO3	1.0	172
Hydroxide	07/01/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Total Suspended Solids	07/02/10 070210#1	EPA 160.2	mg/L	2.2	27.8
Chloride	06/30/10 063010#1	EPA 300.0	mg/L	1.0	34.1
N-Nitrate	07/01/10 070110#1	EPA 300.0	mg-N/L	0.5	0.6
Sulfate	07/01/10 070110#1	EPA 300.0	mg/L	0.5	3.3
Total Organic Carbon	07/02/10 070210#1	EPA 415.1	mg/L	1.50	9.11
Dissolved Organic Carbon	07/02/10 070210#1	EPA 415.1	mg/L	1.50	6.35

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
RC46-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/07/10

Project: NBF-Stormwater
Event: NA
Date Sampled: 06/30/10
Date Received: 06/30/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: RC46A Client ID: NBF-LS431-063010-W							
Chloride	EPA 300.0	06/30/10	mg/L	34.1	51.3	20.0	86.0%
N-Nitrate	EPA 300.0	07/01/10	mg-N/L	0.6	9.3	10.0	87.0%
Sulfate	EPA 300.0	07/01/10	mg/L	3.3	12.7	10.0	94.0%
Total Organic Carbon	EPA 415.1	07/02/10	mg/L	9.11	27.3	20.0	91.0%
Dissolved Organic Carbon	EPA 415.1	07/02/10	mg/L	6.35	23.5	20.0	85.8%

REPLICATE RESULTS-CONVENTIONALS
RC46-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/07/10

Project: NBF-Stormwater
Event: NA
Date Sampled: 06/30/10
Date Received: 06/30/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: RC46A Client ID: NBF-LS431-063010-W						
pH	EPA 150.1	07/01/10	std units	7.70	7.70	0.00
Alkalinity	SM 2320	07/01/10	mg/L CaCO3	172	171	0.6%
Carbonate	SM 2320	07/01/10	mg/L CaCO3	< 1.0	< 1.0	NA
Bicarbonate	SM 2320	07/01/10	mg/L CaCO3	172	171	0.6%
Hydroxide	SM 2320	07/01/10	mg/L CaCO3	< 1.0	< 1.0	NA
Total Suspended Solids	EPA 160.2	07/02/10	mg/L	27.8	33.1	17.4%
Chloride	EPA 300.0	06/30/10	mg/L	34.1	33.8	0.9%
N-Nitrate	EPA 300.0	07/01/10	mg-N/L	0.6	0.6	0.0%
Sulfate	EPA 300.0	07/01/10	mg/L	3.3	3.1	6.2%
Total Organic Carbon	EPA 415.1	07/02/10	mg/L	9.11	9.01	1.1%
Dissolved Organic Carbo	EPA 415.1	07/02/10	mg/L	6.35	6.76	6.3%

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

LAB CONTROL RESULTS-CONVENTIONALS
RC46-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/07/10

Project: NBF-Stormwater
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH EPA 150.1	ICVL	07/01/10	std units	6.99	7.00	0.01
Total Suspended Solids EPA 160.2	ICVL	07/02/10	mg/L	49.8	50.0	99.6%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

METHOD BLANK RESULTS-CONVENTIONALS
RC46-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/07/10

Project: NBF-Stormwater
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Total Suspended Solids	EPA 160.2	07/02/10	mg/L	< 1.0 U	
Chloride	EPA 300.0	06/30/10	mg/L	< 0.1 U	
N-Nitrate	EPA 300.0	07/01/10	mg-N/L	< 0.1 U	
Sulfate	EPA 300.0	07/01/10	mg/L	< 0.1 U	
Total Organic Carbon	EPA 415.1	07/02/10	mg/L	< 1.50 U	
Dissolved Organic Carbon	EPA 415.1	07/02/10	mg/L	< 1.50 U	

STANDARD REFERENCE RESULTS-CONVENTIONALS
RC46-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 07/07/10

Project: NBF-Stormwater
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	07/01/10	mg/L CaCO3	87.8	87.7	100.1%
Chloride ERA #230109	EPA 300.0	06/30/10	mg/L	3.0	3.0	100.0%
N-Nitrate ERA #09127	EPA 300.0	07/01/10	mg-N/L	2.9	3.0	96.7%
Sulfate ERA #220109	EPA 300.0	07/01/10	mg/L	3.0	3.0	100.0%
Total Organic Carbon ERA 0513-10-06	EPA 415.1	07/02/10	mg/L	19.1	20.0	95.5%
Dissolved Organic Carbon ERA 0513-10-06	EPA 415.1	07/02/10	mg/L	19.1	20.0	95.5%

Geotechnical Analysis
Report and Summary QC Forms

ARI Job ID: RC46, RC63, RC75

Science App. Internatioal Corp
NBF/GTSP Stormwater Sampling

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
NBF-MH108A-063010-S	100.0	100.0	99.8	73.6	68.1	63.6	59.6	57.9	57.6	57.5	57.5	57.6	57.4	57.0
NBF-LS431A-063010-S	100.0	100.0	100.0	99.8	99.5	98.8	98.2	98.0	93.6	77.6	64.3	55.4	45.6	36.9

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Science App. Internatioal Corp
NBF/GTSP Stormwater Sampling

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
NBF-MH108A-063010-S	0.2	26.2	5.5	4.5	4.0	1.8	0.3	0.1	0.0	-0.1	0.2	0.4	57.0	57.9
NBF-LS431A-063010-S	0.0	0.2	0.3	0.7	0.6	0.2	4.4	16.0	13.3	8.9	9.8	8.7	36.9	98.0

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Sample: NBF-MH108A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75B.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 7/15/2010 11:47:36AM
Reported: 7/16/2010 9:22:33AM
Liquid Visc: 0.7225 mPa·s
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:41 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 116 / 71 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (µm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
971.6	0.042	73.3	0.6	117.79572
917.3	0.125	72.8	0.5	104.98555
866.0	0.208	72.3	0.5	93.56847
817.5	0.291	71.8	0.5	83.39298
771.8	0.374	71.3	0.5	74.32408
728.6	0.457	70.9	0.5	66.24140
687.9	0.540	70.4	0.5	59.03771
649.4	0.623	70.0	0.4	52.61742
613.1	0.706	69.5	0.4	46.89532
578.8	0.789	69.1	0.4	41.79550
546.4	0.872	68.7	0.4	37.25028
515.8	0.955	68.3	0.4	33.19935
487.0	1.038	67.9	0.4	29.58895
459.7	1.121	67.6	0.4	26.37118
434.0	1.204	67.2	0.4	23.50334
409.7	1.287	66.8	0.4	20.94737
386.8	1.370	66.4	0.4	18.66936
365.2	1.453	66.0	0.4	16.63909
344.7	1.536	65.7	0.4	14.82960
325.5	1.619	65.3	0.4	13.21690
307.3	1.702	64.9	0.4	11.77957
290.1	1.786	64.5	0.4	10.49855
273.8	1.869	64.2	0.4	9.35685
258.5	1.952	63.8	0.4	8.33930
244.1	2.035	63.4	0.4	7.43241
230.4	2.118	63.1	0.4	6.62414
217.5	2.201	62.7	0.4	5.90377
205.4	2.284	62.4	0.4	5.26174
193.9	2.367	62.0	0.3	4.68953
183.0	2.450	61.7	0.3	4.17955
172.8	2.533	61.4	0.3	3.72503
163.1	2.616	61.0	0.3	3.31993
154.0	2.699	60.7	0.3	2.95889
145.4	2.782	60.4	0.3	2.63712
137.2	2.865	60.1	0.3	2.35033
129.6	2.948	59.8	0.3	2.09474
122.3	3.031	59.5	0.3	1.86694
115.5	3.114	59.2	0.3	1.66391
109.0	3.197	59.0	0.2	1.48296
102.9	3.280	58.8	0.2	1.32169

Sample: NBF-MH108A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75B.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

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Base/Full Scale: 116 / 71 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (μm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
97.16	3.363	58.6	0.2	1.17796
91.73	3.447	58.4	0.2	1.04986
86.60	3.530	58.3	0.1	0.93568
81.75	3.613	58.2	0.1	0.83393
77.18	3.696	58.1	0.1	0.74324
72.86	3.779	58.0	0.1	0.66241
68.79	3.862	57.9	0.1	0.59038
64.94	3.945	57.9	0.0	0.52617
61.31	4.028	57.9	0.0	0.46895
57.88	4.111	57.9	0.0	0.41795
54.64	4.194	57.9	0.0	0.37250
51.58	4.277	57.9	0.0	0.33199
48.70	4.360	57.9	0.0	0.29589
45.97	4.443	57.8	0.0	0.26371
43.40	4.526	57.8	0.0	0.23503
40.97	4.609	57.8	0.0	0.20947
38.68	4.692	57.8	0.0	0.18669
36.52	4.775	57.7	0.0	0.16639
34.47	4.858	57.7	0.1	0.14830
32.55	4.941	57.6	0.1	0.13217
30.73	5.024	57.6	0.1	0.11780
29.01	5.107	57.5	0.1	0.10499
27.38	5.191	57.4	0.1	0.09357
25.85	5.274	57.4	0.1	0.08339
24.41	5.357	57.3	0.0	0.07432
23.04	5.440	57.3	0.0	0.06624
21.75	5.523	57.3	0.0	0.05904
20.54	5.606	57.3	0.0	0.05262
19.39	5.689	57.3	0.0	0.04690
18.30	5.772	57.4	0.0	0.04180
17.28	5.855	57.4	-0.1	0.03725
16.31	5.938	57.5	-0.1	0.03320
15.40	6.021	57.5	0.0	0.02959
14.54	6.104	57.6	0.0	0.02637
13.72	6.187	57.6	0.0	0.02350
12.96	6.270	57.6	0.0	0.02095
12.23	6.353	57.6	0.0	0.01867
11.55	6.436	57.6	0.0	0.01664
10.90	6.519	57.6	0.0	0.01483
10.29	6.602	57.6	0.0	0.01322

Sample: NBF-MH108A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75B.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

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Base/Full Scale: 116 / 71 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (µm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
9.716	6.685	57.6	0.0	0.01178
9.173	6.768	57.6	0.0	0.01050
8.660	6.851	57.5	0.0	0.00936
8.175	6.935	57.5	0.0	0.00834
7.718	7.018	57.5	0.0	0.00743
7.286	7.101	57.4	0.0	0.00662
6.879	7.184	57.4	0.0	0.00590
6.494	7.267	57.3	0.0	0.00526
6.131	7.350	57.3	0.0	0.00469
5.788	7.433	57.3	0.0	0.00418
5.464	7.516	57.3	0.0	0.00373
5.158	7.599	57.4	0.0	0.00332
4.870	7.682	57.4	0.0	0.00296
4.597	7.765	57.5	-0.1	0.00264
4.340	7.848	57.5	-0.1	0.00235
4.097	7.931	57.6	-0.1	0.00209
3.868	8.014	57.6	0.0	0.00187
3.652	8.097	57.7	0.0	0.00166
3.447	8.180	57.7	0.0	0.00148
3.255	8.263	57.7	0.0	0.00132
3.073	8.346	57.7	0.0	0.00118
2.901	8.429	57.6	0.0	0.00105
2.738	8.512	57.6	0.0	0.00094
2.585	8.595	57.5	0.1	0.00083
2.441	8.679	57.5	0.1	0.00074
2.304	8.762	57.4	0.0	0.00066
2.175	8.845	57.4	0.0	0.00059
2.054	8.928	57.4	0.0	0.00053
1.939	9.011	57.4	0.0	0.00047
1.830	9.094	57.4	0.0	0.00042
1.728	9.177	57.4	0.0	0.00037
1.631	9.260	57.4	0.0	0.00033
1.540	9.343	57.4	0.0	0.00030
1.454	9.426	57.4	0.0	0.00026
1.372	9.509	57.3	0.0	0.00024
1.296	9.592	57.3	0.0	0.00021
1.223	9.675	57.2	0.0	0.00019
1.155	9.758	57.2	0.1	0.00017
1.090	9.841	57.1	0.1	0.00015
1.029	9.924	57.1	0.1	0.00013

Sample: NBF-MH108A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75B.SMP
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Calculation Method: Stokes sedimentation and Beer's law of extinction

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Base/Full Scale: 116 / 71 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (µm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
0.972	10.007	57.0	0.1	0.00012
0.917	10.090	56.9	0.1	0.00010
0.866	10.173	56.9	0.1	0.00009
0.818	10.256	56.8	0.1	0.00008
0.772	10.340	56.7	0.1	0.00007
0.729	10.423	56.6	0.1	0.00007
0.688	10.506	56.4	0.2	0.00006
0.649	10.589	56.1	0.3	0.00005
0.613	10.672	55.5	0.5	0.00005
0.579	10.755	54.7	0.9	0.00004
0.546	10.838	53.4	1.3	0.00004
0.516	10.921	51.5	1.8	0.00003
0.487	11.004	49.1	2.5	0.00003
0.460	11.087	46.0	3.1	0.00003
0.434	11.170	42.2	3.7	0.00002
0.410	11.253	38.0	4.2	0.00002
0.387	11.336	33.5	4.5	0.00002
0.365	11.419	28.9	4.6	0.00002
0.345	11.502	24.5	4.5	0.00001
0.325	11.585	20.4	4.1	0.00001
0.307	11.668	16.7	3.6	0.00001
0.290	11.751	13.6	3.1	0.00001
0.274	11.834	11.1	2.5	0.00001
0.259	11.917	9.2	1.9	0.00001
0.244	12.000	7.7	1.5	0.00001
0.230	12.084	6.7	1.1	0.00001
0.218	12.167	5.9	0.8	0.00001
0.205	12.250	5.3	0.6	0.00001
0.194	12.333	4.9	0.4	0.00000
0.183	12.416	4.6	0.3	0.00000
0.173	12.499	4.4	0.2	0.00000
0.163	12.582	4.3	0.1	0.00000
0.154	12.665	4.2	0.1	0.00000
0.145	12.748	4.2	0.0	0.00000
0.137	12.831	4.2	0.0	0.00000
0.130	12.914	4.2	0.0	0.00000
0.122	12.997	4.1	0.1	0.00000
0.115	13.080	4.0	0.1	0.00000
0.109	13.163	3.9	0.1	0.00000
0.103	13.246	3.7	0.2	0.00000

Sample: NBF-MH108A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75B.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

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Base/Full Scale: 116 / 71 kCnts/s
Reynolds Number: 0.30

Report by Size Table

Low Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Low Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
9500	100.0	0.0	63.00	57.9	1.7
4750	100.0	0.0	31.00	57.6	0.3
2000	99.8	0.2	15.60	57.5	0.0
1000	73.6	26.2	7.800	57.5	0.0
500.0	68.1	5.5	3.900	57.6	-0.2
250.0	63.6	4.5	2.000	57.4	0.3
125.0	59.6	4.0	1.000	57.0	0.3

Sample: NBF-MH108A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75B.SMP
Material/Liquid: Soil / Water
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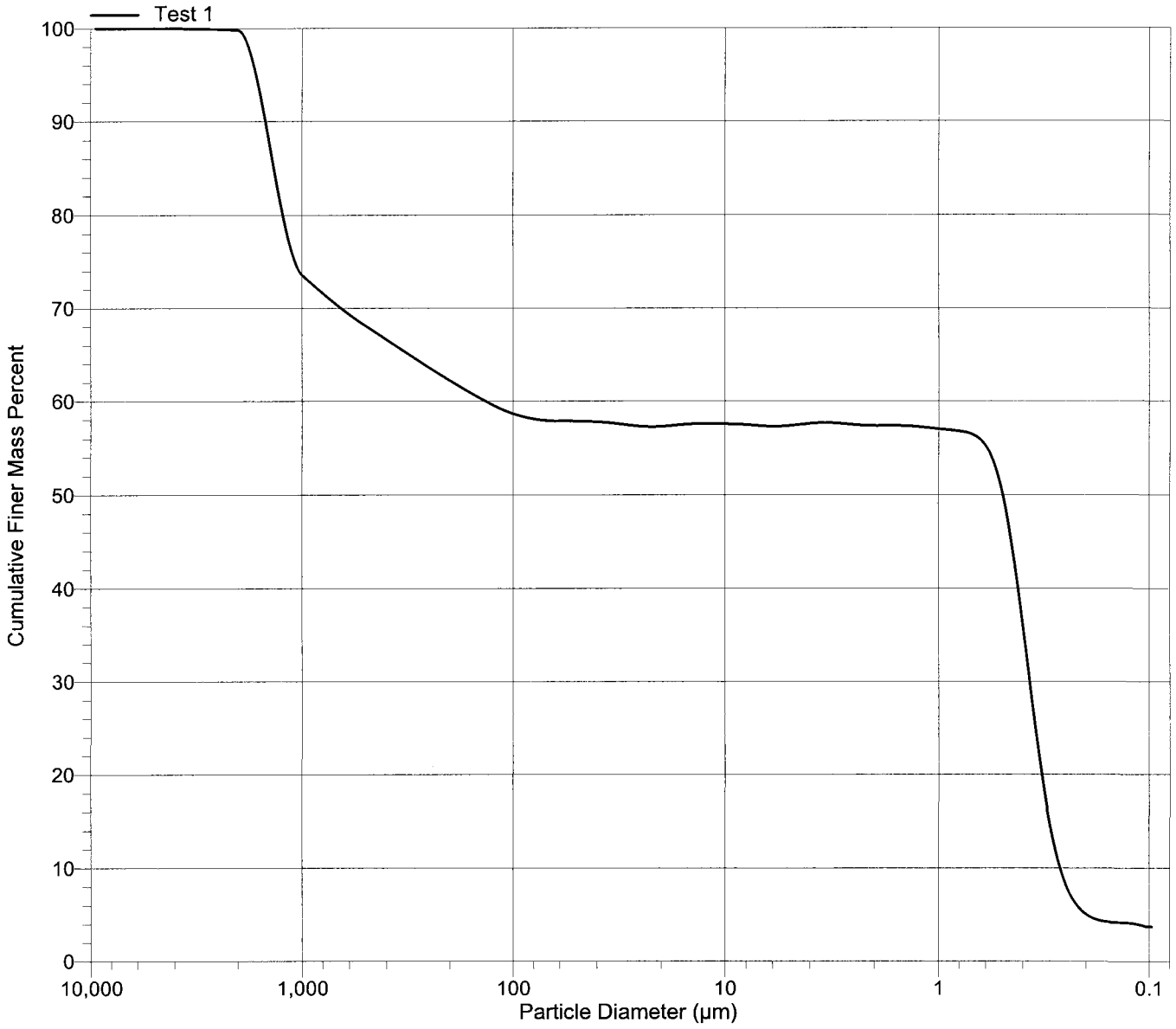
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Sample: NBF-LS431A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75H.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 7/15/2010 2:01:50PM
Reported: 7/16/2010 9:23:05AM
Liquid Visc: 0.7224 mPa·s
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:49 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 116 / 93 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (µm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
971.6	0.042	99.8	0.0	117.81013
917.3	0.125	99.8	0.0	104.99839
866.0	0.208	99.8	0.0	93.57991
817.5	0.291	99.7	0.0	83.40318
771.8	0.374	99.7	0.0	74.33317
728.6	0.457	99.7	0.0	66.24950
687.9	0.540	99.7	0.0	59.04493
649.4	0.623	99.6	0.0	52.62385
613.1	0.706	99.6	0.0	46.90106
578.8	0.789	99.6	0.0	41.80061
546.4	0.872	99.5	0.0	37.25483
515.8	0.955	99.5	0.0	33.20341
487.0	1.038	99.4	0.0	29.59257
459.7	1.121	99.4	0.0	26.37440
434.0	1.204	99.3	0.1	23.50621
409.7	1.287	99.3	0.1	20.94993
386.8	1.370	99.2	0.1	18.67165
365.2	1.453	99.2	0.1	16.64112
344.7	1.536	99.1	0.1	14.83142
325.5	1.619	99.0	0.1	13.21851
307.3	1.702	99.0	0.1	11.78101
290.1	1.786	98.9	0.1	10.49984
273.8	1.869	98.9	0.1	9.35799
258.5	1.952	98.8	0.1	8.34032
244.1	2.035	98.7	0.1	7.43332
230.4	2.118	98.7	0.1	6.62495
217.5	2.201	98.6	0.1	5.90449
205.4	2.284	98.6	0.1	5.26239
193.9	2.367	98.5	0.1	4.69011
183.0	2.450	98.5	0.0	4.18006
172.8	2.533	98.4	0.0	3.72548
163.1	2.616	98.4	0.0	3.32034
154.0	2.699	98.3	0.0	2.95926
145.4	2.782	98.3	0.0	2.63744
137.2	2.865	98.3	0.0	2.35062
129.6	2.948	98.2	0.0	2.09499
122.3	3.031	98.2	0.0	1.86716
115.5	3.114	98.2	0.0	1.66411
109.0	3.197	98.1	0.0	1.48314
102.9	3.280	98.1	0.0	1.32185

Sample: NBF-LS431A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75H.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 7/15/2010 2:01:50PM
Reported: 7/16/2010 9:23:05AM
Liquid Visc: 0.7224 mPa·s
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:49 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 116 / 93 kCnts/s
Reynolds Number: 0.30

Report by Size Class

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91.73	3.447	98.1	0.0	1.04998
86.60	3.530	98.0	0.0	0.93580
81.75	3.613	98.0	0.0	0.83403
77.18	3.696	98.0	0.0	0.74333
72.86	3.779	98.0	0.0	0.66250
68.79	3.862	98.0	0.0	0.59045
64.94	3.945	98.0	0.0	0.52624
61.31	4.028	98.0	0.0	0.46901
57.88	4.111	98.0	0.0	0.41801
54.64	4.194	98.0	0.0	0.37255
51.58	4.277	98.0	0.0	0.33203
48.70	4.360	97.8	0.1	0.29593
45.97	4.443	97.6	0.2	0.26374
43.40	4.526	97.3	0.3	0.23506
40.97	4.609	97.0	0.4	0.20950
38.68	4.692	96.5	0.5	0.18672
36.52	4.775	95.9	0.6	0.16641
34.47	4.858	95.2	0.7	0.14831
32.55	4.941	94.4	0.8	0.13219
30.73	5.024	93.4	0.9	0.11781
29.01	5.107	92.4	1.1	0.10500
27.38	5.191	91.2	1.2	0.09358
25.85	5.274	89.9	1.3	0.08340
24.41	5.357	88.5	1.4	0.07433
23.04	5.440	87.1	1.4	0.06625
21.75	5.523	85.6	1.5	0.05904
20.54	5.606	84.2	1.5	0.05262
19.39	5.689	82.7	1.4	0.04690
18.30	5.772	81.3	1.4	0.04180
17.28	5.855	80.0	1.4	0.03725
16.31	5.938	78.6	1.3	0.03320
15.40	6.021	77.3	1.3	0.02959
14.54	6.104	76.0	1.3	0.02637
13.72	6.187	74.8	1.3	0.02351
12.96	6.270	73.5	1.3	0.02095
12.23	6.353	72.2	1.2	0.01867
11.55	6.436	71.0	1.2	0.01664
10.90	6.519	69.9	1.2	0.01483
10.29	6.602	68.8	1.1	0.01322

Sample: NBF-LS431A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75H.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 7/15/2010 2:01:50PM
Reported: 7/16/2010 9:23:05AM
Liquid Visc: 0.7224 mPa·s
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:49 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 116 / 93 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (µm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
9.716	6.685	67.8	1.0	0.01178
9.173	6.768	66.8	1.0	0.01050
8.660	6.851	65.9	0.9	0.00936
8.175	6.935	65.0	0.9	0.00834
7.718	7.018	64.2	0.9	0.00743
7.286	7.101	63.3	0.9	0.00662
6.879	7.184	62.4	0.9	0.00590
6.494	7.267	61.4	0.9	0.00526
6.131	7.350	60.5	0.9	0.00469
5.788	7.433	59.6	0.9	0.00418
5.464	7.516	58.8	0.8	0.00373
5.158	7.599	58.1	0.7	0.00332
4.870	7.682	57.5	0.6	0.00296
4.597	7.765	56.9	0.6	0.00264
4.340	7.848	56.4	0.5	0.00235
4.097	7.931	55.9	0.5	0.00209
3.868	8.014	55.3	0.5	0.00187
3.652	8.097	54.7	0.6	0.00166
3.447	8.180	54.0	0.7	0.00148
3.255	8.263	53.2	0.8	0.00132
3.073	8.346	52.3	0.9	0.00118
2.901	8.429	51.4	0.9	0.00105
2.738	8.512	50.5	0.9	0.00094
2.585	8.595	49.5	0.9	0.00083
2.441	8.679	48.6	0.9	0.00074
2.304	8.762	47.7	0.9	0.00066
2.175	8.845	46.8	0.9	0.00059
2.054	8.928	46.0	0.8	0.00053
1.939	9.011	45.2	0.8	0.00047
1.830	9.094	44.4	0.8	0.00042
1.728	9.177	43.6	0.8	0.00037
1.631	9.260	42.8	0.8	0.00033
1.540	9.343	42.1	0.7	0.00030
1.454	9.426	41.4	0.7	0.00026
1.372	9.509	40.7	0.7	0.00024
1.296	9.592	40.0	0.7	0.00021
1.223	9.675	39.3	0.7	0.00019
1.155	9.758	38.7	0.7	0.00017
1.090	9.841	38.0	0.7	0.00015
1.029	9.924	37.3	0.7	0.00013

Sample: NBF-LS431A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75H.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 7/15/2010 2:01:50PM
Reported: 7/16/2010 9:23:05AM
Liquid Visc: 0.7224 mPa·s
Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:49 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 116 / 93 kCnts/s
Reynolds Number: 0.30

Report by Size Class

Low Diameter (µm)	Particle Size (Phi)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Settling Velocity (cm/s)
0.972	10.007	36.5	0.7	0.00012
0.917	10.090	35.8	0.8	0.00010
0.866	10.173	35.0	0.8	0.00009
0.818	10.256	34.2	0.8	0.00008
0.772	10.340	33.4	0.8	0.00007
0.729	10.423	32.5	0.9	0.00007
0.688	10.506	31.6	0.9	0.00006
0.649	10.589	30.7	1.0	0.00005
0.613	10.672	29.7	1.0	0.00005
0.579	10.755	28.5	1.1	0.00004
0.546	10.838	27.3	1.2	0.00004
0.516	10.921	26.0	1.3	0.00003
0.487	11.004	24.6	1.4	0.00003
0.460	11.087	23.2	1.4	0.00003
0.434	11.170	21.8	1.4	0.00002
0.410	11.253	20.4	1.4	0.00002
0.387	11.336	19.0	1.4	0.00002
0.365	11.419	17.7	1.3	0.00002
0.345	11.502	16.6	1.2	0.00001
0.325	11.585	15.5	1.1	0.00001
0.307	11.668	14.5	1.0	0.00001
0.290	11.751	13.5	0.9	0.00001
0.274	11.834	12.6	0.9	0.00001
0.259	11.917	11.7	0.9	0.00001
0.244	12.000	10.9	0.9	0.00001
0.230	12.084	10.0	0.9	0.00001
0.218	12.167	9.1	0.9	0.00001
0.205	12.250	8.3	0.8	0.00001
0.194	12.333	7.5	0.8	0.00000
0.183	12.416	6.8	0.7	0.00000
0.173	12.499	6.2	0.6	0.00000
0.163	12.582	5.6	0.5	0.00000
0.154	12.665	5.1	0.5	0.00000
0.145	12.748	4.7	0.5	0.00000
0.137	12.831	4.1	0.5	0.00000
0.130	12.914	3.5	0.6	0.00000
0.122	12.997	2.9	0.7	0.00000
0.115	13.080	2.0	0.8	0.00000
0.109	13.163	1.1	1.0	0.00000
0.103	13.246	0.0	1.1	0.00000

Sample: NBF-LS431A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75H.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
Calculation Method: Stokes sedimentation and Beer's law of extinction

Test Number: 1
Analyzed: 7/15/2010 2:01:50PM
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Analysis Temp: 35.0 °C

Analysis Type: High Speed(Adj)
Run Time: 1:49 hrs:min
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 116 / 93 kCnts/s
Reynolds Number: 0.30

Report by Size Table

Low Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)	Low Diameter (µm)	Cumulative Mass Finer (Percent)	Mass Frequency (Percent)
9500	100.0	0.0	63.00	98.0	0.2
4750	100.0	0.0	31.00	93.6	4.4
2000	100.0	0.0	15.60	77.6	16.0
1000	99.8	0.2	7.800	64.3	13.3
500.0	99.5	0.3	3.900	55.4	8.9
250.0	98.8	0.7	2.000	45.6	9.8
125.0	98.2	0.6	1.000	36.9	8.7

Sample: NBF-LS431A-063010-S
Operator: BR
Submitter: SAIC
File: C:\...\RC75\RC75H.SMP
Material/Liquid: Soil / Water
Measurement Principle: X-Ray monitored gravity sedimentation
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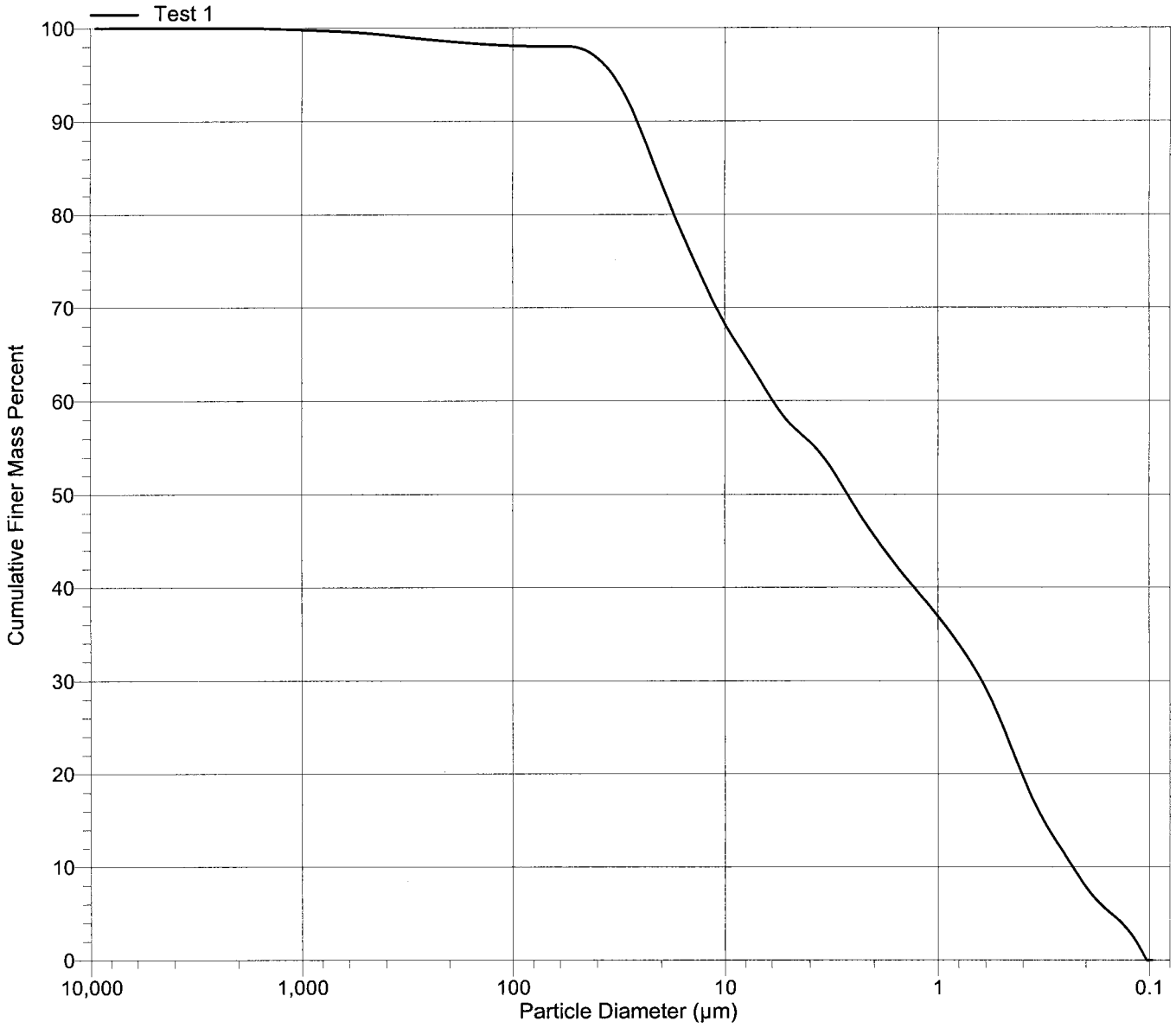
Sample Density: 2.650 g/cm³
Liquid Density: 0.9941 g/cm³
Base/Full Scale: 116 / 93 kCnts/s
Reynolds Number: 0.30

Cumulative Finer Mass Percent vs. Diameter



Total Solids

ARI Job ID: RC46, RC63, RC75

Solids Data Entry Report Checked by: MH Date: 7/06/16
Date: 07/03/10 Data Analyst: KM

Solids Determination performed on 07/02/10 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
RC75	B	NBF-MH108A-063010-S	0.992	10.007	2.626	18.13
RC75	E	NBF-CB173A-063010-S	0.962	5.216	2.100	26.75
RC75	H	NBF-LS431A-063010-S	1.000	5.168	1.970	23.27

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Analytical Chemists and Consultants

Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 07 **Balance ID:** 068755

Samples in Oven: Date: 7-02-10 Time: 1555 Temp: 101°C Analyst: DM

Removed from Oven: Date: 7/03/10 Time: 1120 Temp: 103°C Analyst: KM

Source of Total Solids Data If From A Different Lab: —

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs[1]
RC75 B	0.992	10.007	2.626	—	✓
" E	0.962	5.216	2.100	—	✓
" H	1.000	5.168	1.970	—	✓
		7-2-10	DM		

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104℃ < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

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Organic Extractions Prep Sheet Notes

ARI Job No.: RC75

Client ID: Science App. International Corp

Parameter: PCB

Client Project: NBF Stormwater

Matrix: (Filter bag)/tissue/other

Sample Wet Weights		
A= 400.72g	D= 344.91g	G= 383.73g
Metals Split (Solids only)		
A= 17.07g	D= 12.61g	G= 15.61g
Geotech Split (Solids only)		
A= 23.44g	D= N/A	G= 24.75g
Sample Dry Weights (with Plastic Ring)		
A= 86.43g	D= 100.01g	G= 83.97g
Plastic Ring Weights (Removed)		
A= 13.54g	D= 13.97g	G= 13.74g
Sample Dry Weights (without Plastic Ring)		
A= 72.89	D= 86.24g	G= 80.23g

Prep Time: ~~before drying - 25mins After drying - 40mins~~ Analyst/Date: before drying WC 7/2/10 After drying WC 7/2/10

Special Instructions:

(8270) PNA Filter Bag:
1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Cut off plastic rings and record weights on prep sheet. 4. Record wet weights without plastic rings and splits on prep sheet. 5. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags. 6. Record "prep time" on prep sheet. 7. Follow extraction instructions on bench sheet.

PCB Filter Bag:
1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Samples are dried for (2 days) by attaching them to a hood (split open in a tube shape and wrapped in aluminum foil). 4. Re-weigh dried samples and record weight on prep sheet.
5. Cut off plastic rings and record weights on prep sheet. 6. Record sample dry weights without plastic rings on prep sheet.
7. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags.
8. Record "prep time" on prep sheet. 9. Follow extraction instructions on bench sheet.

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Organic Extractions Prep Sheet Notes

ARI Job No.: RC75 II

Client ID: Science App. International Corp

Parameter: Prep only

Client Project: NBF stormwater

Matrix: (Filter bag)/tissue/other

Sample Wet Weights.
C= 459.39g F= 327.88g I= 389.00g

Sample Dry Weights.
C= 97.05g F= 90.02g I= 111.40g

Dry Weight time 30min AR 07/06/10

Prep Time: 10mins WC 7/2/10 | Analyst/Date: WC 7/2/10

Special Instructions:

(8270) PNA Filter Bag:
1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Cut off plastic rings and record weights on prep sheet. 4. Record wet weights without plastic rings and splits on prep sheet. 5. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags. 6. Record "prep time" on prep sheet. 7. Follow extraction instructions on bench sheet.

PCB Filter Bag:
1. Weigh wet filter bag and record weight on prep sheet. 2. Any solids splits taken at this time. (Record weights on prep sheet. 3. Samples are dried for (2 days) by attaching them to a hood (split open in a tube shape and wrapped in aluminum foil). 4. Re-weigh dried samples and record weight on prep sheet.
5. Cut off plastic rings and record weights on prep sheet. 6. Record sample dry weights without plastic rings on prep sheet.
7. Cut filter bag into 10cm squares and place in 2.0L beakers (or ½ gallon jars) along with any solids from the filter bags.
8. Record "prep time" on prep sheet. 9. Follow extraction instructions on bench sheet.

Table of Contents: ARI Job RD45

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Project: NBF NBF-GTSP Stormwater Sampling

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Signature

July-21-2010
Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

July 21, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: NBF/GTSP Stormwater Sampling
ARI Job No: RD45

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile RD45

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Documentation

ARI Job ID: RD45

RD45

SAIC
From Science to Solutions
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011
TEL: 425.485.5800 • FAX: 425.485.5566

CHAIN OF CUSTODY RECORD

Project No.: _____ Project Mgr: Glen Vedera
Project Name: NBF-GTSP Stormwater Sampling
Project Location: NBF
Sample Collectors: J Nuwer
Client Name: Ecology

Sample ID	Depth	Matrix	Date	Time	# of Containers	Low level PCB Aroclors	SVOC / SIM SVOC	Metals + Hg total/dissolved							Comments
NBF-ER-070810-W		water	7/8/10	11:00	2 carboys	X	X	X							Equipment Rinsate

Analyses / Tests

Shipping Information

Number of Shipping Containers:

Date Shipped:

Carrier:

Waybill No.:

Comments

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 7/8/10 13:50	Date/Time: 7/8/10 1350	Date/Time:	Date/Time:
Affiliation: SAIC	Affiliation: ARI	Affiliation:	Affiliation:

• White: Lab Returns to Originator Upon Receipt of Samples • Canary: Lab Retains • Pink: Lab Returns to Project Manager with Final Report • Goldenrod: Retained by Sampler

RD45 : 00093

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Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC Project Name: NBF

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: RD45 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)..... 17.4 ___ ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90877952

Cooler Accepted by: AV Date: 7/8/10 Time: 1350

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: 7/8/10 1500 Equipment: Polypropylene Churn Split by: JM/MM

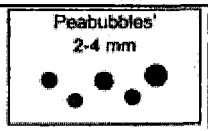
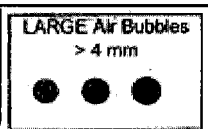
Samples Logged by: JM Date: 7/8/10 Time: 1548

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

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

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"	
Peabubbles → "pb"	
Large → "lg"	
Headspace → "hs"	

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Cooler Temperature Compliance Form

RD45

Cooler#: 1	Temperature(°C): 17.4	
Sample ID	**Bottle Count**	**Bottle Type**
All sample associated with this cooler are outside temperature compliance.		

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:_____ Date:_____ Time:_____

PRESERVATION VERIFICATION 07/08/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **RD45**

PC: Sue D.
VTSR: 07/08/10

Inquiry Number: NONE
Analysis Requested: 07/08/10
Contact: Vedera, Glen
Client: Science App. International Corp
Logged by: JM
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

Project #: NBF
Project: NBF-GTSP Stormwater Sampling
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	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-16162 **RD45A**	NBF-ER-070810-W						TOTS Yes															
10-16163 **RD45B**	NBF-ER-070810-W						DIS Fail									N						

DIS => Needs filtered & preserved

RD45 : 00005

Checked By JM Date 7/8/10

Subject: RE: Equipment Rinse Samples
From: "Hafner, William D." <WILLIAM.D.HAFNER@saic.com>
Date: Mon, 12 Jul 2010 14:21:07 -0700
To: "Cheronne Oreiro" <cheronneo@arilabs.com>, "Vedera, Glen T." <GLEN.T.VEDERA@saic.com>

Cheronne,
This sample is a rinseate for the filtration system. We only need total metals. We need PCBs, but not at low levels. We had a RL of 1.0 ug/L last time we did a rinseate for PCBs. SW8270D is fine for PAH. No need for SIM.
Please provide a level IV package and ship to Ecochem.
Hope you had a good break!
Thanks,
Will

-----Original Message-----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Monday, July 12, 2010 1:46 PM
To: Vedera, Glen T.; Hafner, William D.
Subject: Equipment Rinse Samples

Hi,

I'm back from vacation! I was just looking at paperwork for the equipment rinse samples received last Thursday. Just a couple of questions.
Will you need a full package (level IV)?
Should I send package/results to Ecochem?
See attached and let me know if I need to make any changes.
Thanks,
-Cheronne

--
Cheronne Oreiro
Project Manager
Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168-3240
cheronneo@arilabs.com
(206)-695-6214

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: RD45

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: SAIC
Project: NBF/GTSP Stormwater Sampling
ARI Job No.: RD45

Sample Receipt

One water sample was received on July 8, 2010, under ARI job RD45. The cooler temperature measured by IR thermometer following ARI SOP was 17.4°C. The water sample was submitted in a five-gallon carboy. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

The water sample was homogenized using a fourteen-liter churn-splitter and then poured in to individual sample containers for analysis.

Semivolatiles by SW8270D

The sample was extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCSD percent recovery of Benzo(b)fluoranthene was outside the control limits high for **LCS-071310**. The LCS percent recovery was within control limits. No corrective action was taken.

Aroclor PCBs by SW8082

The sample was extracted and analyzed within recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Total Metals and Mercury

The sample was digested and analyzed within method recommended holding times, using internal standard methods.

The second CCV percent recovery of silver was outside the control limits high. No sample results were associated with this CCV. No corrective action was taken.

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

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

7/3/2010

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1732-2	ABN	100/150	MEOH	07/30/10
B	1747-2	SIM PNA	15/75	MEOH	10/07/10
C	1705-4	SIM ABN	25/37.5	MEOH	07/30/10
D	1742-1	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1747-1	LOW S. PNA	1.5	MEOH	10/07/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1740-1	TPH	450	MECL2	12/11/10
P	1742-2	HCID	2250	MECL2	05/13/11
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					

LCS SOLUTIONS

7/3/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#		BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1744-3	LOW PEST	0.2/0.4/2	ACETONE	03/08/11
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1738-2	ABN	100	ACETONE	01/31/11
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1730-2	TPHD	15000	ACETONE	04/26/11
12	1741-2	ABN BASE	200	MEOH	07/24/10
13	1716-2	LOW PCB	2	ACETONE	03/30/11
14	1730-1	LOW ABN ACID	10/20	MEOH	07/14/10
15	1726-3	SIM PNA	15/75	MEOH	10/07/10
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18	1726-4	LOW SIM PNA	1.5	ACETONE	10/07/10
19	1746-3	AK103	7500	ACETONE	12/01/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1725-1	SKY/BHT	100	MEOH	03/18/11
22	1728-1	HERB	12.5/12500	MEOH	10/20/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#		DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#		ADD. PEST	4	ACETONE	NA
29#		DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

7/3/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
LCS Spike Recovery [8]				
Phenol [3]	50 - **100**	43 - 103	16 - **100**	6 - **100**
Bis-(2-chloroethyl) ether	52 - **100**	45 - 105	41 - 112	29 - 124
2-Chlorophenol	56 - **100**	49 - 103	43 - 111	32 - 122
1,3-Dichlorobenzene	23 - **100**	15 - **100**	32 - **100**	22 - 103
1,4-Dichlorobenzene	25 - **100**	17 - **100**	32 - **100**	22 - 103
Benzyl Alcohol	19 - 100	**10** - 114	22 - 100	9 - 113
1,2-Dichlorobenzene	30 - **100**	22 - **100**	34 - **100**	24 - 104
2-Methylphenol	52 - **100**	44 - 106	36 - 110	24 - 122
2,2'-oxybis(1-chloropropane)	32 - 111	19 - 124	29 - 118	14 - 133
4-Methylphenol	53 - 102	45 - 110	38 - 104	27 - 115
N-Nitroso-di-n-propylamine	43 - 104	33 - 114	38 - 115	25 - 128
Hexachloroethane	12 - **100**	**10** - **100**	24 - **100**	13 - 100
Nitrobenzene	33 - 125	18 - 140	45 - 106	35 - 116
Isophorone	57 - 115	47 - 125	55 - 119	44 - 130
2-Nitrophenol	56 - 102	48 - 110	46 - 118	34 - 130
2,4-Dimethyphenol	29 - **100**	20 - **100**	28 - 105	15 - 118
Bis-(2-chloroethoxy) methane	54 - 101	46 - 109	44 - 118	32 - 130
Benzoic Acid [3]	**10** - 131	**10** - 151	11 - **100**	**10** - **100**
2,4-Dichlorophenol	56 - 104	48 - 112	43 - 121	30 - 134
1,2,4-Trichlorobenzene	27 - **100**	18 - **100**	35 - **100**	25 - 107
Naphthalene	45 - **100**	38 - **100**	36 - 111	24 - 124
4-Chloroaniline [3]	**10** - 139	**10** - 161	10 - 174	**10** - 201
2-Chloronaphthalene	45 - **100**	37 - 105	39 - 118	26 - 131
Hexachlorobutadiene	**10** - **100**	**10** - **100**	24 - **100**	12 - 108
4-Chloro-3-methylphenol	53 - 109	44 - 118	45 - 122	32 - 135
2-Methylnaphthalene	46 - **100**	38 - 100	45 - 103	35 - 113
Hexachlorocyclopentadiene	**10** - **100**	**10** - **100**	23 - 108	**10** - 122
2,4,6-Trichlorophenol	58 - 108	50 - 116	48 - 122	36 - 134
2,4,5-Trichlorophenol	58 - 107	50 - 115	48 - 122	36 - 134
2-Nitroaniline	50 - 107	41 - 117	48 - 118	36 - 130
Dimethylphthalate	58 - 107	50 - 115	50 - 120	38 - 132
Acenaphthylene	57 - 100	50 - 107	50 - 119	39 - 131
2,6-Dinitrotoluene	58 - 112	49 - 121	48 - 133	34 - 147
3-Nitroaniline [3]	21 - 150	**10** - 172	54 - 140	40 - 154
Acenaphthene	51 - **100**	43 - 106	41 - 120	28 - 133
2,4-Dinitrophenol	12 - 169	**10** - 195	23 - 176	**10** - 202

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibenzofuran	57 - 100	50 - 107	51 - 114	41 - 125
4-Nitrophenol [3]	35 - 119	21 - 133	13 - **100**	**10** - **100**
2,4-Dinitrotoluene	58 - 117	48 - 127	51 - 134	37 - 148
Fluorene	56 - 104	48 - 112	50 - 120	38 - 132
Diethylphthlalate	52 - 111	42 - 121	48 - 122	36 - 134
4-Chlorophenyl-phenyl ether	55 - 104	47 - 112	50 - 118	39 - 129
4-Nitroaniline	49 - 112	39 - 123	42 - 136	26 - 152
4,6-Dinitro-2-Methylphenol	13 - 139	**10** - 160	32 - 121	17 - 136
N-Nitrosodiphenylamine	60 - 136	47 - 149	58 - 141	44 - 155
4-Bromophenyl-phenyl ether	55 - 103	47 - 111	50 - 122	38 - 134
Hexachlorobenzene	54 - 106	45 - 115	47 - 125	34 - 138
Pentachlorophenol	46 - 114	35 - 125	35 - 130	19 - 146
Phenanthrene	56 - 102	48 - 110	49 - 120	37 - 132
Anthracene	56 - 101	49 - 109	53 - 116	43 - 127
Carbazole	60 - 108	52 - 116	57 - 122	46 - 133
Di-n-butylphthalate	56 - 112	47 - 121	57 - 121	46 - 132
Fluoranthene	57 - 110	48 - 119	56 - 119	46 - 130
Pyrene	48 - 119	36 - 131	37 - 143	19 - 161
Butylbenzylphthalate	51 - 114	41 - 125	34 - 152	14 - 172
Benzo(a)Anthracene	55 - 105	47 - 113	49 - 129	36 - 142
3,3'-Dichlorbenzidine [3]	**10** - 128	**10** - 148	50 - 128	37 - 141
Chrysene	55 - 104	47 - 112	45 - 128	31 - 142
bis(2-Ethylhexyl) phthalate	28 - 164	**10** - 187	57 - 133	44 - 146
Di-n-octylphthalate	57 - 107	49 - 115	52 - 120	41 - 131
Benzo(b)Fluoranthene	53 - 112	43 - 122	50 - 126	37 - 139
Benzo(k)Fluoranthene	50 - 116	39 - 127	49 - 126	36 - 139
Benzo(a)Pyrene	45 - 103	35 - 113	46 - 109	36 - 120
Indeno(1,2,3-cd)Pyrene	35 - 118	21 - 132	34 - 136	17 - 153
Dibenz(a,h)anthracene	42 - 119	29 - 132	41 - 134	26 - 150
Benzo(g,h,i)Perylene	39 - 123	25 - 137	41 - 133	26 - 148
Aniline [3]	**10** - **100**	**10** - **100**	28 - 126	12 - 142
1,2-Diphenylhydrazine /Azobenzene	57 - 109	48 - 118	55 - 119	44 - 130
N-Nitrosodimethylamine	49 - **100**	41 - 104	31 - **100**	21 - 105
1-Methylnaphthalene	46 - **100**	37 - 107	43 - 115	31 - 127
1,4-Dioxane	40 - **100**	30 - 108	30 - 160 [4]	30 - 160 [4]
Pyridine	-	-	25 - **100**	15 - **100**
Tributyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]

Spike Recovery Control Limits for Analysis of Aqueous Samples Semi-Volatile Organic Compounds (SVOA) EPA SW-846 Methods 8270D [9]

Effective: 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Extraction Method:	Liquid-Liquid Extract [1]	Liquid-Liquid ME[1,2]	Separatory Funnel [1]	Separatory Funnel - ME[1,2]
Sample Weight / Final Volume:	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL	500 to 0.5 mL
Dibutyl Phenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butyl Diphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Triphenyl Phosphate	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
Butylated Hydroxytoluene (BHT)	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]	30 - 160 [4]
MB / LCS Surrogate Recovery				
d4-2-Chlorophenol	53 - 100	(5)	49 - 101	(5)
d4-1,2-Dichlorobenzene	38 - **100**	(5)	40 - **100**	(5)
2,4,6-Tribromophenol	52 - 123	(5)	51 - 122	(5)
2-Fluorophenol	46 - **100**	(5)	31 - **100**	(5)
d5-Phenol [3]	50 - 100	52 - 108	19 - **100**	12 - **100**
d5-Nitrobenzene	46 - 100	(5)	46 - 101	(5)
2-Fluorobiphenyl	49 - **100**	(5)	49 - 103	(5)
d14-p-Terphenyl	53 - 119	(5)	49 - 130	(5)
d8-1,4-Dioxane	45 - **100**	(5)	30 - 160 [4]	(5)
Sample Surrogate Recovery				
d4-2-Chlorophenol	44 - **100**	(5)	23 - 104	(5)
d4-1,2-Dichlorobenzene	32 - **100**	(5)	22 - **100**	(5)
2,4,6-Tribromophenol	48 - 118	(5)	22 - 125	(5)
2-Fluorophenol	38 - **100**	(5)	18 - **100**	(5)
d5-Phenol	41 - **100**	32 - 104	**10** - **100**	17 - **100**
d5-Nitrobenzene	39 - **100**	(5)	21 - 106	(5)
2-Fluorobiphenyl	42 - **100**	(5)	26 - 104	(5)
d14-p-Terphenyl	26 - 114	(5)	11 - 132	(5)
d8-1,4-Dioxane	32 - **100**	(5)	30 - 160 [4]	(5)

(1) Control Limits calculated using all data generated 1/1/07 through 12/1/07.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [6] as beyond the CL but still within the ME limits. ARI defines ME limits as between 3 and 4 standard deviations around the mean with upper limit ≥ 100%. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances in an analysis require corrective action.
(3) These are "**poor performers**" defined in the DoD QSM[7] as compounds that "produce low mean recoveries and high standard deviations, resulting in wide LCS control limits with particularly low lower control limits (sometimes-negative values). ARI does not control batch acceptance based on these compounds since there is a high level of uncertainty in their recovery."
(4) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(5) Marginal Exceedances not allowed for surrogate unless it is a "poor performer".
(6) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(7) Page 182 of: **Department of Defense Quality Systems Manual for Environmental Laboratories, Version 3 Final, March 2005** Prepared By Environmental Data Quality Workgroup, Department of Navy, Lead Service (Based On National Environmental Laboratory Accreditation Conference (NELAC) Chapter 5 (Quality Systems) NELAC Voted Version – 5 June 2003
(8) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(9) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

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Spike Recovery Control Limits Analysis of PCB / Aroclors in Aqueous Samples - EPA SW-846 Methods 8081 & 8082 [1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Analytical Method:	Standard Analysis	MTCA Analysis	Low Level Analysis	Manchester Extraction
Sample Weight / Final Volume:	500 / 5 mL	500 / 1 mL	1000 / 0.5 mL	3000 / 1 mL
LCS Spike Recovery [4]				
Aroclor 1016	45 - 121	36 - **100**	44 - 117	30 - 160[3]
Aroclor 1260	54 - 129	41 - 113	46 - 131	30 - 160[3]
Method Blank/LCS Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	40 - 118	29 - **100**	31 - **100**	30 - 160[3]
Decachlorobiphenyl	41 - 111	35 - 116	32 - 108	30 - 160[3]
Sample Surrogate Recovery				
Tetrachloro-*meta*-xylene (TCMX)	38 - 118	25 - **100**	21 - **100**	30 - 160[3]
Decachlorobiphenyl	29 - 118	**10** - 128	19 - 111	30 - 160[3]

(1) Control Limits calculated using all data generated 1/1/08 through 12/1/08.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Analytical Resources,Incorporated
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Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Semivolatile Analysis
Report and Summary QC Forms

ARI Job ID: RD45

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: NBF-ER-070810-W
SAMPLE

Lab Sample ID: RD45A
LIMS ID: 10-16162
Matrix: Water
Data Release Authorized:
Reported: 07/20/10

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF
Date Sampled: 07/08/10
Date Received: 07/08/10

Date Extracted: 07/13/10
Date Analyzed: 07/17/10 06:28
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**1.0**	**2.1**
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	73.2%	2-Fluorobiphenyl	76.0%
d14-p-Terphenyl	71.2%	d4-1,2-Dichlorobenzene	64.4%
d5-Phenol	74.9%	2-Fluorophenol	69.9%
2,4,6-Tribromophenol	88.5%	d4-2-Chlorophenol	74.9%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MB-071310	82.0%	80.0%	90.0%	67.6%	81.9%	75.7%	97.6%	82.9%	0
LCS-071310	86.4%	85.6%	94.4%	68.0%	86.1%	81.6%	104%	84.5%	0
LCSD-071310	88.8%	86.8%	95.2%	73.6%	89.9%	86.4%	105%	87.5%	0
NBF-ER-070810-W	73.2%	76.0%	71.2%	64.4%	74.9%	69.9%	88.5%	74.9%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(46-100)	(39-100)
(FBP) = 2-Fluorobiphenyl	(49-100)	(42-100)
(TPH) = d14-p-Terphenyl	(53-119)	(26-114)
(DCB) = d4-1,2-Dichlorobenzene	(38-100)	(32-100)
(PHL) = d5-Phenol	(50-100)	(41-100)
(2FP) = 2-Fluorophenol	(46-100)	(38-100)
(TBP) = 2,4,6-Tribromophenol	(52-123)	(48-118)
(2CP) = d4-2-Chlorophenol	(53-100)	(44-100)

Prep Method: SW3520C
Log Number Range: 10-16162 to 10-16162

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-071310
LCS/LCSD

Lab Sample ID: LCS-071310
LIMS ID: 10-16162
Matrix: Water
Data Release Authorized:
Reported: 07/20/10

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF
Date Sampled: 07/08/10
Date Received: 07/08/10

Date Extracted LCS/LCSD: 07/13/10

Date Analyzed LCS: 07/17/10 05:12
LCSD: 07/17/10 05:50
Instrument/Analyst LCS: NT6/JZ
LCSD: NT6/JZ
GPC Cleanup: NO

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	18.8	25.0	75.2%	20.3	25.0	81.2%	7.7%
1,4-Dichlorobenzene	11.5	25.0	46.0%	12.8	25.0	51.2%	10.7%
Benzyl Alcohol	45.1	50.0	90.2%	46.8	50.0	93.6%	3.7%
1,2-Dichlorobenzene	12.1	25.0	48.4%	13.5	25.0	54.0%	10.9%
2-Methylphenol	18.6	25.0	74.4%	21.0	25.0	84.0%	12.1%
4-Methylphenol	39.1	50.0	78.2%	42.7	50.0	85.4%	8.8%
2,4-Dimethylphenol	9.0	25.0	36.0%	13.8	25.0	55.2%	42.4%
Benzoic Acid	69.3	75.0	92.4%	68.7	75.0	91.6%	0.9%
1,2,4-Trichlorobenzene	12.3	25.0	49.2%	13.7	25.0	54.8%	10.8%
Naphthalene	18.0	25.0	72.0%	19.2	25.0	76.8%	6.5%
Hexachlorobutadiene	8.8	25.0	35.2%	10.8	25.0	43.2%	20.5%
2-Methylnaphthalene	18.4	25.0	73.6%	19.6	25.0	78.4%	6.3%
Dimethylphthalate	23.0	25.0	92.0%	23.5	25.0	94.0%	2.2%
Acenaphthylene	20.5	25.0	82.0%	21.2	25.0	84.8%	3.4%
Acenaphthene	20.8	25.0	83.2%	21.6	25.0	86.4%	3.8%
Dibenzofuran	23.3	25.0	93.2%	24.1	25.0	96.4%	3.4%
Diethylphthalate	23.7	25.0	94.8%	24.0	25.0	96.0%	1.3%
Fluorene	22.5	25.0	90.0%	23.4	25.0	93.6%	3.9%
N-Nitrosodiphenylamine	17.7	25.0	70.8%	18.5	25.0	74.0%	4.4%
Hexachlorobenzene	20.9	25.0	83.6%	22.0	25.0	88.0%	5.1%
Pentachlorophenol	22.6	25.0	90.4%	23.8	25.0	95.2%	5.2%
Phenanthrene	22.3	25.0	89.2%	23.2	25.0	92.8%	4.0%
Anthracene	20.8	25.0	83.2%	22.0	25.0	88.0%	5.6%
Di-n-Butylphthalate	24.0	25.0	96.0%	25.1	25.0	100%	4.5%
Fluoranthene	24.4	25.0	97.6%	25.6	25.0	102%	4.8%
Pyrene	22.0	25.0	88.0%	23.2	25.0	92.8%	5.3%
Butylbenzylphthalate	23.0	25.0	92.0%	24.4	25.0	97.6%	5.9%
Benzo(a)anthracene	23.4	25.0	93.6%	24.9	25.0	99.6%	6.2%
bis(2-Ethylhexyl)phthalate	24.9	25.0	99.6%	25.7	25.0	103%	3.2%
Chrysene	23.1	25.0	92.4%	23.9	25.0	95.6%	3.4%
Di-n-Octyl phthalate	22.5	25.0	90.0%	23.1	25.0	92.4%	2.6%
Benzo(b)fluoranthene	24.9	25.0	99.6%	28.2	25.0	113%	12.4%
Benzo(k)fluoranthene	24.6	25.0	98.4%	24.2	25.0	96.8%	1.6%
Benzo(a)pyrene	20.7	25.0	82.8%	21.4	25.0	85.6%	3.3%
Indeno(1,2,3-cd)pyrene	23.0	25.0	92.0%	24.3	25.0	97.2%	5.5%
Dibenz(a,h)anthracene	23.6	25.0	94.4%	24.7	25.0	98.8%	4.6%
Benzo(g,h,i)perylene	22.0	25.0	88.0%	22.9	25.0	91.6%	4.0%
1-Methylnaphthalene	19.2	25.0	76.8%	20.6	25.0	82.4%	7.0%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	86.4%	88.8%
2-Fluorobiphenyl	85.6%	86.8%

FORM III

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: LCS-071310
LCS/LCSD

Lab Sample ID: LCS-071310
LIMS ID: 10-16162
Matrix: Water
Date Analyzed LCS: 07/17/10 05:12
LCSD: 07/17/10 05:50

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d14-p-Terphenyl			94.4%	95.2%			
d4-1,2-Dichlorobenzene			68.0%	73.6%			
d5-Phenol			86.1%	89.9%			
2-Fluorophenol			81.6%	86.4%			
2,4,6-Tribromophenol			104%	105%			
d4-2-Chlorophenol			84.5%	87.5%			

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

RD45MBW1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD45 Project: NBF-GTSP STORMWATER

Lab File ID: 07161027 Date Extracted: 07/13/10

Instrument ID: NT6 Date Analyzed: 07/17/10

Matrix: LIQUID Time Analyzed: 0434

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	RD45LCSW1	RD45LCSW1	07161028	07/17/10
02	RD45LCSDW1	RD45LCSDW1	07161029	07/17/10
03	NBF-ER-070810-W	RD45A	07161030	07/17/10
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MB-071310
METHOD BLANK

Lab Sample ID: MB-071310
LIMS ID: 10-16162
Matrix: Water
Data Release Authorized:
Reported: 07/20/10

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF
Date Sampled: NA
Date Received: NA

Date Extracted: 07/13/10
Date Analyzed: 07/17/10 04:34
Instrument/Analyst: NT6/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
86-30-6	N-Nitrosodiphenylamine	5.0	< 5.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U
90-12-0	1-Methylnaphthalene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	82.0%	2-Fluorobiphenyl	80.0%
d14-p-Terphenyl	90.0%	d4-1,2-Dichlorobenzene	67.6%
d5-Phenol	81.9%	2-Fluorophenol	75.7%
2,4,6-Tribromophenol	97.6%	d4-2-Chlorophenol	82.9%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

Instrument ID: NT6 Project: NBF-GTSP STORMWATER

DFTPP Injection Date: 06/30/10 DFTPP Injection Time: 1423

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	33.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	39.5
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	10.0 - 80.0% of mass 198	51.3
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	26.0
365	Greater than 1.0% of mass 198	2.83
441	0.0 - 24.0% of mass 442	9.2 (14.4)2
442	50.0 - 200.0% of mass 198	64.3
443	15.0 - 24.0% of mass 442	12.9 (20.0)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC250630	IC250630	06301001	06/30/10	1423
02	IC010630	IC010630	06301002	06/30/10	1455
03	IC050630	IC050630	06301003	06/30/10	1528
04	IC100630	IC100630	06301004	06/30/10	1600
05	IC400630	IC400630	06301005	06/30/10	1633
06	IC600630	IC600630	06301006	06/30/10	1706
07	IC800630	IC800630	06301007	06/30/10	1738
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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

Instrument ID: NT6 Project: NBF-GTSP STORMWATER

DFTPP Injection Date: 07/16/10 DFTPP Injection Time: 2331

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	32.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	38.9
70	Less than 2.0% of mass 69	0.4 (1.0)1
127	10.0 - 80.0% of mass 198	51.3
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 60.0% of mass 198	25.7
365	Greater than 1.0% of mass 198	2.76
441	0.0 - 24.0% of mass 442	9.5 (14.6)2
442	50.0 - 200.0% of mass 198	64.9
443	15.0 - 24.0% of mass 442	13.1 (20.1)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0716A	CC0716A	07161019	07/16/10	2331
02	RD45MBW1	RD45MBW1	07161027	07/17/10	0434
03	RD45LCSW1	RD45LCSW1	07161028	07/17/10	0512
04	RD45LCSDW1	RD45LCSDW1	07161029	07/17/10	0550
05	NBF-ER-070810-W	RD45A	07161030	07/17/10	0628
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FORM V SV

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD45 Project: NBF-GTSP STORMWATER

Instrument ID: NT6 Calibration Date: 06/30/10

LAB FILE ID: RRF1 =06301002 RRF5 =06301003 RRF10 =06301004
RRF25 =06301001 RRF40 =06301005 RRF60 =06301006
RRF80 =06301007

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
Phenol	1.922	1.719	1.586	1.777	1.424	1.337	1.352	1.588	14.3
Bis(2-Chloroethyl)ether	1.377	1.206	1.255	1.248	1.068	1.021	1.048	1.175	11.2
2-Chlorophenol	1.535	1.327	1.244	1.391	1.139	1.091	1.127	1.265	12.8
1,3-Dichlorobenzene	1.799	1.535	1.610	1.565	1.381	1.309	1.346	1.506	11.5
1,4-Dichlorobenzene	1.721	1.494	1.571	1.546	1.356	1.290	1.311	1.470	10.8
1,2-Dichlorobenzene	1.655	1.430	1.483	1.434	1.246	1.186	1.199	1.376	12.6
Benzyl alcohol	0.852	0.820	0.793	0.910	0.770	0.749	0.758	0.807	7.2
2,2'-oxybis(1-Chloropropane)	1.393	1.220	1.273	1.274	1.094	1.049	1.071	1.196	10.7
2-Methylphenol	1.301	1.138	1.085	1.260	1.059	1.019	1.060	1.132	9.6
Hexachloroethane	0.606	0.543	0.585	0.587	0.529	0.506	0.528	0.555	6.8
N-Nitroso-di-n-propylamine	0.876	0.798	0.833	0.819	0.729	0.702	0.743	0.786	8.0
4-Methylphenol	1.305	1.162	1.092	1.272	1.050	1.008	1.034	1.132	10.4
Nitrobenzene	0.426	0.388	0.400	0.383	0.327	0.303	0.311	0.362	13.3
Isophorone	0.651	0.615	0.645	0.645	0.559	0.536	0.565	0.602	7.9
2-Nitrophenol	0.184	0.183	0.190	0.229	0.201	0.198	0.212	0.200	8.3
2,4-Dimethylphenol	0.427	0.379	0.357	0.400	0.333	0.312	0.322	0.361	11.8
Bis(2-Chloroethoxy)methane	0.486	0.424	0.437	0.431	0.380	0.358	0.372	0.412	10.9
2,4-Dichlorophenol	0.336	0.318	0.300	0.347	0.287	0.274	0.289	0.307	8.8
1,2,4-Trichlorobenzene	0.404	0.349	0.362	0.357	0.320	0.306	0.317	0.345	9.8
Naphthalene	1.218	1.041	1.085	1.033	0.881	0.789	0.770	0.974	17.0
Benzoic acid		0.199	0.233	0.310	0.281	0.285	0.312	0.270	16.7
4-Chloroaniline	0.476	0.438	0.409	0.456	0.364	0.337	0.333	0.402	14.4
Hexachlorobutadiene	0.225	0.195	0.208	0.210	0.191	0.185	0.195	0.201	6.7
4-Chloro-3-methylphenol	0.306	0.304	0.295	0.341	0.285	0.271	0.282	0.298	7.6
2-Methylnaphthalene	0.682	0.590	0.555	0.608	0.498	0.462	0.460	0.551	15.0
Hexachlorocyclopentadiene	0.201	0.275	0.332	0.356	0.354	0.352	0.393	0.323	20.0
2,4,6-Trichlorophenol	0.364	0.360	0.346	0.416	0.364	0.358	0.391	0.371	6.4
2,4,5-Trichlorophenol	0.377	0.377	0.360	0.430	0.378	0.367	0.410	0.386	6.5
2-Chloronaphthalene	1.371	1.167	1.199	1.139	0.994	0.912	0.934	1.102	15.0
2-Nitroaniline	0.234	0.280	0.271	0.327	0.277	0.267	0.289	0.278	10.1
Acenaphthylene	1.983	1.867	1.934	1.852	1.582	1.434	1.446	1.728	13.6
Dimethylphthalate	1.434	1.322	1.374	1.346	1.191	1.123	1.186	1.282	9.0
2,6-Dinitrotoluene	0.249	0.275	0.297	0.308	0.281	0.282	0.312	0.286	7.6
Acenaphthene	1.281	1.127	1.152	1.140	1.004	0.934	0.976	1.088	11.2
3-Nitroaniline	0.251	0.294	0.284	0.315	0.247	0.214	0.207	0.259	15.8
2,4-Dinitrophenol		0.099	0.135	0.210	0.208	0.217	0.243	0.185	0.997
Dibenzofuran	1.842	1.566	1.450	1.614	1.318	1.215	1.238	1.463	15.5

<- Outside QC limits: %RSD <20% or R^2 > 0.990

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD45 Project: NBF-GTSP STORMWATER

Instrument ID: NT6 Calibration Date: 06/30/10

LAB FILE ID: RRF1 =06301002 RRF5 =06301003 RRF10 =06301004
RRF25 =06301001 RRF40 =06301005 RRF60 =06301006
RRF80 =06301007

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
4-Nitrophenol	0.102	0.135	0.139	0.192	0.164	0.163	0.180	0.154	20.0
2,4-Dinitrotoluene	0.290	0.355	0.386	0.404	0.378	0.376	0.411	0.371	10.9
Fluorene	1.481	1.306	1.341	1.316	1.140	1.055	1.074	1.245	12.7
4-Chlorophenyl-phenylether	0.711	0.613	0.626	0.634	0.565	0.550	0.579	0.611	8.9
Diethylphthalate	1.467	1.332	1.334	1.314	1.138	1.077	1.120	1.254	11.5
4-Nitroaniline	0.230	0.278	0.264	0.328	0.272	0.271	0.293	0.276	10.8
4,6-Dinitro-2-methylphenol		0.112	0.129	0.168	0.154	0.154	0.175	0.149	16.2
N-Nitrosodiphenylamine (1)	0.683	0.603	0.620	0.607	0.542	0.510	0.536	0.586	10.2
4-Bromophenyl-phenylether	0.255	0.231	0.250	0.257	0.234	0.225	0.247	0.243	5.2
Hexachlorobenzene	0.275	0.241	0.252	0.258	0.238	0.231	0.255	0.250	5.9
Pentachlorophenol	0.113	0.129	0.139	0.185	0.164	0.163	0.188	0.154	18.3
Phenanthrene	1.318	1.094	1.128	1.092	0.952	0.864	0.894	1.049	15.1
Anthracene	1.276	1.140	1.178	1.139	0.987	0.890	0.912	1.074	13.6
Carbazole	1.172	1.067	1.072	1.037	0.897	0.831	0.862	0.991	12.9
Di-n-butylphthalate	1.223	1.264	1.334	1.337	1.129	1.015	1.034	1.191	11.2
Fluoranthene	1.262	1.154	1.207	1.199	1.033	0.934	0.955	1.106	11.9
Pyrene	1.552	1.363	1.406	1.358	1.192	1.064	1.069	1.286	14.2
Butylbenzylphthalate	0.499	0.579	0.649	0.677	0.603	0.563	0.588	0.594	9.8
Benzo(a)anthracene	1.326	1.173	1.251	1.254	1.120	1.020	1.036	1.168	9.9
3,3'-Dichlorobenzidine	0.375	0.396	0.376	0.414	0.343	0.321	0.332	0.365	9.4
Chrysene	1.358	1.132	1.194	1.186	1.047	0.970	0.989	1.125	12.1
bis(2-Ethylhexyl)phthalate	0.481	0.521	0.585	0.593	0.532	0.505	0.532	0.536	7.5
Di-n-octylphthalate	1.207	0.985	1.036	1.002	0.887	0.822	0.842	0.969	13.8
Benzo(b)fluoranthene	1.123	1.110	1.143	1.163	1.051	1.010	1.042	1.092	5.3
Benzo(k)fluoranthene	1.378	1.275	1.360	1.305	1.152	1.022	0.925	1.202	14.6
Benzo(a)pyrene	1.068	1.033	1.112	1.133	1.047	0.980	1.011	1.055	5.1
Indeno(1,2,3-cd)pyrene	1.315	1.351	1.495	1.512	1.397	1.346	1.449	1.409	5.5
Dibenzo(a,h)anthracene	1.095	1.049	1.139	1.175	1.084	1.036	1.111	1.098	4.4
Benzo(g,h,i)perylene	1.354	1.236	1.351	1.371	1.224	1.200	1.282	1.288	5.4
N-Nitrosodimethylamine	0.850	0.756	0.810	0.841	0.716	0.695	0.747	0.774	7.8
Aniline	2.183	1.876	1.783	1.961	1.568	1.496	1.493	1.766	14.8
Benzidine	0.458	0.477	0.418	0.368	0.316	0.310	0.301	0.378	19.4
Pyridine	1.306	1.383	1.486	1.551	1.306	1.277	1.333	1.377	7.5
1-methylnaphthalene	0.681	0.582	0.607	0.586	0.510	0.474	0.481	0.560	13.5
Azobenzene (1,2-DP-Hydrazine	1.417	1.296	1.318	1.278	1.098	1.021	1.048	1.211	12.7
2-Fluorophenol	1.315	1.530	1.144	1.385	1.283	1.139	1.175	1.282	11.2

(1) Cannot be seperated from Diphenylamine

<- Outside QC limits: %RSD <20% or R^2 > 0.990

6C

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD45 Project: NBF-GTSP STORMWATER

Instrument ID: NT6 Calibration Date: 06/30/10

LAB FILE ID: RRF1 =06301002 RRF5 =06301003 RRF10 =06301004
RRF25 =06301001 RRF40 =06301005 RRF60 =06301006
RRF80 =06301007

COMPOUND	RRF 1	RRF 5	RRF 10	RRF 25	RRF 40	RRF 60	RRF 80	___ RRF	%RSD /R^2
Phenol-d5	1.440	1.596	1.215	1.383	1.264	1.098	1.119	1.302	13.9
2-Chlorophenol-d4	1.357	1.462	1.102	1.246	1.162	1.031	1.065	1.204	13.3
1,2-Dichlorobenzene-d4	0.990	1.039	0.777	0.878	0.820	0.734	0.749	0.855	14.0
Nitrobenzene-d5	0.398	0.458	0.358	0.409	0.382	0.339	0.351	0.385	10.6
2-Fluorobiphenyl	1.554	1.606	1.193	1.319	1.225	1.059	1.099	1.294	16.5
2,4,6-Tribromophenol	0.144	0.185	0.141	0.185	0.183	0.172	0.196	0.172	12.5
Terphenyl-d14	0.913	0.978	0.730	0.870	0.821	0.711	0.737	0.823	12.4

<- Outside QC limits: %RSD <20% or R^2 > 0.990

FORM VI SV-3

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD45 Project: NBF-GTSP STORMWATER

Instrument ID: NT6 Cont. Calib. Date: 07/16/10

Init. Calib. Date: 06/30/10 Cont. Calib. Time: 2331

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Phenol	1.588	1.607	0.800	AVRG	1.2	
Bis(2-Chloroethyl)ether	1.175	1.231	0.700	AVRG	4.8	
2-Chlorophenol	1.265	1.381	0.800	AVRG	9.2	
1,3-Dichlorobenzene	1.506	1.568	0.010	AVRG	4.1	
1,4-Dichlorobenzene	1.470	1.552	0.010	AVRG	5.6	
1,2-Dichlorobenzene	1.376	1.430	0.010	AVRG	3.9	
Benzyl alcohol	0.807	0.687	0.010	AVRG	-14.9	
2,2'-oxybis(1-Chloropropane)	1.196	1.273	0.010	AVRG	6.4	
2-Methylphenol	1.132	1.195	0.700	AVRG	5.6	
Hexachloroethane	0.555	0.566	0.300	AVRG	2.0	
N-Nitroso-di-n-propylamine	0.786	0.834	0.500	AVRG	6.1	
4-Methylphenol	1.132	1.253	0.600	AVRG	10.7	
Nitrobenzene	0.362	0.386	0.200	AVRG	6.6	
Isophorone	0.602	0.642	0.400	AVRG	6.6	
2-Nitrophenol	0.200	0.239	0.100	AVRG	19.5	
2,4-Dimethylphenol	0.361	0.390	0.200	AVRG	8.0	
Bis(2-Chloroethoxy)methane	0.412	0.441	0.300	AVRG	7.0	
2,4-Dichlorophenol	0.307	0.341	0.200	AVRG	11.1	
1,2,4-Trichlorobenzene	0.345	0.354	0.010	AVRG	2.6	
Naphthalene	0.974	1.036	0.700	AVRG	6.4	
Benzoic acid	0.270	0.291	0.010	AVRG	7.8	
4-Chloroaniline	0.402	0.434	0.010	AVRG	8.0	
Hexachlorobutadiene	0.201	0.205	0.010	AVRG	2.0	
4-Chloro-3-methylphenol	0.298	0.350	0.200	AVRG	17.4	
2-Methylnaphthalene	0.551	0.611	0.400	AVRG	10.9	
Hexachlorocyclopentadiene	0.323	0.306	0.050	AVRG	-5.3	
2,4,6-Trichlorophenol	0.371	0.422	0.200	AVRG	13.7	
2,4,5-Trichlorophenol	0.386	0.441	0.200	AVRG	14.2	
2-Chloronaphthalene	1.102	1.172	0.800	AVRG	6.4	
2-Nitroaniline	0.278	0.335	0.010	AVRG	20.5	<- NTC
Acenaphthylene	1.728	1.912	0.900	AVRG	10.6	
Dimethylphthalate	1.282	1.378	0.010	AVRG	7.5	
2,6-Dinitrotoluene	0.286	0.335	0.200	AVRG	17.1	
Acenaphthene	1.088	1.163	0.900	AVRG	6.9	
3-Nitroaniline	0.259	0.334	0.010	AVRG	29.0	<- NTC
2,4-Dinitrophenol	50.00	58.23	0.010	2ORDR	16.5	
Dibenzofuran	1.463	1.664	0.800	AVRG	13.7	

<- Exceeds QC limit of 20% D

* RF less than minimum RF

AZ 07/20/2010

FORM VII SV-1

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD45 Project: NBF-GTSP STORMWATER

Instrument ID: NT6 Cont. Calib. Date: 07/16/10

Init. Calib. Date: 06/30/10 Cont. Calib. Time: 2331

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
4-Nitrophenol	0.154	0.152	0.010	AVRG	-1.3	
2,4-Dinitrotoluene	0.371	0.335	0.200	AVRG	-9.7	
Fluorene	1.245	1.343	0.900	AVRG	7.9	
4-Chlorophenyl-phenylether	0.611	0.653	0.400	AVRG	6.9	
Diethylphthalate	1.254	1.340	0.010	AVRG	6.8	
4-Nitroaniline	0.276	0.372	0.010	AVRG	34.8	<- NC
4,6-Dinitro-2-methylphenol	0.149	0.187	0.010	AVRG	25.5	<- NC
N-Nitrosodiphenylamine(1)	0.586	0.611	0.010	AVRG	4.3	
4-Bromophenyl-phenylether	0.243	0.258	0.100	AVRG	6.2	
Hexachlorobenzene	0.250	0.264	0.100	AVRG	5.6	
Pentachlorophenol	0.154	0.181	0.050	AVRG	17.5	
Phenanthrene	1.049	1.113	0.700	AVRG	6.1	
Anthracene	1.074	1.166	0.700	AVRG	8.6	
Carbazole	0.991	1.120	0.010	AVRG	13.0	
Di-n-butylphthalate	1.191	1.375	0.010	AVRG	15.4	
Fluoranthene	1.106	1.273	0.600	AVRG	15.1	
Pyrene	1.286	1.285	0.600	AVRG	-0.1	
Butylbenzylphthalate	0.594	0.646	0.010	AVRG	8.8	
Benzo(a)anthracene	1.168	1.267	0.800	AVRG	8.5	
3,3'-Dichlorobenzidine	0.365	0.488	0.010	AVRG	33.7	<- NC
Chrysene	1.125	1.176	0.700	AVRG	4.5	
bis(2-Ethylhexyl)phthalate	0.536	0.595	0.010	AVRG	11.0	
Di-n-octylphthalate	0.969	0.990	0.010	AVRG	2.2	
Benzo(b)fluoranthene	1.092	1.302	0.700	AVRG	19.2	
Benzo(k)fluoranthene	1.202	1.197	0.700	AVRG	-0.4	
Benzo(a)pyrene	1.055	1.161	0.700	AVRG	10.0	
Indeno(1,2,3-cd)pyrene	1.409	1.479	0.500	AVRG	5.0	
Dibenzo(a,h)anthracene	1.098	1.169	0.400	AVRG	6.5	
Benzo(g,h,i)perylene	1.288	1.306	0.500	AVRG	1.4	
N-Nitrosodimethylamine	0.774	0.833	0.010	AVRG	7.6	
Aniline	1.766	1.777	0.010	AVRG	0.6	
Benzidine	0.378		0.010	AVRG		* NC
Pyridine	1.377	1.485	0.010	AVRG	7.8	
1-methylnaphthalene	0.560	0.598	0.010	AVRG	6.8	
Azobenzene (1,2-DP-Hydrazine	1.211	1.308	0.010	AVRG	8.0	

(1) Cannot be separated from Diphenylamine
<- Exceeds QC limit of 20% D
* RF less than minimum RF

07/20/2010

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD45 Project: NBF-GTSP STORMWATER

Instrument ID: NT6 Cont. Calib. Date: 07/16/10

Init. Calib. Date: 06/30/10 Cont. Calib. Time: 2331

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
2-Fluorophenol	1.282	1.365	0.010	AVRG	6.5
Phenol-d5	1.302	1.366	0.010	AVRG	4.9
2-Chlorophenol-d4	1.204	1.236	0.010	AVRG	2.6
1,2-Dichlorobenzene-d4	0.855	0.901	0.010	AVRG	5.4
Nitrobenzene-d5	0.385	0.393	0.010	AVRG	2.1
2-Fluorobiphenyl	1.294	1.340	0.010	AVRG	3.6
2,4,6-Tribromophenol	0.172	0.195	0.010	AVRG	13.4
Terphenyl-d14	0.823	0.833	0.010	AVRG	1.2

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII SV-3

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD45 Project: NBF-GTSP STORMWATER

Ical Midpoint ID: 06301001 Ical Date: 06/30/10

Instrument ID: NT6 Cont. Cal Date: 07/16/10

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	ICAL MIDPT	189948	8.20	632310	10.26	366250	13.14
	UPPER LIMIT	379896		1264620		732500	
	LOWER LIMIT	94974		316155		183125	
	CCAL	167185	7.77	559955	9.83	324802	12.69
	UPPER LIMIT		8.27		10.33		13.19
	LOWER LIMIT		7.27		9.33		12.19
01	RD45MBW1	177357	7.78	605737	9.83	350224	12.70
02	RD45LCSW1	183884	7.78	615025	9.83	357044	12.70
03	RD45LCSDW1	190129	7.78	638745	9.83	374368	12.69
04	NBF-ER-07081	190929	7.78	646313	9.83	375755	12.69
05							
06							
07							
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IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD45 Project: NBF-GTSP STORMWATER

Ical Midpoint ID: 06301001 Ical Date: 06/30/10

Instrument ID: NT6 Cont. Cal Date: 07/16/10

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	ICAL MIDPT	586206	15.53	513071	19.88	566727	22.04
	UPPER LIMIT	1172412		1026142		1133454	
	LOWER LIMIT	293103		256536		283364	
	CCAL	539763	15.07	529496	19.38	584635	21.53
	UPPER LIMIT		15.57		19.88		22.03
	LOWER LIMIT		14.57		18.88		21.03
01	RD45MBW1	575596	15.07	574678	19.38	632587	21.53
02	RD45LCSW1	621367	15.07	599632	19.38	669613	21.54
03	RD45LCSDW1	641166	15.07	618225	19.38	677500	21.53
04	NBF-ER-07081	614386	15.07	635373	19.38	672167	21.53
05							
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IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD45 Project: NBF-GTSP STORMWATER

Ical Midpoint ID: 06301001 Ical Date: 06/30/10

Instrument ID: NT6 Cont. Cal Date: 07/16/10

		IS7 AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	780248	21.00				
	UPPER LIMIT	1560496					
	LOWER LIMIT	390124					
	CCAL	783485	20.54				
	UPPER LIMIT		21.04				
	LOWER LIMIT		20.04				
01	RD45MBW1	805488	20.55				
02	RD45LCSW1	849822	20.54				
03	RD45LCSDW1	893874	20.55				
04	NBF-ER-07081	885274	20.55				
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IS7 = Di-n-octylphthalate-d4

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

PCB Analysis
Report and Summary QC Forms

ARI Job ID: RD45

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: NBF-ER-070810-W
SAMPLE

Lab Sample ID: RD45A
LIMS ID: 10-16162
Matrix: Water
Data Release Authorized:
Reported: 07/21/10

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF
Date Sampled: 07/08/10
Date Received: 07/08/10

Date Extracted: 07/16/10
Date Analyzed: 07/18/10 09:14
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	48.2%
Tetrachlorometaxylene	69.5%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-071610	57.2%	41-111	57.8%	40-118	0
LCS-071610	54.5%	41-111	66.5%	40-118	0
LCSD-071610	60.5%	41-111	62.0%	40-118	0
NBF-ER-070810-W	48.2%	29-118	69.5%	38-118	0

Prep Method: SW3510C
Log Number Range: 10-16162 to 10-16162

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: LCS-071610
LCS/LCSD

Lab Sample ID: LCS-071610
LIMS ID: 10-16162
Matrix: Water
Data Release Authorized:
Reported: 07/21/10

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 07/16/10

Date Analyzed LCS: 07/18/10 08:37
LCSD: 07/18/10 08:55
Instrument/Analyst LCS: ECD5/AAR
LCSD: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	3.84	5.00	76.8%	3.60	5.00	72.0%	6.5%
Aroclor 1260	3.60	5.00	72.0%	3.25	5.00	65.0%	10.2%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	54.5%	60.5%
Tetrachlorometaxylene	66.5%	62.0%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

RD45MBW1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: RD45
Project: NBF-GTSP STORMWATER

Lab Sample ID: RD45MBW1
Lab File ID: 0717B061

Date Extracted: 07/16/10
Matrix: LIQUID

Date Analyzed: 07/18/10
Instrument ID: ECD5

Time Analyzed: 0818
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	RD45LCSW1	RD45LCSW1	07/18/10
02	RD45LCSDW1	RD45LCSDW1	07/18/10
03	NBF-ER-070810-W	RD45A	07/18/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082
Page 1 of 1

Sample ID: MB-071610
METHOD BLANK

Lab Sample ID: MB-071610
LIMS ID: 10-16162
Matrix: Water
Data Release Authorized:
Reported: 07/21/10

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF
Date Sampled: NA
Date Received: NA

Date Extracted: 07/16/10
Date Analyzed: 07/18/10 08:18
Instrument/Analyst: ECD5/AAR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	57.2%
Tetrachlorometaxylene	57.8%

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client:

ARI Job No.: 20100717 Project:

GC Column: ZB5 Instrument ID: ECD5

Calibration Date: 07/17/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	3.47- 3.67	1.4515	1.5519	1.6881	1.5004	0.0000	1.2921	1.4968	9.7
DCB	11.66-11.86	1.7100	1.5945	1.6594	1.4120	0.0000	1.1863	1.5124	14.2

removed 7-07/19/10

no lvl 5

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	~~LVL5 0.5~~	LVL6 1.0	MEAN	%RSD R^2
1	4.97- 5.17	0.0359	0.0367	0.0402	0.0353	0.0291	0.0295	11.3	
2	5.40- 5.60	0.1192	0.1221	0.1305	0.1134	0.0930	0.0964	12.2	
3	5.55- 5.75	0.0514	0.0520	0.0558	0.0480	0.0395	0.0411	12.5	
4	5.67- 5.87	0.0347	0.0417	0.0394	0.0341	0.0285	0.0297	14.4	

AROCLOR AVERAGE %RSD = 12.6

no lvl 5

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.87- 9.07	0.0643	0.0648	0.0691	0.0600	0.0496	0.0513	12.1	
2	9.18- 9.38	0.0619	0.0628	0.0673	0.0587	0.0488	0.0499	11.6	
3	9.54- 9.74	0.1593	0.1550	0.1642	0.1411	0.1139	0.1222	13.8	
4	9.93-10.13	0.0748	0.0758	0.0820	0.0725	0.0615	0.0611	10.2	
5	10.11-10.31	0.0414	0.0421	0.0457	0.0405	0.0355	0.0342	9.0	

AROCLOR AVERAGE %RSD = 11.3

7-07/19/10

FORM VI PCB-1

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client:

ARI Job No.: 20100717 Project:

GC Column: ZB35 Instrument ID: ECD5

Calibration Date: 07/17/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	3.61- 3.81	0.9830	1.0763	1.1837	1.0710	0.0000	0.9763	1.0580	8.0
DCB	12.20-12.40	1.3145	1.3610	1.4784	1.3448	0.0000	1.2357	1.3469	6.5

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	5.26- 5.46	0.0405	0.0425	0.0460	0.0400	0.0345	0.0339	10.2	
2	5.90- 6.10	0.0901	0.0919	0.0983	0.0855	0.0741	0.0733	10.2	
3	6.12- 6.32	0.0393	0.0399	0.0408	0.0352	0.0309	0.0310	11.2	
4	7.40- 7.60	0.0231	0.0216	0.0205	0.0168	0.0143	0.0160	18.6	

AROCLOR AVERAGE %RSD = 12.6

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	9.31- 9.51	0.0781	0.0784	0.0804	0.0697	0.0605	0.0612	11.3	
2	10.02-10.22	0.1627	0.1685	0.1796	0.1564	0.1385	0.1343	9.5	
3	10.59-10.79	0.0985	0.1105	0.1142	0.0994	0.0879	0.0851	10.3	
4	11.31-11.51	0.0415	0.0443	0.0477	0.0476	0.0407	0.0370	7.4	

AROCLOR AVERAGE %RSD = 9.6

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client:

ARI Job No.: 20100717 Project:

GC Column: ZB5 Instrument ID: ECD5

Calibration Date: 07/17/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	3.868	3.77- 3.97	0.01566
2	4.023	3.92- 4.12	0.01100
3	4.115	4.01- 4.21	0.03439

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.077	4.98- 5.18	0.01425
2	5.497	5.40- 5.60	0.04577
3	5.653	5.55- 5.75	0.01957
4	7.150	7.05- 7.25	0.01446

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	5.076	4.98- 5.18	0.02867
2	5.496	5.40- 5.60	0.09244
3	5.652	5.55- 5.75	0.03935
4	7.149	7.05- 7.25	0.03461

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	6.007	5.91- 6.11	0.03987
2	6.312	6.21- 6.41	0.04540
3	6.858	6.76- 6.96	0.05400
4	7.148	7.05- 7.25	0.05109

6G
8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client:

ARI Job No.: 20100717 Project:

GC Column: ZB5 Instrument ID: ECD5

Calibration Date: 07/17/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	6.922	6.82- 7.02	0.06282
2	7.229	7.13- 7.33	0.08691
3	7.596	7.50- 7.70	0.05871
4	7.730	7.63- 7.83	0.11001
5	8.426	8.33- 8.53	0.07752

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	8.967	8.87- 9.07	0.08329
2	9.277	9.18- 9.38	0.07089
3	9.640	9.54- 9.74	0.15337
4	10.143	10.04-10.24	0.07319
5	10.215	10.12-10.32	0.07378

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	10.145	10.05-10.25	0.15999
2	10.214	10.11-10.31	0.16665
3	10.592	10.49-10.69	0.12119
4	11.361	11.26-11.46	0.30717

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client:

ARI Job No.: 20100717 Project:

GC Column: ZB35 Instrument ID: ECD5

Calibration Date: 07/17/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.297	4.20- 4.40	0.01170
2	4.530	4.43- 4.63	0.00705
3	4.640	4.54- 4.74	0.02241
4	5.252	5.15- 5.35	0.00220

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.357	5.26- 5.46	0.01745
2	6.003	5.90- 6.10	0.03455
3	6.218	6.12- 6.32	0.01430
4	7.780	7.68- 7.88	0.01420

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	5.357	5.26- 5.46	0.03137
2	6.003	5.90- 6.10	0.06812
3	6.218	6.12- 6.32	0.02788
4	7.780	7.68- 7.88	0.03149

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	6.492	6.39- 6.59	0.03185
2	6.914	6.81- 7.01	0.03761
3	7.433	7.33- 7.53	0.03508
4	7.780	7.68- 7.88	0.04919

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client:

ARI Job No.: 20100717 Project:

GC Column: ZB35 Instrument ID: ECD5

Calibration Date: 07/17/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	7.497	7.40- 7.60	0.03991
2	7.662	7.56- 7.76	0.05528
3	8.182	8.08- 8.28	0.04189
4	8.328	8.23- 8.43	0.09116
5	9.091	8.99- 9.19	0.05585

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	9.414	9.31- 9.51	0.09855
2	9.856	9.76- 9.96	0.08279
3	10.629	10.53-10.73	0.08852
4	11.279	11.18-11.38	0.03595
5	11.408	11.31-11.51	0.06959

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	10.629	10.53-10.73	0.17960
2	10.687	10.59-10.79	0.17202
3	11.090	10.99-11.19	0.12816
4	11.885	11.78-11.98	0.33086

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB5 Instrument ID: ECD5

Calibration Date: 07/17/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	3.47- 3.67	1.4515	1.5519	1.6881	1.5004	0.0000	1.2921	1.4968	9.7
DCB	11.66-11.86	1.7100	1.5945	1.6594	1.4120	0.0000	1.1863	1.5124	14.2

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	4.98- 5.18	0.0359	0.0367	0.0402	0.0353	0.0291	0.0295	11.3	
2	5.40- 5.60	0.1192	0.1221	0.1305	0.1134	0.0930	0.0964	12.2	
3	5.55- 5.75	0.0514	0.0520	0.0558	0.0480	0.0395	0.0411	12.5	
4	5.67- 5.87	0.0347	0.0417	0.0394	0.0341	0.0285	0.0297	14.4	

AROCLOR AVERAGE %RSD = 12.6

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.87- 9.07	0.0643	0.0648	0.0691	0.0600	0.0496	0.0513	12.1	
2	9.18- 9.38	0.0619	0.0628	0.0673	0.0587	0.0488	0.0499	11.6	
3	9.54- 9.74	0.1593	0.1550	0.1642	0.1411	0.1139	0.1222	13.8	
4	9.93-10.13	0.0748	0.0758	0.0820	0.0725	0.0615	0.0611	10.2	
5	10.12-10.32	0.0414	0.0421	0.0457	0.0405	0.0355	0.0342	9.0	

AROCLOR AVERAGE %RSD = 11.3

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB35 Instrument ID: ECD5

Calibration Date: 07/17/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	3.61- 3.81	0.9830	1.0763	1.1837	1.0710	0.0000	0.9763	1.0580	8.0
DCB	12.20-12.40	1.3145	1.3610	1.4784	1.3448	0.0000	1.2357	1.3469	6.5

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	5.26- 5.46	0.0405	0.0425	0.0460	0.0400	0.0345	0.0339	10.2	
2	5.91- 6.11	0.0901	0.0919	0.0983	0.0855	0.0741	0.0733	10.2	
3	6.12- 6.32	0.0393	0.0399	0.0408	0.0352	0.0309	0.0310	11.2	
4	7.40- 7.60	0.0231	0.0216	0.0205	0.0168	0.0143	0.0160	18.6	

AROCLOR AVERAGE %RSD = 12.6

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	9.31- 9.51	0.0781	0.0784	0.0804	0.0697	0.0605	0.0612	11.3	
2	10.02-10.22	0.1627	0.1685	0.1796	0.1564	0.1385	0.1343	9.5	
3	10.59-10.79	0.0985	0.1105	0.1142	0.0994	0.0879	0.0851	10.3	
4	11.31-11.51	0.0415	0.0443	0.0477	0.0476	0.0407	0.0370	7.4	

AROCLOR AVERAGE %RSD = 9.6

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB5 Instrument ID: ECD5

Calibration Date: 07/17/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	3.868	3.77- 3.97	0.01566
2	4.023	3.92- 4.12	0.01100
3	4.115	4.01- 4.21	0.03439

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.077	4.98- 5.18	0.01425
2	5.497	5.40- 5.60	0.04577
3	5.653	5.55- 5.75	0.01957
4	7.150	7.05- 7.25	0.01446

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	5.076	4.98- 5.18	0.02867
2	5.496	5.40- 5.60	0.09244
3	5.652	5.55- 5.75	0.03935
4	7.149	7.05- 7.25	0.03461

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	6.010	5.91- 6.11	0.03987
2	6.315	6.21- 6.41	0.04540
3	6.860	6.76- 6.96	0.05400
4	7.150	7.05- 7.25	0.05109

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB5 Instrument ID: ECD5

Calibration Date: 07/17/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	6.924	6.82- 7.02	0.06282
2	7.231	7.13- 7.33	0.08691
3	7.597	7.50- 7.70	0.05871
4	7.731	7.63- 7.83	0.11001
5	8.427	8.33- 8.53	0.07752

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	8.967	8.87- 9.07	0.08329
2	9.277	9.18- 9.38	0.07089
3	9.640	9.54- 9.74	0.15337
4	10.143	10.04-10.24	0.07319
5	10.215	10.12-10.32	0.07378

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	10.145	10.05-10.25	0.15999
2	10.214	10.11-10.31	0.16665
3	10.592	10.49-10.69	0.12119
4	11.361	11.26-11.46	0.30717

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB35 Instrument ID: ECD5

Calibration Date: 07/17/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.297	4.20- 4.40	0.01170
2	4.530	4.43- 4.63	0.00705
3	4.640	4.54- 4.74	0.02241
4	5.252	5.15- 5.35	0.00220

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.357	5.26- 5.46	0.01745
2	6.003	5.90- 6.10	0.03455
3	6.218	6.12- 6.32	0.01430
4	7.780	7.68- 7.88	0.01420

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	5.357	5.26- 5.46	0.03137
2	6.003	5.90- 6.10	0.06812
3	6.218	6.12- 6.32	0.02788
4	7.913	7.81- 8.01	0.03149

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	6.494	6.39- 6.59	0.03185
2	6.913	6.81- 7.01	0.03761
3	7.433	7.33- 7.53	0.03508
4	7.780	7.68- 7.88	0.04919

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB35 Instrument ID: ECD5

Calibration Date: 07/17/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	7.499	7.40- 7.60	0.03991
2	7.662	7.56- 7.76	0.05528
3	8.182	8.08- 8.28	0.04189
4	8.330	8.23- 8.43	0.09116
5	9.097	9.00- 9.20	0.05585

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	9.414	9.31- 9.51	0.09855
2	9.856	9.76- 9.96	0.08279
3	10.629	10.53-10.73	0.08852
4	11.279	11.18-11.38	0.03595
5	11.408	11.31-11.51	0.06959

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	10.629	10.53-10.73	0.17960
2	10.687	10.59-10.79	0.17202
3	11.090	10.99-11.19	0.12816
4	11.885	11.78-11.98	0.33086

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB5 Intrument: ECD5

Init. Calib. Date: 07/17/10

Date Analyzed :07/18/10

Lab Standard ID: AR1248 Time Analyzed :0528

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	6.01	5.91	6.11	237.6	250.0	-5.0
Aroclor-1248-2	6.31	6.21	6.41	233.9	250.0	-6.4
Aroclor-1248-3	6.86	6.76	6.96	232.6	250.0	-7.0
Aroclor-1248-4	7.15	7.05	7.25	231.3	250.0	-7.5

AVERAGE %D = 6.5

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB35 Intrument: ECD5

Init. Calib. Date: 07/17/10

Date Analyzed :07/18/10

Lab Standard ID: AR1248 Time Analyzed :0528

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	6.49	6.39	6.59	243.7	250.0	-2.5
Aroclor-1248-2	6.91	6.81	7.01	240.4	250.0	-3.8
Aroclor-1248-3	7.43	7.33	7.53	240.1	250.0	-4.0
Aroclor-1248-4	7.78	7.68	7.88	240.3	250.0	-3.9

AVERAGE %D = 3.6

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB5 Intrument: ECD5

Init. Calib. Date: 07/17/10

Date Analyzed :07/18/10

Lab Standard ID: AR1660 Time Analyzed :0547

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	5.08	4.98	5.18	243.5	250.0	-2.6
Aroclor-1016-2	5.50	5.40	5.60	238.3	250.0	-4.7
Aroclor-1016-3	5.65	5.55	5.75	239.9	250.0	-4.0
Aroclor-1016-4	5.77	5.67	5.87	233.6	250.0	-6.5

AVERAGE %D = 4.5

Date Analyzed :07/18/10

Lab Standard ID: AR1660 Time Analyzed :0547

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	8.97	8.87	9.07	255.1	250.0	2.0
Aroclor-1260-2	9.28	9.18	9.38	255.9	250.0	2.4
Aroclor-1260-3	9.64	9.54	9.74	251.6	250.0	0.6
Aroclor-1260-4	10.03	9.93	10.13	251.5	250.0	0.6
Aroclor-1260-5	10.22	10.12	10.32	252.4	250.0	1.0

AVERAGE %D = 1.3

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB35 Intrument: ECD5

Init. Calib. Date: 07/17/10

Date Analyzed :07/18/10

Lab Standard ID: AR1660 Time Analyzed :0547

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	5.36	5.26	5.46	242.4	250.0	-3.0
Aroclor-1016-2	6.00	5.91	6.11	238.1	250.0	-4.8
Aroclor-1016-3	6.22	6.12	6.32	230.3	250.0	-7.9
Aroclor-1016-4	7.50	7.40	7.60	208.8	250.0	-16.5

AVERAGE %D = 8.1

Date Analyzed :07/18/10

Lab Standard ID: AR1660 Time Analyzed :0547

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	9.41	9.31	9.51	248.7	250.0	-0.5
Aroclor-1260-2	10.12	10.02	10.22	246.4	250.0	-1.4
Aroclor-1260-3	10.69	10.59	10.79	246.3	250.0	-1.5
Aroclor-1260-4	11.41	11.31	11.51	263.6	250.0	5.4

AVERAGE %D = 2.2

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB5 Intrument: ECD5

Init. Calib. Date: 07/17/10

Date Analyzed :07/18/10

Lab Standard ID: AR1254 Time Analyzed :0933

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	6.92	6.82	7.02	248.6	250.0	-0.6
Aroclor-1254-2	7.23	7.13	7.33	249.7	250.0	-0.1
Aroclor-1254-3	7.60	7.50	7.70	250.0	250.0	-0.0
Aroclor-1254-4	7.73	7.63	7.83	248.6	250.0	-0.6
Aroclor-1254-5	8.43	8.33	8.53	250.6	250.0	0.2

AVERAGE %D = 0.3

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB35 Intrument: ECD5

Init. Calib. Date: 07/17/10

Date Analyzed :07/18/10

Lab Standard ID: AR1254 Time Analyzed :0933

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	7.50	7.40	7.60	242.5	250.0	-3.0
Aroclor-1254-2	7.66	7.56	7.76	241.8	250.0	-3.3
Aroclor-1254-3	8.18	8.08	8.28	236.7	250.0	-5.3
Aroclor-1254-4	8.33	8.23	8.43	241.2	250.0	-3.5
Aroclor-1254-5	9.10	9.00	9.20	239.0	250.0	-4.4

AVERAGE %D = 3.9

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB5 Intrument: ECD5

Init. Calib. Date: 07/17/10

Date Analyzed :07/18/10

Lab Standard ID: AR1660 Time Analyzed :0952

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	5.08	4.98	5.18	250.1	250.0	0.0
Aroclor-1016-2	5.50	5.40	5.60	246.5	250.0	-1.4
Aroclor-1016-3	5.65	5.55	5.75	244.4	250.0	-2.2
Aroclor-1016-4	5.77	5.67	5.87	240.0	250.0	-4.0

AVERAGE %D = 1.9

Date Analyzed :07/18/10

Lab Standard ID: AR1660 Time Analyzed :0952

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	8.97	8.87	9.07	251.3	250.0	0.5
Aroclor-1260-2	9.28	9.18	9.38	252.8	250.0	1.1
Aroclor-1260-3	9.64	9.54	9.74	247.4	250.0	-1.0
Aroclor-1260-4	10.03	9.93	10.13	252.6	250.0	1.0
Aroclor-1260-5	10.22	10.12	10.32	251.4	250.0	0.6

AVERAGE %D = 0.8

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB35 Intrument: ECD5

Init. Calib. Date: 07/17/10

Date Analyzed :07/18/10

Lab Standard ID: AR1660 Time Analyzed :0952

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	5.36	5.26	5.46	243.0	250.0	-2.8
Aroclor-1016-2	6.01	5.91	6.11	240.1	250.0	-4.0
Aroclor-1016-3	6.22	6.12	6.32	232.4	250.0	-7.0
Aroclor-1016-4	7.50	7.40	7.60	214.7	250.0	-14.1

AVERAGE %D = 7.0

Date Analyzed :07/18/10

Lab Standard ID: AR1660 Time Analyzed :0952

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	9.41	9.31	9.51	245.6	250.0	-1.8
Aroclor-1260-2	10.12	10.02	10.22	243.2	250.0	-2.7
Aroclor-1260-3	10.69	10.59	10.79	241.8	250.0	-3.3
Aroclor-1260-4	11.41	11.31	11.51	268.7	250.0	7.5

AVERAGE %D = 3.8

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD5

Init. Calib. Date: 07/17/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

			IS1 AREA	RT	IS2 AREA	RT
		ICAL MIDPT	34317997	1.846	44744627	12.113
		UPPER LIMIT	68635994	1.946	89489254	12.213
		LOWER LIMIT	17158998	1.746	22372314	12.013

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01		IB	07/17/10	1752	34742161	1.847	45654023	12.113
02		0.25 PPM AR1	07/17/10	1811	34317997	1.846	44744627	12.113
03		0.02PPMAR166	07/17/10	1830	36489820	1.846	46897835	12.114
04		0.05PPMAR166	07/17/10	1849	33330382	1.846	43586860	12.114
05		0.1PPMAR1660	07/17/10	1908	32190222	1.846	42078696	12.114
06		1 PPM AR1660	07/17/10	1926	33893189	1.846	44422559	12.113
07	ZZZZZ	ZZZZZ	07/17/10	1945	27637369	1.845	36941789	12.114
08	ZZZZZ	ZZZZZ	07/17/10	2004	45939566	1.847	58967332	12.114
09		AR1248	07/17/10	2023	33461189	1.847	43695105	12.114
10		AR1254	07/17/10	2042	34517612	1.846	45047652	12.114
11		AR2162	07/17/10	2101	34652801	1.845	45055342	12.114
12		AR3268	07/17/10	2119	38691384	1.847	50715511	12.114
13	ZZZZZ	ZZZZZ	07/17/10	2138	33532975	1.847	45135495	12.114
14		AR1242	07/17/10	2157	34049279	1.847	45168889	12.116
15	ZZZZZ	ZZZZZ	07/17/10	2216	33606143	1.847	44515001	12.114
16	ZZZZZ	ZZZZZ	07/17/10	2235	33748469	1.847	44766551	12.114
17	ZZZZZ	ZZZZZ	07/17/10	2253	33106240	1.847	44058856	12.114
18	ZZZZZ	ZZZZZ	07/17/10	2312	33539387	1.847	44278543	12.115
19		0.1 PPM DDTS	07/17/10	2331	34317141	1.848		
20	ZZZZZ	ZZZZZ	07/17/10	2350	33750607	1.849		
21		AR1248	07/18/10	0528	34217178	1.848	37535032	12.115
22		AR1660	07/18/10	0547	35097597	1.846	41480179	12.115
23	RD45MBW1	RD45MBW1	07/18/10	0818	48281561	1.847	53902930	12.112
24	RD45LCSW1	RD45LCSW1	07/18/10	0837	45735865	1.847	54459386	12.115
25	RD45LCSDW1	RD45LCSDW1	07/18/10	0855	49643470	1.847	61792672	12.115
26	NBF-ER-07081	RD45A	07/18/10	0914	45600614	1.847	58166500	12.112
27		AR1254	07/18/10	0933	34940282	1.847	44948028	12.114
28		AR1660	07/18/10	0952	34643855	1.846	44204125	12.115

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD45 Project: NBF-GTSP STORMWATER SAMPLING

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD5

Init. Calib. Date: 07/17/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	79202096	2.310	80129187	13.158
	UPPER LIMIT	158404192	2.410	160258374	13.258
	LOWER LIMIT	39601048	2.210	40064594	13.058

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01		IB	07/17/10	1752	77936869	2.310	79125580	13.159
02		0.25 PPM AR1	07/17/10	1811	79202096	2.310	80129187	13.158
03		0.02PPMAR166	07/17/10	1830	82859577	2.309	83805680	13.159
04		0.05PPMAR166	07/17/10	1849	76817894	2.309	77925588	13.158
05		0.1PPMAR1660	07/17/10	1908	73719486	2.309	75126905	13.159
06		1 PPM AR1660	07/17/10	1926	76549818	2.309	78031039	13.157
07	ZZZZZ	ZZZZZ	07/17/10	1945	63600485	2.309	64984091	13.159
08	ZZZZZ	ZZZZZ	07/17/10	2004	105704690	2.311	107109453	13.159
09		AR1248	07/17/10	2023	78510904	2.310	78782033	13.158
10		AR1254	07/17/10	2042	78959369	2.309	80756329	13.158
11		AR2162	07/17/10	2101	77486240	2.309	80141425	13.159
12		AR3268	07/17/10	2119	88131320	2.310	91757867	13.159
13	ZZZZZ	ZZZZZ	07/17/10	2138	79469307	2.310	80727564	13.158
14		AR1242	07/17/10	2157	79717562	2.310	80048179	13.159
15	ZZZZZ	ZZZZZ	07/17/10	2216	78196306	2.310	78935123	13.159
16	ZZZZZ	ZZZZZ	07/17/10	2235	77603149	2.311	79117541	13.159
17	ZZZZZ	ZZZZZ	07/17/10	2253	74910901	2.311	78335064	13.160
18	ZZZZZ	ZZZZZ	07/17/10	2312	76759007	2.310	79351662	13.159
19		0.1 PPM DDTS	07/17/10	2331	79599874	2.311		
20	ZZZZZ	ZZZZZ	07/17/10	2350	77638374	2.312		
21		AR1248	07/18/10	0528	77429537	2.311	67712382	13.160
22		AR1660	07/18/10	0547	79562147	2.310	73602492	13.160
23	RD45MBW1	RD45MBW1	07/18/10	0818	91165982	2.310	85569538	13.159
24	RD45LCSW1	RD45LCSW1	07/18/10	0837	85935655	2.310	82303709	13.159
25	RD45LCSDW1	RD45LCSDW1	07/18/10	0855	93405816	2.311	91578699	13.160
26	NBF-ER-07081	RD45A	07/18/10	0914	87734632	2.310	82220391	13.159
27		AR1254	07/18/10	0933	80314587	2.310	75843967	13.159
28		AR1660	07/18/10	0952	80073681	2.310	76708088	13.160

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

Metals Analysis
Report and Summary QC Forms

ARI Job ID: RD45

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-GTSP Stormwater

SDG: RD45

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
NBF-ER-070810-W	RD45A	10-16162	
PBW	RD45MB1	10-16162	
LCSW	RD45MB1SPK	10-16162	

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

Comments: _____

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

Signature: _____ Name: Jay Kuhn

Date: 7/15/10 Title: Inorganic Manager

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: NBF-ER-070810-W
SAMPLE

Lab Sample ID: RD45A
LIMS ID: 10-16162
Matrix: Water
Data Release Authorized:
Reported: 07/15/10

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF
Date Sampled: 07/08/10
Date Received: 07/08/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/12/10	200.8	07/13/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	07/12/10	200.8	07/13/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	07/12/10	200.8	07/13/10	7440-47-3	Chromium	0.5	0.5	U
200.8	07/12/10	200.8	07/13/10	**7440-50-8**	**Copper**	0.5	**1.4**	
200.8	07/12/10	200.8	07/13/10	7439-92-1	Lead	1	1	U
7470A	07/12/10	7470A	07/14/10	7439-97-6	Mercury	0.1	0.1	U
200.8	07/12/10	200.8	07/13/10	7440-02-0	Nickel	0.5	0.5	U
200.8	07/12/10	200.8	07/13/10	7782-49-2	Selenium	0.5	0.5	U
200.8	07/12/10	200.8	07/13/10	7440-22-4	Silver	0.2	0.2	U
200.8	07/12/10	200.8	07/13/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: RD45LCS
LIMS ID: 10-16162
Matrix: Water
Data Release Authorized:
Reported: 07/15/10

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	24.5	25.0	98.0%	
Cadmium	200.8	24.0	25.0	96.0%	
Chromium	200.8	24.4	25.0	97.6%	
Copper	200.8	25.4	25.0	102%	
Lead	200.8	26	25	104%	
Mercury	7470A	2.0	2.0	100%	
Nickel	200.8	24.6	25.0	98.4%	
Selenium	200.8	72.2	80.0	90.2%	
Silver	200.8	24.9	25.0	99.6%	
Zinc	200.8	75	80	93.8%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: RD45MB
LIMS ID: 10-16162
Matrix: Water
Data Release Authorized:
Reported: 07/15/10

QC Report No: RD45-Science App. International Corp
Project: NBF-GTSP Stormwater Sampling
NBF
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	07/12/10	200.8	07/13/10	7440-38-2	Arsenic	0.2	0.2	U
200.8	07/12/10	200.8	07/13/10	7440-43-9	Cadmium	0.2	0.2	U
200.8	07/12/10	200.8	07/13/10	7440-47-3	Chromium	0.5	0.5	U
200.8	07/12/10	200.8	07/13/10	7440-50-8	Copper	0.5	0.5	U
200.8	07/12/10	200.8	07/13/10	7439-92-1	Lead	1	1	U
7470A	07/12/10	7470A	07/14/10	7439-97-6	Mercury	0.1	0.1	U
200.8	07/12/10	200.8	07/13/10	7440-02-0	Nickel	0.5	0.5	U
200.8	07/12/10	200.8	07/13/10	7782-49-2	Selenium	0.5	0.5	U
200.8	07/12/10	200.8	07/13/10	7440-22-4	Silver	0.2	0.2	U
200.8	07/12/10	200.8	07/13/10	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-GTSP Stormwater

UNITS: ug/L

SDG: RD45

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	PMS	MS071381	50.0	50.29	100.6	50.0	50.33	100.7	49.40	98.8	49.02	98.0				
Cadmium	CD	PMS	MS071381	50.0	50.00	100.0	50.0	50.45	100.9	50.77	101.5	49.79	99.6				
Chromium	CR	PMS	MS071381	50.0	49.42	98.8	50.0	50.61	101.2	50.66	101.3	52.36	104.7				
Copper	CU	PMS	MS071381	50.0	50.62	101.2	50.0	50.98	102.0	50.59	101.2	52.33	104.7				
Lead	PB	PMS	MS071381	50.0	49.95	99.9	50.0	50.98	102.0	51.73	103.5	52.70	105.4				
Mercury	HG	CVA	HG071402	8.0	7.67	95.9	4.0	4.36	109.0	4.44	111.0	4.44	111.0	4.44	111.0	4.55	113.8
Nickel	NI	PMS	MS071381	50.0	50.57	101.1	50.0	50.49	101.0	50.21	100.4	50.00	100.0				
Selenium	SE	PMS	MS071381	80.0	79.88	99.9	50.0	50.41	100.8	49.18	98.4	45.50	91.0				
Silver	AG	PMS	MS071381	50.0	49.17	98.3	50.0	50.52	101.0	50.42	100.8	50.69	101.4				
Zinc	ZN	PMS	MS071381	50.0	51.79	103.6	50.0	50.82	101.6	50.51	101.0	52.20	104.4				

RD45:00072

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

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-GTSP Stormwater

SDG: RD45

UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Arsenic	AS	PMS	MS071381	0.2	0.25	**125.0**										
Cadmium	CD	PMS	MS071381	0.2	0.23	**115.0**										
Chromium	CR	PMS	MS071381	0.5	0.54	**108.0**										
Copper	CU	PMS	MS071381	0.5	0.59	**118.0**										
Lead	PB	PMS	MS071381	1.0	1.08	**108.0**										
Mercury	HG	CVA	HG071402	0.1	0.11	**110.0**										
Nickel	NI	PMS	MS071381	0.5	0.57	**114.0**										
Selenium	SE	PMS	MS071381	0.5	0.59	**118.0**										
Silver	AG	PMS	MS071381	0.2	0.21	**105.0**										
Zinc	ZN	PMS	MS071381	4.0	4.25	**106.3**										

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

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-GTSP Stormwater

SDG: RD45

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	PMS	MS071381	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U				
Cadmium	CD	PMS	MS071381	5.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U				
Chromium	CR	PMS	MS071381	10.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U				
Copper	CU	PMS	MS071381	25.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U				
Lead	PB	PMS	MS071381	3.0	1.0	1.0	U	1.0	U	1.0	U	1.0	U				
Mercury	HG	CVA	HG071402	0.2	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nickel	NI	PMS	MS071381	40.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U				
Selenium	SE	PMS	MS071381	5.0	0.5	0.5	U	0.5	U	0.5	U	0.5	U				
Silver	AG	PMS	MS071381	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U				
Zinc	ZN	PMS	MS071381	20.0	4.0	4.0	U	4.0	U	4.0	U	4.0	U				

RD45:000171

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

ICS SOURCE: I.V.

PROJECT: NBF-GTSP Stormwater

RUNID: MS071381

SDG: RD45

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Antimony			0.1	0.1							
Arsenic		20	0.1	19.0	**95.0**						
Cadmium		20	0.0	19.5	**97.5**						
Chromium		20	0.5	20.4	**102.0**						
Cobalt		20	0.0	19.6	**98.0**						
Copper		20	0.4	19.6	**98.0**						
Lead			0.1	0.1							
Manganese		20	0.1	19.8	**99.0**						
Molybdenum	400	400	386.3	380.1	**95.0**						
Nickel		20	0.5	19.7	**98.5**						
Silver		20	0.0	19.2	**96.0**						
Vanadium			0.0	-0.3							
Zinc		20	1.3	19.8	**99.0**						

RD45 : SSSJS

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-GTSP Stormwater

SDG: RD45 UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Arsenic	AS	PMS	PE ELAN 6000 MS	0.00		10	0.2	4/1/2010		
Cadmium	CD	PMS	PE ELAN 6000 MS	0.00		5	0.2	4/1/2010		
Chromium	CR	PMS	PE ELAN 6000 MS	0.00		10	0.5	4/1/2010		
Copper	CU	PMS	PE ELAN 6000 MS	0.00		25	0.5	4/1/2010		
Lead	PB	PMS	PE ELAN 6000 MS	0.00		3	1.0	4/1/2010		
Mercury	HG	CVA	CETAC MERCURY	253.70		0.2	0.1	4/1/2010		
Nickel	NI	PMS	PE ELAN 6000 MS	0.00		40	0.5	4/1/2010		
Selenium	SE	PMS	PE ELAN 6000 MS	0.00		5	0.5	4/1/2010		
Silver	AG	PMS	PE ELAN 6000 MS	0.00		10	0.2	4/1/2010		
Zinc	ZN	PMS	PE ELAN 6000 MS	0.00		20	4.0	4/1/2010		

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-GTSP Stormwater

SDG: RD45

ANALYSIS METHOD: PMS

ARI PREP CODE: REN

PREPDATE: 7/12/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-ER-070810-W	RD45A	0.000	50.0	25.0
PBW	RD45MB1	0.000	50.0	25.0
LCSW	RD45MB1SPK	0.000	50.0	25.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-GTSP Stormwater

SDG: RD45

ANALYSIS METHOD: CVA

ARI PREP CODE: TWM

PREPDATE: 7/12/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-ER-070810-W	RD45A	0.000	20.0	20.0
PBW	RD45MB1	0.000	20.0	20.0
LCSW	RD45MB1SPK	0.000	20.0	20.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-GTSP Stormwater | INSTRUMENT ID: PE ELAN 6000 MS | START DATE: 7/13/2010

SDG: RD45 | RUNID: MS071381 | METHOD: PMS | END DATE: 7/13/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	10360		X		X					X		X	X								X	X		X							X
S1	S1	1.00	10430		X		X					X		X	X								X	X		X							X
S2	S2	1.00	10510		X		X					X		X	X								X	X		X							X
S3	S3	1.00	10590		X		X					X		X	X								X	X		X							X
S4	S4	1.00	11070		X		X					X		X	X								X	X		X							X
ZZZZZZ	Rinse Sampl	1.00	11140																														
ICV	MICV	1.00	11220		X		X					X		X	X								X	X		X							X
ICB	ICB	1.00	11290		X		X					X		X	X								X	X		X							X
CCV	MCCV1	1.00	11370		X		X					X		X	X								X	X		X							X
CCB	CCB1	1.00	11440		X		X					X		X	X								X	X		X							X
CRI	MCRI	1.00	11510		X		X					X		X	X								X	X		X							X
ICSA	ICSAI	1.00	11580		X		X					X		X	X								X	X		X							X
ICSAB	ICSABI	1.00	12060		X		X					X		X	X								X	X		X							X
ZZZZZZ	LR200	1.00	12130																														
ZZZZZZ	LR300	1.00	12210																														
CCV	MCCV2	1.00	12280		X		X					X		X	X								X	X		X							X
CCB	CCB2	1.00	12350		X		X					X		X	X								X	X		X							X
PBW	RD45MB1	2.00	12430		X		X					X		X	X								X	X		X							X
ZZZZZZ	RD67MB1	2.00	12500																														
ZZZZZZ	RD67MB2	2.00	12560																														
ZZZZZZ	RD67MB1SPK	2.00	13030																														
ZZZZZZ	RD67MB2SPK	2.00	13100																														
LCSW	RD45MB1SPK	2.00	13160		X		X					X		X	X								X	X		X							X
NBF-ER-070810-W	RD45A	2.00	13230		X		X					X		X	X								X	X		X							X
ZZZZZZ	RD67A	2.00	13290																														
ZZZZZZ	RD67B	2.00	13360																														
ZZZZZZ	RD41A	2.00	13430																														
CCV	MCCV3	1.00	13490		X		X					X		X	X								X	X		X							X
CCB	CCB3	1.00	13560		X		X					X		X	X								X	X		X							X

RD45 : 90976

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-GTSP Stormwater | INSTRUMENT ID: CETAC MERCURY | START DATE: 7/14/2010

SDG: RD45 | RUNID: HG071402 | METHOD: CVA | END DATE: 7/14/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	08562														X																
S0.1	S0.1	1.00	08575														X																
S0.5	S0.5	1.00	08593														X																
S1	S1	1.00	09010														X																
S2	S2	1.00	09024														X																
S5	S5	1.00	09042														X																
S10	S10	1.00	09060														X																
ICV	AICV	1.00	09260														X																
ICB	ICB	1.00	09274														X																
CCV	ACCV1	1.00	09292														X																
CCB	CCB1	1.00	09310														X																
CRA	CRA	1.00	09324														X																
ZZZZZZ	RD75MB	1.00	09341																														
ZZZZZZ	RD75MBSPK	1.00	09355																														
ZZZZZZ	RD75A	1.00	09372																														
ZZZZZZ	RD75B	1.00	09390																														
ZZZZZZ	RD75C	1.00	09403																														
ZZZZZZ	RD75D	1.00	09421																														
ZZZZZZ	RD75E	1.00	09435																														
ZZZZZZ	RD33MB	1.00	09453																														
ZZZZZZ	RD33MBSPK	1.00	09470																														
CCV	ACCV2	1.00	09484														X																
CCB	CCB2	1.00	09502														X																
ZZZZZZ	RD33B	1.00	09520																														
ZZZZZZ	RD33C	1.00	09534																														
ZZZZZZ	RD33D	1.00	09551																														
ZZZZZZ	RD33E	1.00	09565																														
ZZZZZZ	RD33F	1.00	09582																														
ZZZZZZ	RD33G	1.00	10000																														
ZZZZZZ	RD33H	1.00	10014																														
ZZZZZZ	RD33I	1.00	10031																														
ZZZZZZ	RD33IDUP	1.00	10045																														
ZZZZZZ	RD33ISPK	1.00	10063																														
CCV	ACCV3	1.00	10081														X																
CCB	CCB3	1.00	10095														X																

FORM XIV

RD45:00080

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: NBF-GTSP Stormwater | INSTRUMENT ID: CETAC MERCURY | START DATE: 7/14/2010

SDG: RD45 | RUNID: HG071402 | METHOD: CVA | END DATE: 7/14/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
ZZZZZZ	RD33K	1.00	10113																														
ZZZZZZ	RD54MB	1.00	10131																														
ZZZZZZ	RD54MBSPK	1.00	10144																														
ZZZZZZ	RD54A	1.00	10162																														
ZZZZZZ	RD54B	1.00	10180																														
ZZZZZZ	RD54C	1.00	10193																														
ZZZZZZ	RD54D	1.00	10211																														
ZZZZZZ	RD54E	1.00	10224																														
ZZZZZZ	RD54F	1.00	10242																														
PBW	RD45MB1	1.00	10260														X																
CCV	ACCV4	1.00	10274														X																
CCB	CCB4	1.00	10292														X																
LCSW	RD45MB1SPK	1.00	10310														X																
NBF-ER-070810-W	RD45A	1.00	10324														X																
ZZZZZZ	RD49MB	1.00	10341																														
ZZZZZZ	RD49MBSPK	1.00	10355																														
ZZZZZZ	RD49A	1.00	10373																														
ZZZZZZ	RD62MB	1.00	10391																														
ZZZZZZ	RD62A	1.00	10404																														
ZZZZZZ	RD62ADUP	1.00	10422																														
ZZZZZZ	RD62ASPK	1.00	10440																														
CCV	ACCV5	1.00	10454														X																
CCB	CCB5	1.00	10472														X																

RD15 : 00091

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Signature

July ~~29~~ 2010
Date

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Project: North Boeing Field

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Signature

30

July-29-2010

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

July 30, 2010

Glen Vedera
SAIC
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Project: North Boeing Field
ARI Job No: RD97

Dear Glen:

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

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

An electronic copy of this data and associated raw data will be kept on file with ARI. Should you have any questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

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

Enclosures

cc: eFile RD97

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Documentation

ARI Job ID: RD97

Chain of Custody Record & Laboratory Analysis Request

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

ARI Assigned Number: R097	Turn-around Requested: Standard	Page: 1 of 1	
ARI Client Company: SAIC	Phone: 206 271 4691	Date: 7/13/10	Ice Present? yes
Client Contact: Glen Vedera		No. of Coolers: 1	Cooler Temps: 20.4
Client Project Name: North Boeing Field			
Client Project #:	Samplers: JW/AW		

Sample ID	Date	Time	Matrix	No. Containers	PCB Aroclors 8082 (1)	PAH 8270-SIM (3)	Metals-SMS 6010B/7471A (6)	Grain Size ASTM D422 (4)	TOC (2)	Archive (5) 8oz jar Freeze			Notes/Comments
NBF-D435BS-071310-S	7/13/10	1300	Soil	4	X	X	X	X	X	X			If insufficient material analyze in order indicated. Freeze archive sample
NBF-D435BN-071310-S	↓	1330	↓	4	X	X	X	X	X	X			
NBF-D434AS-071310-S	↓	1415	↓	4	X	X	X	X	X	X			
NBF-D434AN-071310-S	↓	1500	↓	4	X	X	X	X	X	X			
NBF-D283A-071310-S	↓	1545	↓	4	X	X	X	X	X	X			
NBF-D436A-071310-S	↓	1615	↓	4	X	X	X	X	X	X			

7/13/10

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Julie Wartner	Printed Name: Kelly Bollen	Printed Name:	Printed Name:
	Company: SAIC	Company: ARI	Company:	Company:
	Date & Time: 7/13/10 1705	Date & Time: 7/13/10 17:05	Date & Time:	Date & Time:

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

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

RD97 : 00003

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: SAIC
Project Name: North Boeing Field
COC No(s): _____ NA
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Assigned ARI Job No: RD97
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): 20.4 ___ ___ ___ ___ ___
If cooler temperature is out of compliance fill out form 00070F
Temp Gun ID#: 90877952

Cooler Accepted by: JM Date: 7/13/10 Time: 1710

Complete custody forms and attach all shipping documents

Log-In Phase:

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

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

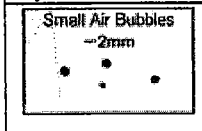
Samples Logged by: JM Date: 7/14/10 Time: 1105

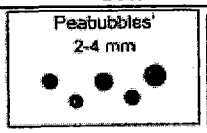
***** Notify Project Manager of discrepancies or concerns *****

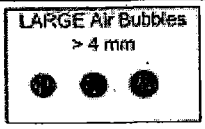
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
NBF-D283A-071310	NBF-D283A-071310-S		
NBF-D436A-071310-TB	NBF-D436A-071310-S		

Additional Notes, Discrepancies, & Resolutions:

By: Date:







Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

RD97

Cooler#: 1	Temperature(°C): 2.4	
Sample ID	**Bottle Count**	**Bottle Type**
NBF-D435BS-071310-S	4	2-8 oz jars, 2-16 oz jars
NBF-D435BN-071310-S	4	
NBF-D434AS-071310-S	4	
NBF-D434AN-071310-S	4	
NBF-D283A-071310-S	4	
NBF-D436A-071310-S	4	

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: _____ Date: _____ Time: _____

Subject: RE: RD97 NBF Sample Receipt and COC
From: "Hafner, William D." <WILLIAM.D.HAFNER@saic.com>
Date: Wed, 14 Jul 2010 13:45:53 -0700
To: "Cheronne Oreiro" <cheronneo@arilabs.com>, "Vedera, Glen T." <GLEN.T.VEDERA@saic.com>

20 ppb is fine. The metals should match those on the filters. We don't really need Sb and Ni.
Thanks,
Will

-----Original Message-----
From: Cheronne Oreiro [mailto:cheronneo@arilabs.com]
Sent: Wednesday, July 14, 2010 1:05 PM
To: Hafner, William D.; Vedera, Glen T.
Subject: RD97 NBF Sample Receipt and COC

Hi Will,

Please see attached. What reporting level do you need to meet for PCBs? The samples are currently logged for SMS/PSDDA reporting limit (20ppb). Also, we used the SMS metals list as requested on the COC, but note that

the analyte list is different (Sb and Ni added) than both your filter-bag and stormwater lists. Please let me know if we need to make any changes.
Thanks,
-Cheronne

--
Cheronne Oreiro
Project Manager
Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168-3240
cheronneo@arilabs.com
(206)-695-6214

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: RD97

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative

Client: SAIC
Project: North Boeing Field
ARI Job No.: RD97

Sample Receipt

Six soil samples were received on July 13, 2010 under ARI job RD97. The cooler temperature measured by IR thermometer following ARI SOP was 20.4°C. For further details regarding sample receipt, please refer to the Cooler Receipt Form.

PAHs SW8270D-SIM

The samples were initially screened to determine if a response was present that would require modification of the extraction process. Based on the screen, the initial extraction weight was reduced for sample **NBF-D283A-071310-S**. The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limit. The LCS and LCSD percent recoveries were within control limits.

Aroclor PCBs by SW8082

The samples were initially screened to determine if a response was present that would require modifications of the extraction process. Based on the screen, the initial extraction weight was reduced for sample **NBF-D283A-071310-S**. The samples were extracted and analyzed within the recommended holding times, using internal standard methods.

Initial and continuing calibrations were within method requirements. Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

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

The undetected results of Aroclor 1248 were raised and "Y"-flagged due to interference from the matrix.

Total Metals/Mercury

The samples were digested and analyzed within method recommended holding times, using internal standard methods.

The third CCV percent recovery of lead was outside the control limits high. No sample results were associated with this CCV. No corrective action was taken.

The fifth CCV percent recovery of chromium was outside the control limits high. No sample results were associated with this CCV. No corrective action was taken.

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

General Chemistry

The samples were prepared and analyzed within method recommended holding times, using internal standards.

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

The SRM percent recovery was within limits.

The matrix spike percent recovery and replicate RSDs were within control limits.

Geotechnical Parameters

A laboratory-specific case narrative follows.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Science Applications International Corp.	**ARI Job No.:** RD97
Client Project: North Boeing Field	

Case Narrative

1. Six samples were submitted for grain size analysis according to Puget Sound Estuary Protocol (PSEP) methodology on July 13, 2010.
2. The samples were run in a single batch and one sample from this job, NBF-D435BS-071310-S, was chosen for triplicate analysis. The triplicate data is reported on the QA summary.
3. All samples contained woody or other organic matter, which may have broken down during the sieving process, affecting grain size analysis.
4. The data is provided in summary tables and plots.
5. There were no other noted anomalies in this project.

Approved by: _____ Date: July 22, 2010
Technician

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

7/3/2010

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1732-2	ABN	100/150	MEOH	07/30/10
B	1747-2	SIM PNA	15/75	MEOH	10/07/10
C	1705-4	SIM ABN	25/37.5	MEOH	07/30/10
D	1742-1	LOW PCB	0.2	ACETONE	12/29/10
E	1661-2	HERB	62.5	MEOH	10/02/10
F	1683-3	PCP	12.5	ACETONE	12/09/10
G	1707-2	1,4DIOXANE	100	MEOH	03/19/11
H	1723-2	OP-PEST	25	MEOH	04/02/11
I	1747-1	LOW S. PNA	1.5	MEOH	10/07/10
J	1681-2	TBT-PORE	0.125	MECL2	12/01/10
K	1689-1	MED PCB	20	ACETONE	12/29/10
L	1681-1	TBT	2.5	MECL2	12/01/10
M	1682-1	EPH	1500	MECL2	09/17/10
N	1689-3	PCB	2	ACETONE	12/29/10
O	1740-1	TPH	450	MECL2	12/11/10
P	1742-2	HCID	2250	MECL2	05/13/11
Q	1620-2	EDB	1	MEOH	06/22/10
R	1615-1	RESIN ACID	250	ACETONE	06/17/10
S*	1568-5	PBDE	.25	MEOH	01/13/11
T	1674-2	ALKYL PNA	10	MEOH	07/30/10
U	1633-1	CONGENER	2.5	ACETONE	08/11/10
V					
*reverified solution					

LCS SOLUTIONS

7/3/2010

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1716-1	PCB 1660	20	ACETONE	03/30/11
2#		BCOC PEST	10	ACETONE	NA
3	1705-3	PEST	02/04/20	ACETONE	03/08/11
4	1744-3	LOW PEST	0.2/0.4/2	ACETONE	03/08/11
5	1677-1	EPH	1500	MECL2	11/12/10
6	1702-2	PCP	12.5/125	ACETONE	02/18/11
7	1738-2	ABN	100	ACETONE	01/31/11
8	1681-4	TBT	2.5	MECL2	12/01/10
9	1682-2	PORE TBT	.125/.25	MECL2	12/01/10
10	1698-2	ABN ACID	100/200	MECL2	07/14/10
11	1730-2	TPHD	15000	ACETONE	04/26/11
12	1741-2	ABN BASE	200	MEOH	07/24/10
13	1716-2	LOW PCB	2	ACETONE	03/30/11
14	1730-1	LOW ABN ACID	10/20	MEOH	07/14/10
15	1726-3	SIM PNA	15/75	MEOH	10/07/10
16	1707-1	DIOXANE	100	MEOH	11/05/10
17	1644-1	1248 PCB	10	ACETONE	09/10/10
18	1726-4	LOW SIM PNA	1.5	ACETONE	10/07/10
19	1746-3	AK103	7500	ACETONE	12/01/10
20	1682-4	PNA	100	ACETONE	12/04/10
21	1725-1	SKY/BHT	100	MEOH	03/18/11
22	1728-1	HERB	12.5/12500	MEOH	10/20/10
23	1706-1	LW ABN BASE	20	MEOH	03/08/11
24	1696-1	LOW ABN	10	ACETONE	01/13/11
25#		DIPHENYL	100	MEOH	NA
26	1723-3	OP-PEST	25	MEOH	11/20/10
27	1668-3	STEROLS	200	MEOH	10/30/10
28#		ADD. PEST	4	ACETONE	NA
29#		DECANES	100	MEOH	NA
30	1620-1	EDB/DBCP	0.2	MEOH	06/22/10

LCS SOLUTIONS

7/3/2010

31	1707-3	TERPINEOL	100	MEOH	03/19/11
32	1619-3	GUAIACOL	50-200	ACETONE	04/30/10
33	1639-3	RETENE	100	MEOH	09/03/10
34	1633-1	CONGENERS	2.5	ACETONE	08/11/10
35	1674-3	ALKYL PNA A	10	MEOH	10/28/10
36	1601-3	ALKYL PNA B	10	MEOH	05/13/10
50	1617-1	FULL RESIN	250	ACETONE	06/17/10
51	1696-3	DDTS	2.5	ACETONE	06/03/10
52	1613-5	1232 PCB	20	ACETONE	06/16/10
53	1703-3	DALAPON	50	MEOH	09/11/10
54	1701-2	PBDE	0.5	ACETONE	02/10/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified [1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Matrix	Water		Soil	
Sample Volume / Final Volume	**500 mL to 0.5 mL**		**7.5 g / 0.5 mL**	
	Control Limits	**ME Limits [2]**	**Control Limits**	**ME Limits [2]**
LCS Spike Recovery [6]				
Napthalene	39 - **100**	30 - 102	37 - **100**	27 - 107
2-Methylnapthalene	39 - **100**	31 - **100**	37 - **100**	28 - **100**
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	37 - 100	27 - 111	35 - **100**	26 - 102
Acenapthene	42 - **100**	33 - 107	39 - **100**	31 - **100**
Dibenzofuran	46 - **100**	38 - 101	39 - **100**	31 - **100**
Fluorene	49 - 101	40 - 110	42 - **100**	33 - 106
Phenanthrene	55 - 101	47 - 109	47 - **100**	38 - 108
Anthracene	47 - 102	38 - 111	41 - 106	30 - 117
Fluoranthene	60 - 106	52 - 114	52 - 109	43 - 119
Pyrene	55 - 110	46 - 119	47 - 111	36 - 122
Benz(a)anthracene	56 - 104	48 - 112	47 - 114	36 - 125
Chrysene	58 - 104	50 - 112	51 - 106	42 - 115
Benzo(b)fluoranthene	51 - 126	39 - 139	52 - 114	42 - 124
Benzo(k)fluoranthene	55 - 123	44 - 134	48 - 117	37 - 129
Benzo(a)pyrene	32 - 110	19 - 123	44 - 111	33 - 122
Indeno(1,2,3-cd)pyrene	50 - 114	39 - 125	41 - 114	29 - 126
Dibenzo(a,h)anthracene	42 - 121	29 - 134	42 - 116	30 - 128
Benzo(g,h,i)perylene	50 - 113	40 - 124	37 - 115	27 - 107
MB / LCS Surrogate Recovery				
d10-2-Methylnaphthalene	36 - 101	(4)	35 - **100**	(4)
d14-Dibenzo(a,h)anthracene	42 - 121	(4)	37 - 120	(4)
Sample Surrogate Recovery				
d10-2-Methylnaphthalene	30 - 106	(4)	34 - **100**	(4)
d14-Dibenzo(a,h)anthracene	**10** - 130	(4)	**10** - 117	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/31/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.

Analytical Resources,Incorporated
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Spike Recovery Control Limits - Analysis of PCB / Aroclors in Soil & Sediment Samples - EPA SW-846 Method 8082

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	Routine Analysis	PSDDA	Low Level	Low level	Soxhlet Extraction	Medium Level
Typical Reporting Limit (µg/kg):	**33**	**20**	**10**	**4**	**100**	**800**
Nominal Sample Wet Weight (g):	**12**	**25**	**25**	**25**	**10**	**5**
Final Extract Volume (mL):	**4**	**5**	**2.5**	**1**	**10**	**40**
LCS Spike Recovery [1,2]						
Aroclor 1016	48 - 106	52 - 101	53 - **100**	37 - 106	30 - 160[3]	59 - 108
Aroclor 1260	50 - 121	52 - 126	58 - 112	50 - 116	30 - 160[3]	43 - 177
Method Blank / LCS Surrogate Recovery						
Tetrachloro-*meta*-xylene (TCMX)	46 - 111	47 - 110	43 - 108	35 - 100	30 - 160[3]	49 - 110
Decachlorobiphenyl	51 - 112	48 - 119	48 - 118	40 - 109	30 - 160[3]	51 - 127
Sample Surrogate Recovery						
Tetrachloro-*meta*-xylene (TCMX)	50 - 114	46 - 113	35 - 119	38 - 102	30 - 160[3]	28 - 106
Decachlorobiphenyl	42 - 127	40 - 130	33 - 143	34 - 141	30 - 160[3]	22 - 168

(1) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.

Analytical Resources,Incorporated
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Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

SIM PAH Analysis
Report and Summary QC Forms

ARI Job ID: RD97

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: NBF-D435BS-071310-S
SAMPLE

Lab Sample ID: RD97A
LIMS ID: 10-16509
Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/23/10
Date Analyzed: 07/26/10 16:17
Instrument/Analyst: NT11/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.96 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 5.00
Percent Moisture: 0.8%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	23	< 23 U
91-57-6	2-Methylnaphthalene	23	< 23 U
90-12-0	1-Methylnaphthalene	23	< 23 U
208-96-8	Acenaphthylene	23	< 23 U
83-32-9	Acenaphthene	23	< 23 U
86-73-7	Fluorene	23	< 23 U
85-01-8	**Phenanthrene**	**23**	**120**
120-12-7	Anthracene	23	< 23 U
206-44-0	**Fluoranthene**	**23**	**230**
129-00-0	**Pyrene**	**23**	**200**
56-55-3	**Benzo(a)anthracene**	**23**	**64**
218-01-9	**Chrysene**	**23**	**120**
50-32-8	**Benzo(a)pyrene**	**23**	**87**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**23**	**48**
53-70-3	Dibenz(a,h)anthracene	23	< 23 U
191-24-2	**Benzo(g,h,i)perylene**	**23**	**64**
132-64-9	Dibenzofuran	23	< 23 U
TOTBFA	**Total Benzofluoranthenes**	**23**	**210**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	71.7%
d14-Dibenzo(a,h)anthracen	43.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: NBF-D435BN-071310-S
SAMPLE

Lab Sample ID: RD97B
LIMS ID: 10-16510
Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/23/10
Date Analyzed: 07/26/10 16:44
Instrument/Analyst: NT11/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.93 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 5.00
Percent Moisture: 0.7%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	46	< 46 U
91-57-6	2-Methylnaphthalene	46	< 46 U
90-12-0	1-Methylnaphthalene	46	< 46 U
208-96-8	Acenaphthylene	46	< 46 U
83-32-9	Acenaphthene	46	< 46 U
86-73-7	Fluorene	46	< 46 U
85-01-8	**Phenanthrene**	**46**	**220**
120-12-7	Anthracene	46	< 46 U
206-44-0	**Fluoranthene**	**46**	**450**
129-00-0	**Pyrene**	**46**	**390**
56-55-3	**Benzo(a)anthracene**	**46**	**120**
218-01-9	**Chrysene**	**46**	**240**
50-32-8	**Benzo(a)pyrene**	**46**	**160**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**46**	**82**
53-70-3	Dibenz(a,h)anthracene	46	< 46 U
191-24-2	**Benzo(g,h,i)perylene**	**46**	**120**
132-64-9	Dibenzofuran	46	< 46 U
TOTBFA	**Total Benzofluoranthenes**	**46**	**400**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	56.7%
d14-Dibenzo(a,h)anthracen	33.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: NBF-D434AS-071310-S
SAMPLE

Lab Sample ID: RD97C
LIMS ID: 10-16511
Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/23/10
Date Analyzed: 07/26/10 17:10
Instrument/Analyst: NT11/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 11.06 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 5.00
Percent Moisture: 0.3%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	45	< 45 U
91-57-6	2-Methylnaphthalene	45	< 45 U
90-12-0	1-Methylnaphthalene	45	< 45 U
208-96-8	Acenaphthylene	45	< 45 U
83-32-9	Acenaphthene	45	< 45 U
86-73-7	Fluorene	45	< 45 U
85-01-8	**Phenanthrene**	**45**	**280**
120-12-7	Anthracene	45	< 45 U
206-44-0	**Fluoranthene**	**45**	**620**
129-00-0	**Pyrene**	**45**	**560**
56-55-3	**Benzo(a)anthracene**	**45**	**150**
218-01-9	**Chrysene**	**45**	**280**
50-32-8	**Benzo(a)pyrene**	**45**	**210**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**45**	**86**
53-70-3	Dibenz(a,h)anthracene	45	< 45 U
191-24-2	**Benzo(g,h,i)perylene**	**45**	**110**
132-64-9	Dibenzofuran	45	< 45 U
TOTBFA	**Total Benzofluoranthenes**	**45**	**530**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	46.7%
d14-Dibenzo(a,h)anthracen	23.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: NBF-D434AN-071310-S
SAMPLE

Lab Sample ID: RD97D
LIMS ID: 10-16512
Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/23/10
Date Analyzed: 07/26/10 17:37
Instrument/Analyst: NT11/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.98 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 5.00
Percent Moisture: 0.2%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	46	< 46 U
91-57-6	2-Methylnaphthalene	46	< 46 U
90-12-0	1-Methylnaphthalene	46	< 46 U
208-96-8	Acenaphthylene	46	< 46 U
83-32-9	Acenaphthene	46	< 46 U
86-73-7	Fluorene	46	< 46 U
85-01-8	**Phenanthrene**	**46**	**220**
120-12-7	Anthracene	46	< 46 U
206-44-0	**Fluoranthene**	**46**	**440**
129-00-0	**Pyrene**	**46**	**370**
56-55-3	**Benzo(a)anthracene**	**46**	**110**
218-01-9	**Chrysene**	**46**	**210**
50-32-8	**Benzo(a)pyrene**	**46**	**130**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**46**	**50**
53-70-3	Dibenz(a,h)anthracene	46	< 46 U
191-24-2	**Benzo(g,h,i)perylene**	**46**	**68**
132-64-9	Dibenzofuran	46	< 46 U
TOTBFA	**Total Benzofluoranthenes**	**46**	**340**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	60.0%
d14-Dibenzo(a,h)anthracen	33.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: NBF-D283A-071310-S
SAMPLE

Lab Sample ID: RD97E
LIMS ID: 10-16513
Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/23/10
Date Analyzed: 07/26/10 18:03
Instrument/Analyst: NT11/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.00 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 5.00
Percent Moisture: 0.7%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	50	< 50 U
91-57-6	2-Methylnaphthalene	50	< 50 U
90-12-0	1-Methylnaphthalene	50	< 50 U
208-96-8	Acenaphthylene	50	< 50 U
83-32-9	Acenaphthene	50	< 50 U
86-73-7	Fluorene	50	< 50 U
85-01-8	**Phenanthrene**	**50**	**720**
120-12-7	**Anthracene**	**50**	**50**
206-44-0	**Fluoranthene**	**50**	**1,500**
129-00-0	**Pyrene**	**50**	**1,400**
56-55-3	**Benzo(a)anthracene**	**50**	**420**
218-01-9	**Chrysene**	**50**	**680**
50-32-8	**Benzo(a)pyrene**	**50**	**540**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**50**	**220**
53-70-3	**Dibenz(a,h)anthracene**	**50**	**55**
191-24-2	**Benzo(g,h,i)perylene**	**50**	**220**
132-64-9	Dibenzofuran	50	< 50 U
TOTBFA	**Total Benzofluoranthenes**	**50**	**1,300**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	53.3%
d14-Dibenzo(a,h)anthracen	30.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: NBF-D436A-071310-S
SAMPLE

Lab Sample ID: RD97F
LIMS ID: 10-16514
Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/23/10
Date Analyzed: 07/26/10 18:29
Instrument/Analyst: NT11/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.98 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 5.00
Percent Moisture: 0.4%

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	46	< 46 U
91-57-6	2-Methylnaphthalene	46	< 46 U
90-12-0	1-Methylnaphthalene	46	< 46 U
208-96-8	Acenaphthylene	46	< 46 U
83-32-9	Acenaphthene	46	< 46 U
86-73-7	Fluorene	46	< 46 U
85-01-8	**Phenanthrene**	**46**	**370**
120-12-7	Anthracene	46	< 46 U
206-44-0	**Fluoranthene**	**46**	**750**
129-00-0	**Pyrene**	**46**	**640**
56-55-3	**Benzo(a)anthracene**	**46**	**170**
218-01-9	**Chrysene**	**46**	**340**
50-32-8	**Benzo(a)pyrene**	**46**	**240**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**46**	**86**
53-70-3	Dibenz(a,h)anthracene	46	< 46 U
191-24-2	**Benzo(g,h,i)perylene**	**46**	**100**
132-64-9	Dibenzofuran	46	< 46 U
TOTBFA	**Total Benzofluoranthenes**	**46**	**610**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	53.3%
d14-Dibenzo(a,h)anthracen	30.0%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Client ID	MNP	DBA	TOT OUT
MB-072310	78.3%	97.7%	0
LCS-072310	86.7%	98.0%	0
LCSD-072310	76.0%	89.0%	0
NBF-D435BS-071310-S	71.7%	43.3%	0
NBF-D435BN-071310-S	56.7%	33.3%	0
NBF-D434AS-071310-S	46.7%	23.3%	0
NBF-D434AN-071310-S	60.0%	33.3%	0
NBF-D283A-071310-S	53.3%	30.0%	0
NBF-D436A-071310-S	53.3%	30.0%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(35-100)	(34-100)
(DBA) = d14-Dibenzo(a,h)anthracene	(37-120)	(10-117)

Prep Method: SW3546
Log Number Range: 10-16509 to 10-16514

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-072310
LAB CONTROL SAMPLE

Lab Sample ID: LCS-072310
LIMS ID: 10-16509
Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 07/23/10

Date Analyzed LCS: 07/26/10 12:19
LCSD: 07/26/10 12:45
Instrument/Analyst LCS: NT11/YZ
LCSD: NT11/YZ

Sample Amount LCS: 10.0 g-dry-wt
LCSD: 10.0 g-dry-wt
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Naphthalene	119	150	79.3%	104	150	69.3%	13.5%
2-Methylnaphthalene	124	150	82.7%	109	150	72.7%	12.9%
1-Methylnaphthalene	124	150	82.7%	108	150	72.0%	13.8%
Acenaphthylene	126	150	84.0%	110	150	73.3%	13.6%
Acenaphthene	123	150	82.0%	106	150	70.7%	14.8%
Fluorene	133	150	88.7%	116	150	77.3%	13.7%
Phenanthrene	139	150	92.7%	122	150	81.3%	13.0%
Anthracene	142	150	94.7%	126	150	84.0%	11.9%
Fluoranthene	154	150	103%	136	150	90.7%	12.4%
Pyrene	154	150	103%	140	150	93.3%	9.5%
Benzo(a)anthracene	148	150	98.7%	133	150	88.7%	10.7%
Chrysene	142	150	94.7%	130	150	86.7%	8.8%
Benzo(a)pyrene	148	150	98.7%	130	150	86.7%	12.9%
Indeno(1,2,3-cd)pyrene	146	150	97.3%	133	150	88.7%	9.3%
Dibenz(a,h)anthracene	145	150	96.7%	131	150	87.3%	10.1%
Benzo(g,h,i)perylene	143	150	95.3%	130	150	86.7%	9.5%
Dibenzofuran	119	150	79.3%	104	150	69.3%	13.5%
Total Benzofluoranthenes	288	300	96.0%	264	300	88.0%	8.7%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	86.7%	76.0%
d14-Dibenzo(a,h)anthracen	98.0%	89.0%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

RD97MBS1

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No: RD97 Project: NORTH BOEING FIELD

Lab File ID: RD97MB Date Extracted: 07/23/10

Instrument ID: NT11 Date Analyzed: 07/26/10

Matrix: SOLID Time Analyzed: 1153

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	RD97LCSS1	RD97LCSS1	RD97SB	07/26/10
02	RD97LCSDS1	RD97LCSDS1	RD97SBD	07/26/10
03	NBF-D435BS-07131	RD97A	RD97A	07/26/10
04	NBF-D435BN-07131	RD97B	RD97B	07/26/10
05	NBF-D434AS-07131	RD97C	RD97C	07/26/10
06	NBF-D434AN-07131	RD97D	RD97D	07/26/10
07	NBF-D283A-071310	RD97E	RD97E	07/26/10
08	NBF-D436A-071310	RD97F	RD97F	07/26/10
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FORM IV SV

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: MB-072310
METHOD BLANK

Lab Sample ID: MB-072310
LIMS ID: 10-16509
Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field
Event: NA
Date Sampled: NA
Date Received: NA

Date Extracted: 07/23/10
Date Analyzed: 07/26/10 11:53
Instrument/Analyst: NT11/YZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.00 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
91-20-3	Naphthalene	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	5.0	< 5.0 U
90-12-0	1-Methylnaphthalene	5.0	< 5.0 U
208-96-8	Acenaphthylene	5.0	< 5.0 U
83-32-9	Acenaphthene	5.0	< 5.0 U
86-73-7	Fluorene	5.0	< 5.0 U
85-01-8	Phenanthrene	5.0	< 5.0 U
120-12-7	Anthracene	5.0	< 5.0 U
206-44-0	Fluoranthene	5.0	< 5.0 U
129-00-0	Pyrene	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	5.0	< 5.0 U
218-01-9	Chrysene	5.0	< 5.0 U
50-32-8	Benzo(a)pyrene	5.0	< 5.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	< 5.0 U
53-70-3	Dibenz(a,h)anthracene	5.0	< 5.0 U
191-24-2	Benzo(g,h,i)perylene	5.0	< 5.0 U
132-64-9	Dibenzofuran	5.0	< 5.0 U
TOTBFA	Total Benzofluoranthenes	5.0	< 5.0 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	78.3%
d14-Dibenzo(a,h)anthracen	97.7%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP.

Instrument ID: NT11 Project: NORTH BOEING FIELD

DFTPP Injection Date: 06/19/10 DFTPP Injection Time: 1219

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	24.5
68	Less than 2.0% of mass 69	0.2 (0.4)1
69	Mass 69 relative abundance	51.5
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	10.0 - 80.0% of mass 198	54.1
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	23.1
365	Greater than 1.0% of mass 198	2.77
441	0.0 - 24.0% of mass 442	16.2 (14.8)2
442	50.0 - 200.0% of mass 198	109.7
443	15.0 - 24.0% of mass 442	21.1 (19.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		IC0619A	IC0619A	06/19/10	1235
02		IC0619B	IC0619B	06/19/10	1301
03		IC0619C	IC0619C	06/19/10	1327
04		IC0619D	IC0619D	06/19/10	1354
05		IC0619E	IC0619E	06/19/10	1420
06		IC0619F	IC0619F	06/19/10	1446
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FORM V SV

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP.

Instrument ID: NT11 Project: NORTH BOEING FIELD

DFTPP Injection Date: 07/26/10 DFTPP Injection Time: 1012

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	24.6
68	Less than 2.0% of mass 69	0.4 (0.8)1
69	Mass 69 relative abundance	51.0
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	10.0 - 80.0% of mass 198	56.5
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	23.6
365	Greater than 1.0% of mass 198	3.03
441	0.0 - 24.0% of mass 442	15.0 (14.9)2
442	50.0 - 200.0% of mass 198	100.9
443	15.0 - 24.0% of mass 442	19.5 (19.3)2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01		CC0726	CC0726	07/26/10	1028
02	RD97MBS1	RD97MBS1	RD97MB	07/26/10	1153
03	RD97LCSS1	RD97LCSS1	RD97SB	07/26/10	1219
04	RD97LCSDS1	RD97LCSDS1	RD97SBD	07/26/10	1245
05	NBF-D435BS-07131	RD97A	RD97A	07/26/10	1617
06	NBF-D435BN-07131	RD97B	RD97B	07/26/10	1644
07	NBF-D434AS-07131	RD97C	RD97C	07/26/10	1710
08	NBF-D434AN-07131	RD97D	RD97D	07/26/10	1737
09	NBF-D283A-071310	RD97E	RD97E	07/26/10	1803
10	NBF-D436A-071310	RD97F	RD97F	07/26/10	1829
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12					
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15					
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17					
18					
19					
20					
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22					

FORM V SV

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP.

ARI Job No: RD97 Project: NORTH BOEING FIELD

Instrument ID: NT11 Calibration Date: 06/19/10

LAB FILE ID: RRF0.1=IC0619C RRF0.5=IC0619E RRF1 =IC0619F
RRF2.5=IC0619A RRF5 =IC0619D RRF10 =IC0619B

COMPOUND	RRF 0.1	RRF 0.5	RRF 1	RRF 2.5	RRF 5	RRF 10	___ RRF	%RSD /R^2
Naphthalene	1.133	1.091	1.069	1.032	0.986	0.891	1.034	8.3
2-Methylnaphthalene	0.648	0.659	0.655	0.639	0.610	0.553	0.627	6.4
Acenaphthylene	1.850	1.782	1.851	1.933	1.864	1.746	1.838	3.6
Acenaphthene	1.228	1.167	1.169	1.154	1.114	1.035	1.144	5.7
Dibenzofuran	1.765	1.624	1.640	1.636	1.571	1.456	1.615	6.2
Fluorene	1.328	1.316	1.331	1.388	1.328	1.241	1.322	3.6
Phenanthrene	1.142	1.114	1.104	1.069	1.046	0.965	1.073	5.9
Anthracene	1.072	1.031	1.090	1.084	1.071	1.001	1.058	3.3
Fluoranthene	1.138	1.103	1.150	1.173	1.152	1.076	1.132	3.2
Pyrene	1.284	1.297	1.356	1.364	1.309	1.232	1.307	3.7
Benzo(a)anthracene	1.207	1.126	1.139	1.202	1.166	1.110	1.158	3.5
Chrysene	1.240	1.225	1.217	1.176	1.136	1.080	1.179	5.2
Benzo(a)pyrene	1.011	0.966	1.025	1.068	1.051	1.012	1.022	3.5
Indeno(1,2,3-cd)pyrene	1.323	1.301	1.350	1.403	1.386	1.320	1.347	3.0
Dibenz(a,h)anthracene	1.057	1.004	1.098	1.161	1.134	1.081	1.089	5.1
Benzo(g,h,i)perylene	1.220	1.124	1.182	1.217	1.208	1.183	1.189	3.0
1-Methylnaphthalene	0.661	0.654	0.647	0.634	0.604	0.549	0.625	6.8
Perylene	1.445	1.153	1.253	1.205	1.184	1.114	1.226	9.6
Total Benzofluoranthenes	1.254	1.229	1.273	1.242	1.218	1.131	1.224	4.1
2-Methylnaphthalene-d10		0.619	0.632	0.613	0.585	0.532	0.596	6.7
Dibenz(a,h)anthrancene-d14		0.698	0.740	0.826	0.828	0.814	0.781	7.6

<- Outside QC limits: %RSD <20% or R^2 > 0.990

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP.

ARI Job No: RD97 Project: NORTH BOEING FIELD

Instrument ID: NT11 Cont. Calib. Date: 07/26/10

Init. Calib. Date: 06/19/10 Cont. Calib. Time: 1028

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Naphthalene	1.034	1.147	0.700	AVRG	10.9
2-Methylnaphthalene	0.627	0.711	0.400	AVRG	13.4
Acenaphthylene	1.838	2.102	0.900	AVRG	14.4
Acenaphthene	1.144	1.238	0.900	AVRG	8.2
Dibenzofuran	1.615	1.766	0.800	AVRG	9.3
Fluorene	1.322	1.472	0.900	AVRG	11.3
Phenanthrene	1.073	1.180	0.700	AVRG	10.0
Anthracene	1.058	1.214	0.700	AVRG	14.7
Fluoranthene	1.132	1.317	0.600	AVRG	16.3
Pyrene	1.307	1.516	0.600	AVRG	16.0
Benzo(a)anthracene	1.158	1.306	0.800	AVRG	12.8
Chrysene	1.179	1.262	0.700	AVRG	7.0
Benzo(a)pyrene	1.022	1.147	0.700	AVRG	12.2
Indeno(1,2,3-cd)pyrene	1.347	1.493	0.500	AVRG	10.8
Dibenz(a,h)anthracene	1.089	1.185	0.010	AVRG	8.8
Benzo(g,h,i)perylene	1.189	1.336	0.500	AVRG	12.4
1-Methylnaphthalene	0.625	0.700	0.010	AVRG	12.0
Perylene	1.226	1.257	0.010	AVRG	2.5
Total Benzofluoranthenes	1.224	1.349	0.010	AVRG	10.2
2-Methylnaphthalene-d10	0.596	0.679	0.010	AVRG	13.9
Dibenz(a,h)anthrancene-d14	0.781	0.878	0.010	AVRG	12.4

<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP.

ARI Job No: RD97 Project: NORTH BOEING FIELD

Ical Midpoint ID: IC0619A Ical Date: 06/19/10

Instrument ID: NT11 Cont. Cal Date: 07/26/10

		IS1(NPT) AREA	#	RT	#	IS2(ANT) AREA	#	RT	#	IS3(PHN) AREA	#	RT	#
	ICAL MIDPT	338464		6.18		173875		8.35		307742		10.18	
	UPPER LIMIT	676928				347750				615484			
	LOWER LIMIT	169232				86938				153871			
	CCAL	364054		6.03		195139		8.20		333902		10.03	
	UPPER LIMIT			6.53				8.70				10.53	
	LOWER LIMIT			5.53				7.70				9.53	
01	RD97MBS1	338855		6.03		176814		8.20		296573		10.02	
02	RD97LCSS1	307432		6.04		168247		8.20		290928		10.03	
03	RD97LCSDS1	353433		6.04		193957		8.20		333154		10.03	
04	NBF-D435BS-0	327488		6.03		181272		8.20		305663		10.02	
05	NBF-D435BN-0	342861		6.03		190219		8.20		325852		10.03	
06	NBF-D434AS-0	346174		6.03		194903		8.20		325702		10.02	
07	NBF-D434AN-0	344830		6.03		192484		8.20		322413		10.03	
08	NBF-D283A-07	349092		6.04		195727		8.20		324766		10.03	
09	NBF-D436A-07	351529		6.03		197036		8.20		330860		10.03	
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													

IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SCIENCE APP.

ARI Job No: RD97 Project: NORTH BOEING FIELD

Ical Midpoint ID: IC0619A Ical Date: 06/19/10

Instrument ID: NT11 Cont. Cal Date: 07/26/10

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	275047	13.48	261996	15.37		
	UPPER LIMIT	550094		523992			
	LOWER LIMIT	137524		130998			
	CCAL	301266	13.33	282679	15.15		
	UPPER LIMIT		13.83		15.65		
	LOWER LIMIT		12.83		14.65		
01	RD97MBS1	253654	13.33	238780	15.15		
02	RD97LCSS1	257943	13.33	228716	15.15		
03	RD97LCSDS1	290653	13.33	264760	15.15		
04	NBF-D435BS-0	262240	13.33	215215	15.15		
05	NBF-D435BN-0	279460	13.33	223410	15.15		
06	NBF-D434AS-0	258148	13.33	187392	15.16		
07	NBF-D434AN-0	280381	13.33	180487	15.16		
08	NBF-D283A-07	245765	13.33	155282	15.16		
09	NBF-D436A-07	273464	13.33	169237	15.16		
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

PCB Analysis
Report and Summary QC Forms

ARI Job ID: RD97

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Page 1 of 1

Sample ID: NBF-D435BS-071310-S
SAMPLE

Lab Sample ID: RD97A
LIMS ID: 10-16509
Matrix: Soil
Data Release Authorized:
Reported: 07/30/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/22/10
Date Analyzed: 07/28/10 13:35
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 26.5 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 0.8%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	**Aroclor 1248**	**19**	**43**
11097-69-1	**Aroclor 1254**	**19**	**70**
11096-82-5	**Aroclor 1260**	**19**	**140**
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	110%
Tetrachlorometaxylene	77.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Page 1 of 1

Sample ID: NBF-D435BN-071310-S
SAMPLE

Lab Sample ID: RD97B
LIMS ID: 10-16510
Matrix: Soil
Data Release Authorized:
Reported: 07/30/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/22/10
Date Analyzed: 07/28/10 13:58
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 26.0 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 0.7%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	**Aroclor 1248**	**19**	**48**
11097-69-1	**Aroclor 1254**	**19**	**76**
11096-82-5	**Aroclor 1260**	**19**	**190**
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	113%
Tetrachlorometaxylene	86.9%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Page 1 of 1

Sample ID: NBF-D434AS-071310-S
SAMPLE

Lab Sample ID: RD97C
LIMS ID: 10-16511
Matrix: Soil
Data Release Authorized:
Reported: 07/30/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/22/10
Date Analyzed: 07/28/10 14:22
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 26.0 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 0.3%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	**Aroclor 1248**	**19**	**53**
11097-69-1	**Aroclor 1254**	**19**	**65**
11096-82-5	**Aroclor 1260**	**19**	**87**
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	97.0%
Tetrachlorometaxylene	85.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Page 1 of 1

Sample ID: NBF-D434AN-071310-S
SAMPLE

Lab Sample ID: RD97D
LIMS ID: 10-16512
Matrix: Soil
Data Release Authorized:
Reported: 07/30/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/22/10
Date Analyzed: 07/28/10 14:46
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 26.4 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 0.2%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	**Aroclor 1248**	**19**	**26**
11097-69-1	**Aroclor 1254**	**19**	**42**
11096-82-5	**Aroclor 1260**	**19**	**48**
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	92.5%
Tetrachlorometaxylene	89.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Page 1 of 1

Sample ID: NBF-D283A-071310-S
SAMPLE

Lab Sample ID: RD97E
LIMS ID: 10-16513
Matrix: Soil
Data Release Authorized:
Reported: 07/30/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/22/10
Date Analyzed: 07/28/10 15:09
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 20.2 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 0.7%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	25	< 25 U
53469-21-9	Aroclor 1242	25	< 25 U
12672-29-6	Aroclor 1248	74	< 74 Y
11097-69-1	**Aroclor 1254**	**25**	**160**
11096-82-5	**Aroclor 1260**	**25**	**180**
11104-28-2	Aroclor 1221	25	< 25 U
11141-16-5	Aroclor 1232	25	< 25 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	104%
Tetrachlorometaxylene	84.6%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Page 1 of 1

Sample ID: NBF-D436A-071310-S
SAMPLE

Lab Sample ID: RD97F
LIMS ID: 10-16514
Matrix: Soil
Data Release Authorized:
Reported: 07/30/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Date Extracted: 07/22/10
Date Analyzed: 07/28/10 15:33
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 26.0 g-dry-wt
Final Extract Volume: 5.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 0.4%

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	48	< 48 Y
11097-69-1	**Aroclor 1254**	**19**	**89**
11096-82-5	**Aroclor 1260**	**19**	**110**
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	102%
Tetrachlorometaxylene	86.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-072210	90.1%	48-119	69.6%	47-110	0
LCS-072210	91.2%	48-119	65.5%	47-110	0
LCSD-072210	92.4%	48-119	70.8%	47-110	0
NBF-D435BS-071310-S	110%	40-130	77.8%	46-113	0
NBF-D435BN-071310-S	113%	40-130	86.9%	46-113	0
NBF-D434AS-071310-S	97.0%	40-130	85.5%	46-113	0
NBF-D434AN-071310-S	92.5%	40-130	89.1%	46-113	0
NBF-D283A-071310-S	104%	40-130	84.6%	46-113	0
NBF-D436A-071310-S	102%	40-130	86.2%	46-113	0

PSDDA Control Limits
Prep Method: SW3550B
Log Number Range: 10-16509 to 10-16514

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Page 1 of 1

Sample ID: LCS-072210
LCS/LCSD

Lab Sample ID: LCS-072210
LIMS ID: 10-16509
Matrix: Soil
Data Release Authorized:
Reported: 07/30/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 07/22/10

Date Analyzed LCS: 07/29/10 11:17
LCSD: 07/29/10 11:41
Instrument/Analyst LCS: ECD7/JGR
LCSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount LCS: 25.0 g-dry-wt
LCSD: 25.0 g-dry-wt
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 5.00
LCSD: 5.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	88.5	100	88.5%	89.3	100	89.3%	0.9%
Aroclor 1260	103	100	103%	103	100	103%	0.0%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	91.2%	92.4%
Tetrachlorometaxylene	65.5%	70.8%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

RD97MBS1

Lab Name: ANALYTICAL RESOURCES, INC
Client: SAIC

ARI Job No.: RD97
Project: NORTH BOEING FIELD

Lab Sample ID: RD97MBS1
Lab File ID: 0728A058

Date Extracted: 07/22/10
Matrix: SOLID

Date Analyzed: 07/29/10
Instrument ID: ECD7

Time Analyzed: 1054
GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	NBF-D435BS-071310-S	RD97A	07/28/10
02	NBF-D435BN-071310-S	RD97B	07/28/10
03	NBF-D434AS-071310-S	RD97C	07/28/10
04	NBF-D434AN-071310-S	RD97D	07/28/10
05	NBF-D283A-071310-S	RD97E	07/28/10
06	NBF-D436A-071310-S	RD97F	07/28/10
07	RD97LCSS1	RD97LCSS1	07/29/10
08	RD97LCSDS1	RD97LCSDS1	07/29/10

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Page 1 of 1

Sample ID: MB-072210
METHOD BLANK

Lab Sample ID: MB-072210
LIMS ID: 10-16509
Matrix: Soil
Data Release Authorized:
Reported: 07/30/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: NA
Date Received: NA

Date Extracted: 07/22/10
Date Analyzed: 07/29/10 10:54
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 25.0 g
Final Extract Volume: 5.0 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	90.1%
Tetrachlorometaxylene	69.6%

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 07/23/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	5.65- 5.85	0.8514	0.8636	0.8980	0.9236	0.9128	0.9430	0.8987	3.9
DCB	14.43-14.63	1.6756	1.4143	1.2655	1.1563	1.0802	1.0711	1.2772	18.3

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	7.64- 7.84	0.0228	0.0219	0.0215	0.0210	0.0200	0.0200	0.0212	5.2
2	8.16- 8.36	0.0705	0.0693	0.0694	0.0695	0.0675	0.0680	0.0690	1.6
3	8.34- 8.54	0.0289	0.0281	0.0278	0.0273	0.0261	0.0262	0.0274	3.9
4	9.11- 9.31	0.0223	0.0214	0.0211	0.0203	0.0193	0.0194	0.0206	5.8

AROCLOR AVERAGE %RSD = 4.1

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	11.67-11.87	0.1049	0.1032	0.1048	0.1038	0.1007	0.1018	0.1032	1.6
2	12.22-12.42	0.0684	0.0671	0.0679	0.0667	0.0648	0.0652	0.0667	2.1
3	12.58-12.78	0.1588	0.1575	0.1615	0.1608	0.1563	0.1579	0.1588	1.3
4	12.97-13.17	0.0765	0.0759	0.0776	0.0776	0.0765	0.0780	0.0770	1.1
5	13.15-13.35	0.0408	0.0403	0.0407	0.0400	0.0389	0.0395	0.0400	1.8

AROCLOR AVERAGE %RSD = 1.6

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 07/23/10

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	5.86- 6.06	1.0560	1.0136	0.9950	0.9855	0.9439	0.9690	0.9938	3.9
DCB	14.85-15.05	1.6319	1.4477	1.3501	1.2398	1.1430	1.1272	1.3233	14.7

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.01- 8.21	0.0499	0.0454	0.0416	0.0376	0.0343	0.0333	0.0404	16.1
2	8.78- 8.98	0.0975	0.0906	0.0835	0.0785	0.0725	0.0722	0.0825	12.3
3	9.22- 9.42	0.0233	0.0245	0.0222	0.0206	0.0189	0.0187	0.0214	11.0
4	9.79- 9.99	0.0364	0.0328	0.0298	0.0276	0.0254	0.0251	0.0295	15.1

AROCLOR AVERAGE %RSD = 13.6

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	12.39-12.59	0.1040	0.0913	0.0846	0.0759	0.0691	0.0668	0.0820	17.4
2	12.84-13.04	0.1164	0.1028	0.0960	0.0869	0.0796	0.0776	0.0932	16.0
3	13.10-13.30	0.2266	0.2027	0.1940	0.1781	0.1675	0.1606	0.1882	13.0
4	13.62-13.82	0.1575	0.1409	0.1318	0.1192	0.1103	0.1052	0.1275	15.5

AROCLOR AVERAGE %RSD = 15.5

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 07/23/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	6.200	6.10- 6.30	0.00884
2	6.408	6.31- 6.51	0.00666
3	6.530	6.43- 6.63	0.02200

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	8.258	8.16- 8.36	0.02982
2	8.442	8.34- 8.54	0.01189
3	9.403	9.30- 9.50	0.01022
4	10.120	10.02-10.22	0.00903

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.255	8.15- 8.35	0.05157
2	8.441	8.34- 8.54	0.02034
3	9.401	9.30- 9.50	0.01962
4	10.119	10.02-10.22	0.01721

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	8.864	8.76- 8.96	0.02152
2	9.400	9.30- 9.50	0.02904
3	9.867	9.77- 9.97	0.03744
4	10.117	10.02-10.22	0.02839

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 07/23/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	9.876	9.78- 9.98	0.03509
2	10.206	10.11-10.31	0.05048
3	10.732	10.63-10.83	0.06011
4	11.088	10.99-11.19	0.06241
5	11.776	11.68-11.88	0.06030

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.005	11.91-12.11	0.09697
2	12.683	12.58-12.78	0.17382
3	13.075	12.97-13.17	0.05635
4	13.186	13.09-13.29	0.07749
5	13.253	13.15-13.35	0.07554

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.185	13.08-13.28	0.20805
2	13.252	13.15-13.35	0.20336
3	13.595	13.49-13.69	0.13977
4	14.226	14.13-14.33	0.33583

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 07/23/10

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	7.096	7.00- 7.20	0.00698
2	7.234	7.13- 7.33	0.02065
3	8.131	8.03- 8.23	0.00775
4	8.884	8.78- 8.98	0.00773

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	7.233	7.13- 7.33	0.01697
2	8.116	8.02- 8.22	0.01917
3	8.883	8.78- 8.98	0.03595
4	9.895	9.79- 9.99	0.01316

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.114	8.01- 8.21	0.02916
2	8.881	8.78- 8.98	0.05988
3	9.893	9.79- 9.99	0.02295
4	10.449	10.35-10.55	0.01997

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.438	9.34- 9.54	0.02879
2	9.893	9.79- 9.99	0.03219
3	10.370	10.27-10.47	0.03638
4	10.814	10.71-10.91	0.04143

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 07/23/10

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.519	10.42-10.62	0.03410
2	10.692	10.59-10.79	0.04416
3	11.385	11.29-11.49	0.07490
4	12.173	12.07-12.27	0.04550
5	12.399	12.30-12.50	0.05535

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	11.850	11.75-11.95	0.07605
2	12.492	12.39-12.59	0.10671
3	12.944	12.84-13.04	0.10708
4	13.200	13.10-13.30	0.19097
5	13.669	13.57-13.77	0.09379

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.669	13.57-13.77	0.21619
2	13.726	13.63-13.83	0.21899
3	14.051	13.95-14.15	0.14868
4	14.661	14.56-14.76	0.35888

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/28/10

Lab Standard ID: AR1242 Time Analyzed :1137

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.25	8.15	8.35	251.4	250.0	0.6
Aroclor-1242-2	8.44	8.34	8.54	250.5	250.0	0.2
Aroclor-1242-3	9.40	9.30	9.50	250.2	250.0	0.1
Aroclor-1242-4	10.12	10.02	10.22	254.1	250.0	1.6

AVERAGE %D = 0.6

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/28/10

Lab Standard ID: AR1242 Time Analyzed :1137

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.11	8.01	8.21	249.0	250.0	-0.4
Aroclor-1242-2	8.88	8.78	8.98	253.5	250.0	1.4
Aroclor-1242-3	9.89	9.79	9.99	243.9	250.0	-2.4
Aroclor-1242-4	10.45	10.35	10.55	252.7	250.0	1.1

AVERAGE %D = 1.3

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/28/10

Lab Standard ID: AR1660 Time Analyzed :1200

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.74	7.64	7.84	237.9	250.0	-4.8
Aroclor-1016-2	8.25	8.16	8.36	241.9	250.0	-3.2
Aroclor-1016-3	8.44	8.34	8.54	238.3	250.0	-4.7
Aroclor-1016-4	9.20	9.11	9.31	235.6	250.0	-5.8

AVERAGE %D = 4.6

Date Analyzed :07/28/10

Lab Standard ID: AR1660 Time Analyzed :1200

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.77	11.67	11.87	268.3	250.0	7.3
Aroclor-1260-2	12.32	12.22	12.42	268.7	250.0	7.5
Aroclor-1260-3	12.68	12.58	12.78	270.1	250.0	8.0
Aroclor-1260-4	13.07	12.97	13.17	268.5	250.0	7.4
Aroclor-1260-5	13.25	13.15	13.35	263.7	250.0	5.5

AVERAGE %D = 7.1

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/28/10

Lab Standard ID: AR1660 Time Analyzed :1200

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.01	8.21	224.9	250.0	-10.0
Aroclor-1016-2	8.88	8.78	8.98	228.5	250.0	-8.6
Aroclor-1016-3	9.32	9.22	9.42	232.9	250.0	-6.8
Aroclor-1016-4	9.89	9.79	9.99	221.5	250.0	-11.4

AVERAGE %D = 9.2

Date Analyzed :07/28/10

Lab Standard ID: AR1660 Time Analyzed :1200

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	251.3	250.0	0.5
Aroclor-1260-2	12.94	12.84	13.04	252.7	250.0	1.1
Aroclor-1260-3	13.20	13.10	13.30	236.2	250.0	-5.5
Aroclor-1260-4	13.72	13.62	13.82	235.9	250.0	-5.6

AVERAGE %D = 3.2

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/28/10

Lab Standard ID: AR1254 Time Analyzed :1557

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	9.88	9.78	9.98	242.5	250.0	-3.0
Aroclor-1254-2	10.21	10.11	10.31	237.1	250.0	-5.2
Aroclor-1254-3	10.73	10.63	10.83	244.3	250.0	-2.3
Aroclor-1254-4	11.09	10.99	11.19	242.5	250.0	-3.0
Aroclor-1254-5	11.78	11.68	11.88	236.8	250.0	-5.3

AVERAGE %D = 3.8

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/28/10

Lab Standard ID: AR1254 Time Analyzed :1557

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.52	10.42	10.62	228.8	250.0	-8.5
Aroclor-1254-2	10.69	10.59	10.79	234.3	250.0	-6.3
Aroclor-1254-3	11.39	11.29	11.49	231.9	250.0	-7.2
Aroclor-1254-4	12.17	12.07	12.27	228.9	250.0	-8.4
Aroclor-1254-5	12.40	12.30	12.50	225.2	250.0	-9.9

AVERAGE %D = 8.1

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/28/10

Lab Standard ID: AR1660 Time Analyzed :1620

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.74	7.64	7.84	237.9	250.0	-4.8
Aroclor-1016-2	8.26	8.16	8.36	242.4	250.0	-3.0
Aroclor-1016-3	8.44	8.34	8.54	238.6	250.0	-4.6
Aroclor-1016-4	9.21	9.11	9.31	235.9	250.0	-5.6

AVERAGE %D = 4.5

Date Analyzed :07/28/10

Lab Standard ID: AR1660 Time Analyzed :1620

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.78	11.67	11.87	288.5	250.0	15.4
Aroclor-1260-2	12.32	12.22	12.42	287.1	250.0	14.8
Aroclor-1260-3	12.68	12.58	12.78	286.3	250.0	14.5
Aroclor-1260-4	13.07	12.97	13.17	282.2	250.0	12.9
Aroclor-1260-5	13.25	13.15	13.35	273.9	250.0	9.6

AVERAGE %D = 13.4

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/28/10

Lab Standard ID: AR1660 Time Analyzed :1620

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.12	8.01	8.21	221.7	250.0	-11.3
Aroclor-1016-2	8.88	8.78	8.98	225.3	250.0	-9.9
Aroclor-1016-3	9.32	9.22	9.42	228.0	250.0	-8.8
Aroclor-1016-4	9.89	9.79	9.99	216.5	250.0	-13.4

AVERAGE %D = 10.9

Date Analyzed :07/28/10

Lab Standard ID: AR1660 Time Analyzed :1620

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	263.5	250.0	5.4
Aroclor-1260-2	12.94	12.84	13.04	263.0	250.0	5.2
Aroclor-1260-3	13.20	13.10	13.30	251.6	250.0	0.6
Aroclor-1260-4	13.72	13.62	13.82	243.0	250.0	-2.8

AVERAGE %D = 3.5

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/29/10

Lab Standard ID: AR1242 Time Analyzed :1006

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.25	8.15	8.35	252.0	250.0	0.8
Aroclor-1242-2	8.44	8.34	8.54	249.6	250.0	-0.2
Aroclor-1242-3	9.40	9.30	9.50	245.3	250.0	-1.9
Aroclor-1242-4	10.12	10.02	10.22	256.4	250.0	2.6

AVERAGE %D = 1.4

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/29/10

Lab Standard ID: AR1242 Time Analyzed :1006

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.11	8.01	8.21	241.1	250.0	-3.5
Aroclor-1242-2	8.88	8.78	8.98	242.8	250.0	-2.9
Aroclor-1242-3	9.89	9.79	9.99	234.7	250.0	-6.1
Aroclor-1242-4	10.45	10.35	10.55	239.7	250.0	-4.1

AVERAGE %D = 4.2

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/29/10

Lab Standard ID: AR1660 Time Analyzed :1030

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.74	7.64	7.84	235.7	250.0	-5.7
Aroclor-1016-2	8.26	8.16	8.36	241.4	250.0	-3.4
Aroclor-1016-3	8.44	8.34	8.54	236.5	250.0	-5.4
Aroclor-1016-4	9.21	9.11	9.31	233.7	250.0	-6.5

AVERAGE %D = 5.2

Date Analyzed :07/29/10

Lab Standard ID: AR1660 Time Analyzed :1030

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.78	11.67	11.87	275.5	250.0	10.2
Aroclor-1260-2	12.32	12.22	12.42	274.8	250.0	9.9
Aroclor-1260-3	12.68	12.58	12.78	274.6	250.0	9.8
Aroclor-1260-4	13.07	12.97	13.17	272.2	250.0	8.9
Aroclor-1260-5	13.25	13.15	13.35	262.6	250.0	5.0

AVERAGE %D = 8.8

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/29/10

Lab Standard ID: AR1660 Time Analyzed :1030

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.01	8.21	219.5	250.0	-12.2
Aroclor-1016-2	8.88	8.78	8.98	223.7	250.0	-10.5
Aroclor-1016-3	9.32	9.22	9.42	225.7	250.0	-9.7
Aroclor-1016-4	9.89	9.79	9.99	214.6	250.0	-14.2

AVERAGE %D = 11.6

Date Analyzed :07/29/10

Lab Standard ID: AR1660 Time Analyzed :1030

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	251.2	250.0	0.5
Aroclor-1260-2	12.94	12.84	13.04	251.6	250.0	0.6
Aroclor-1260-3	13.20	13.10	13.30	236.7	250.0	-5.3
Aroclor-1260-4	13.72	13.62	13.82	230.8	250.0	-7.7

AVERAGE %D = 3.5

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/29/10

Lab Standard ID: AR1248 Time Analyzed :1205

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	8.86	8.76	8.96	250.5	250.0	0.2
Aroclor-1248-2	9.40	9.30	9.50	251.4	250.0	0.6
Aroclor-1248-3	9.87	9.77	9.97	250.2	250.0	0.1
Aroclor-1248-4	10.12	10.02	10.22	256.7	250.0	2.7

AVERAGE %D = 0.9

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/29/10

Lab Standard ID: AR1248 Time Analyzed :1205

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.44	9.34	9.54	243.2	250.0	-2.7
Aroclor-1248-2	9.89	9.79	9.99	238.8	250.0	-4.5
Aroclor-1248-3	10.37	10.27	10.47	245.5	250.0	-1.8
Aroclor-1248-4	10.81	10.71	10.91	236.5	250.0	-5.4

AVERAGE %D = 3.6

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/29/10

Lab Standard ID: AR1660 Time Analyzed :1228

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	7.74	7.64	7.84	236.3	250.0	-5.5
Aroclor-1016-2	8.26	8.16	8.36	242.0	250.0	-3.2
Aroclor-1016-3	8.44	8.34	8.54	236.9	250.0	-5.2
Aroclor-1016-4	9.21	9.11	9.31	234.0	250.0	-6.4

AVERAGE %D = 5.1

Date Analyzed :07/29/10

Lab Standard ID: AR1660 Time Analyzed :1228

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.77	11.67	11.87	269.0	250.0	7.6
Aroclor-1260-2	12.32	12.22	12.42	269.3	250.0	7.7
Aroclor-1260-3	12.68	12.58	12.78	268.7	250.0	7.5
Aroclor-1260-4	13.07	12.97	13.17	266.7	250.0	6.7
Aroclor-1260-5	13.25	13.15	13.35	258.6	250.0	3.4

AVERAGE %D = 6.6

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 07/23/10

Date Analyzed :07/29/10

Lab Standard ID: AR1660 Time Analyzed :1228

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.11	8.01	8.21	216.9	250.0	-13.2
Aroclor-1016-2	8.88	8.78	8.98	221.3	250.0	-11.5
Aroclor-1016-3	9.32	9.22	9.42	223.9	250.0	-10.4
Aroclor-1016-4	9.89	9.79	9.99	212.9	250.0	-14.8

AVERAGE %D = 12.5

Date Analyzed :07/29/10

Lab Standard ID: AR1660 Time Analyzed :1228

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.49	12.39	12.59	246.7	250.0	-1.3
Aroclor-1260-2	12.94	12.84	13.04	248.1	250.0	-0.7
Aroclor-1260-3	13.20	13.10	13.30	230.6	250.0	-7.8
Aroclor-1260-4	13.72	13.62	13.82	226.8	250.0	-9.3

AVERAGE %D = 4.8

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 07/23/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

			IS1 AREA	RT	IS2 AREA	RT
		ICAL MIDPT	5964906	2.856	3605812	14.786
		UPPER LIMIT	11929812	2.956	7211624	14.886
		LOWER LIMIT	2982453	2.756	1802906	14.686

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01		IB	07/23/10	1503	5871959	2.857	3584723	14.786
02		0.25 PPM AR1	07/23/10	1526	5964906	2.856	3605812	14.786
03		0.02 PPM AR1	07/23/10	1550	6005226	2.858	3654388	14.786
04		0.05 PPM AR1	07/23/10	1614	6072649	2.857	3691279	14.785
05		0.1 PPM AR16	07/23/10	1637	6098093	2.856	3654294	14.786
06		1 PPM AR1660	07/23/10	1701	5812782	2.854	3497018	14.785
07		0.5 PPM AR16	07/23/10	1724	6034421	2.857	3631249	14.785
08		AR1242	07/23/10	1748	6067709	2.856	3686342	14.784
09		AR1248	07/23/10	1812	6118583	2.855	3685918	14.785
10		AR1254	07/23/10	1835	6058801	2.854	3689389	14.785
11		AR2162	07/23/10	1859	6095558	2.855	3619937	14.785
12		AR3268	07/23/10	1923	6065312	2.856	3617488	14.786
13	ZZZZZ	ZZZZZ	07/23/10	1946	6196023	2.855	3742590	14.785
14	ZZZZZ	ZZZZZ	07/23/10	2010	6084614	2.858	3622181	14.785
15	ZZZZZ	ZZZZZ	07/23/10	2033	6071663	2.855	3624664	14.785
16	ZZZZZ	ZZZZZ	07/23/10	2057	6031826	2.855	3607159	14.786
17	ZZZZZ	ZZZZZ	07/23/10	2121	5984693	2.855	3578858	14.785
18	ZZZZZ	ZZZZZ	07/23/10	2144	5914484	2.856	3508963	14.786
19		AR1242	07/28/10	1137	6677480	2.853	3603931	14.784
20		AR1660	07/28/10	1200	6561718	2.854	3507882	14.784
21	NBF-D435BS-0	RD97A	07/28/10	1335	5410940	2.855	2557213	14.784
22	NBF-D435BN-0	RD97B	07/28/10	1358	4908598	2.856	2367277	14.783
23	NBF-D434AS-0	RD97C	07/28/10	1422	4727197	2.856	2171414	14.783
24	NBF-D434AN-0	RD97D	07/28/10	1446	4901596	2.855	2276740	14.783
25	NBF-D283A-07	RD97E	07/28/10	1509	4707764	2.859	2106202	14.784
26	NBF-D436A-07	RD97F	07/28/10	1533	4949218	2.855	2281067	14.783
27		AR1254	07/28/10	1557	6355446	2.857	3113094	14.785
28		AR1660	07/28/10	1620	6709400	2.859	3291602	14.784
29		AR1242	07/29/10	1006	7627680	2.858	3906307	14.784
30		AR1660	07/29/10	1030	7932674	2.858	4073753	14.784
31	RD97MBS1	RD97MBS1	07/29/10	1054	5639196	2.856	2902616	14.784
32	RD97LCSS1	RD97LCSS1	07/29/10	1117	5829295	2.854	2944742	14.784

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 07/23/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

					IS1 AREA	RT	IS2 AREA	RT
				ICAL MIDPT	5964906	2.856	3605812	14.786
				UPPER LIMIT	11929812	2.956	7211624	14.886
				LOWER LIMIT	2982453	2.756	1802906	14.686
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
33	RD97LCSDS1	RD97LCSDS1	07/29/10	1141	5741756	2.858	2926145	14.784
34		AR1248	07/29/10	1205	7441630	2.856	3994762	14.784
35		AR1660	07/29/10	1228	8074285	2.855	4280573	14.784

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 07/23/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	7342879	3.755	4327674	15.543
	UPPER LIMIT	14685758	3.855	8655348	15.643
	LOWER LIMIT	3671440	3.655	2163837	15.443

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01		IB	07/23/10	1503	7231749	3.755	4291153	15.542
02		0.25 PPM AR1	07/23/10	1526	7342879	3.755	4327674	15.543
03		0.02 PPM AR1	07/23/10	1550	7394302	3.757	4349813	15.542
04		0.05 PPM AR1	07/23/10	1614	7461740	3.757	4414537	15.541
05		0.1 PPM AR16	07/23/10	1637	7535243	3.755	4380581	15.542
06		1 PPM AR1660	07/23/10	1701	6955315	3.754	4177381	15.541
07		0.5 PPM AR16	07/23/10	1724	7350607	3.756	4331038	15.542
08		AR1242	07/23/10	1748	7317454	3.756	4367738	15.541
09		AR1248	07/23/10	1812	7401594	3.755	4376043	15.542
10		AR1254	07/23/10	1835	7364340	3.753	4405885	15.542
11		AR2162	07/23/10	1859	7408267	3.755	4336219	15.542
12		AR3268	07/23/10	1923	7378982	3.756	4315319	15.541
13	ZZZZZ	ZZZZZ	07/23/10	1946	7548237	3.755	4477661	15.541
14	ZZZZZ	ZZZZZ	07/23/10	2010	7380786	3.757	4331215	15.541
15	ZZZZZ	ZZZZZ	07/23/10	2033	7322443	3.755	4321086	15.542
16	ZZZZZ	ZZZZZ	07/23/10	2057	7254836	3.753	4268341	15.542
17	ZZZZZ	ZZZZZ	07/23/10	2121	7071348	3.755	4231847	15.542
18	ZZZZZ	ZZZZZ	07/23/10	2144	7021858	3.756	4141766	15.541
19		AR1242	07/28/10	1137	8082070	3.751	4193275	15.540
20		AR1660	07/28/10	1200	8028531	3.752	4125879	15.541
21	NBF-D435BS-0	RD97A	07/28/10	1335	6602837	3.754	3219009	15.540
22	NBF-D435BN-0	RD97B	07/28/10	1358	6032930	3.754	2922037	15.540
23	NBF-D434AS-0	RD97C	07/28/10	1422	5838634	3.755	2737370	15.541
24	NBF-D434AN-0	RD97D	07/28/10	1446	6105097	3.753	2824514	15.541
25	NBF-D283A-07	RD97E	07/28/10	1509	5823068	3.757	2627159	15.541
26	NBF-D436A-07	RD97F	07/28/10	1533	6177771	3.754	2837141	15.541
27		AR1254	07/28/10	1557	7939654	3.755	3675615	15.541
28		AR1660	07/28/10	1620	8375403	3.757	3872694	15.541
29		AR1242	07/29/10	1006	9350679	3.755	4502101	15.542
30		AR1660	07/29/10	1030	9652869	3.755	4737399	15.542
31	RD97MBS1	RD97MBS1	07/29/10	1054	7005866	3.755	3325865	15.541
32	RD97LCSS1	RD97LCSS1	07/29/10	1117	7247831	3.752	3392152	15.541

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: SAIC

ARI Job No.: RD97 Project: NBF

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 07/23/10

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

			IS1 AREA	RT	IS2 AREA	RT
		ICAL MIDPT	7342879	3.755	4327674	15.543
		UPPER LIMIT	14685758	3.855	8655348	15.643
		LOWER LIMIT	3671440	3.655	2163837	15.443

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
33	RD97LCSDS1	RD97LCSDS1	07/29/10	1141	7148518	3.755	3351058	15.541
34		AR1248	07/29/10	1205	9097667	3.754	4616404	15.540
35		AR1660	07/29/10	1228	9899692	3.753	4968919	15.541

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

Metals Analysis
Report and Summary QC Forms

ARI Job ID: RD97

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
NBF-D435BS-071310-	RD97A	10-16509	
PBS	RD97MB1	10-16509	
LCSS	RD97MB1SPK	10-16509	
NBF-D435BN-071310-	RD97B	10-16510	
NBF-D434AS-071310-	RD97C	10-16511	
NBF-434AN-071310-S	RD97D	10-16512	
NBF-D283A-071310-S	RD97E	10-16513	
NBF-D436A-071310-S	RD97F	10-16514	

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

Comments: _____

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

Signature: _____ Name: Jay Kuhn

Date: 7/26/10 Title: Inorganic Manager

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-D435BS-071310-S
SAMPLE

Lab Sample ID: RD97A
LIMS ID: 10-16509
Matrix: Soil
Data Release Authorized:
Reported: 07/26/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Percent Total Solids: 98.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/19/10	6010B	07/22/10	**7440-38-2**	**Arsenic**	10	**30**	
3050B	07/19/10	6010B	07/22/10	**7440-43-9**	**Cadmium**	0.5	**3.4**	
3050B	07/19/10	6010B	07/22/10	**7440-47-3**	**Chromium**	1	**105**	
3050B	07/19/10	6010B	07/22/10	**7440-50-8**	**Copper**	0.5	**128**	
3050B	07/19/10	6010B	07/22/10	**7439-92-1**	**Lead**	5	**292**	
CLP	07/19/10	7471A	07/20/10	**7439-97-6**	**Mercury**	0.02	**0.08**	
3050B	07/19/10	6010B	07/22/10	7440-22-4	Silver	0.7	0.7	U
3050B	07/19/10	6010B	07/22/10	**7440-66-6**	**Zinc**	2	**724**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-D435BN-071310-S
SAMPLE

Lab Sample ID: RD97B
LIMS ID: 10-16510
Matrix: Soil
Data Release Authorized:
Reported: 07/26/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Percent Total Solids: 98.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/19/10	6010B	07/22/10	**7440-38-2**	**Arsenic**	10	**20**	
3050B	07/19/10	6010B	07/22/10	**7440-43-9**	**Cadmium**	0.5	**3.0**	
3050B	07/19/10	6010B	07/22/10	**7440-47-3**	**Chromium**	1	**120**	
3050B	07/19/10	6010B	07/22/10	**7440-50-8**	**Copper**	0.5	**146**	
3050B	07/19/10	6010B	07/22/10	**7439-92-1**	**Lead**	5	**252**	
CLP	07/19/10	7471A	07/20/10	**7439-97-6**	**Mercury**	0.02	**0.08**	
3050B	07/19/10	6010B	07/22/10	7440-22-4	Silver	0.7	0.7	U
3050B	07/19/10	6010B	07/22/10	**7440-66-6**	**Zinc**	2	**756**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-D434AS-071310-S
SAMPLE

Lab Sample ID: RD97C
LIMS ID: 10-16511
Matrix: Soil
Data Release Authorized:
Reported: 07/26/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Percent Total Solids: 99.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/19/10	6010B	07/22/10	**7440-38-2**	**Arsenic**	5	**20**	
3050B	07/19/10	6010B	07/22/10	**7440-43-9**	**Cadmium**	0.2	**1.5**	
3050B	07/19/10	6010B	07/22/10	**7440-47-3**	**Chromium**	0.5	**69.5**	
3050B	07/19/10	6010B	07/22/10	**7440-50-8**	**Copper**	0.2	**104**	
3050B	07/19/10	6010B	07/22/10	**7439-92-1**	**Lead**	2	**126**	
CLP	07/19/10	7471A	07/20/10	**7439-97-6**	**Mercury**	0.02	**0.05**	
3050B	07/19/10	6010B	07/22/10	7440-22-4	Silver	0.3	0.3	U
3050B	07/19/10	6010B	07/22/10	**7440-66-6**	**Zinc**	1	**684**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-D434AN-071310-S
SAMPLE

Lab Sample ID: RD97D
LIMS ID: 10-16512
Matrix: Soil
Data Release Authorized:
Reported: 07/26/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Percent Total Solids: 99.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/19/10	6010B	07/22/10	**7440-38-2**	**Arsenic**	5	**9**	
3050B	07/19/10	6010B	07/22/10	**7440-43-9**	**Cadmium**	0.2	**1.2**	
3050B	07/19/10	6010B	07/22/10	**7440-47-3**	**Chromium**	0.5	**62.8**	
3050B	07/19/10	6010B	07/22/10	**7440-50-8**	**Copper**	0.2	**62.0**	
3050B	07/19/10	6010B	07/22/10	**7439-92-1**	**Lead**	2	**75**	
CLP	07/19/10	7471A	07/20/10	**7439-97-6**	**Mercury**	0.02	**0.03**	
3050B	07/19/10	6010B	07/22/10	7440-22-4	Silver	0.3	0.3	U
3050B	07/19/10	6010B	07/22/10	**7440-66-6**	**Zinc**	1	**466**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-D283A-071310-S
SAMPLE

Lab Sample ID: RD97E
LIMS ID: 10-16513
Matrix: Soil
Data Release Authorized:
Reported: 07/26/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Percent Total Solids: 98.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/19/10	6010B	07/22/10	**7440-38-2**	**Arsenic**	5	**18**	
3050B	07/19/10	6010B	07/22/10	**7440-43-9**	**Cadmium**	0.2	**2.4**	
3050B	07/19/10	6010B	07/22/10	**7440-47-3**	**Chromium**	0.5	**128**	
3050B	07/19/10	6010B	07/22/10	**7440-50-8**	**Copper**	0.2	**110**	
3050B	07/19/10	6010B	07/22/10	**7439-92-1**	**Lead**	2	**427**	
CLP	07/19/10	7471A	07/20/10	**7439-97-6**	**Mercury**	0.02	**0.12**	
3050B	07/19/10	6010B	07/22/10	7440-22-4	Silver	0.3	0.3	U
3050B	07/19/10	6010B	07/22/10	**7440-66-6**	**Zinc**	1	**585**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: NBF-D436A-071310-S
SAMPLE

Lab Sample ID: RD97F
LIMS ID: 10-16514
Matrix: Soil
Data Release Authorized:
Reported: 07/26/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: 07/13/10
Date Received: 07/13/10

Percent Total Solids: 99.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/19/10	6010B	07/22/10	**7440-38-2**	**Arsenic**	10	**40**	
3050B	07/19/10	6010B	07/22/10	**7440-43-9**	**Cadmium**	0.5	**3.2**	
3050B	07/19/10	6010B	07/22/10	**7440-47-3**	**Chromium**	1	**137**	
3050B	07/19/10	6010B	07/22/10	**7440-50-8**	**Copper**	0.5	**97.3**	
3050B	07/19/10	6010B	07/22/10	**7439-92-1**	**Lead**	5	**387**	
CLP	07/19/10	7471A	07/20/10	**7439-97-6**	**Mercury**	0.02	**0.05**	
3050B	07/19/10	6010B	07/22/10	7440-22-4	Silver	0.7	0.7	U
3050B	07/19/10	6010B	07/22/10	**7440-66-6**	**Zinc**	2	**652**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: RD97LCS
LIMS ID: 10-16509
Matrix: Soil
Data Release Authorized:
Reported: 07/26/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	6010B	215	200	108%	
Cadmium	6010B	52.3	50.0	105%	
Chromium	6010B	53.8	50.0	108%	
Copper	6010B	50.1	50.0	100%	
Lead	6010B	216	200	108%	
Mercury	7471A	0.50	0.50	100%	
Silver	6010B	53.2	50.0	106%	
Zinc	6010B	53	50	106%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: RD97MB
LIMS ID: 10-16509
Matrix: Soil
Data Release Authorized:
Reported: 07/26/10

QC Report No: RD97-Science App. International Corp
Project: North Boeing Field

Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry	Q
3050B	07/19/10	6010B	07/22/10	7440-38-2	Arsenic	5	5	U
3050B	07/19/10	6010B	07/22/10	7440-43-9	Cadmium	0.2	0.2	U
3050B	07/19/10	6010B	07/22/10	7440-47-3	Chromium	0.5	0.5	U
3050B	07/19/10	6010B	07/22/10	7440-50-8	Copper	0.2	0.2	U
3050B	07/19/10	6010B	07/22/10	7439-92-1	Lead	2	2	U
CLP	07/19/10	7471A	07/20/10	7439-97-6	Mercury	0.02	0.02	U
3050B	07/19/10	6010B	07/22/10	7440-22-4	Silver	0.3	0.3	U
3050B	07/19/10	6010B	07/22/10	7440-66-6	Zinc	1	1	U

U-Analyte undetected at given RL
RL-Reporting Limit

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	ICP	IP072271	2000.0	1998.34	**99.9**	2000.0	2021.43	**101.1**	2122.79	**106.1**	2168.29	**108.4**	2016.64	**100.8**	2035.09	**101.8**
Cadmium	CD	ICP	IP072271	1000.0	1002.21	**100.2**	1000.0	1014.75	**101.5**	1054.09	**105.4**	1079.94	**108.0**	1079.42	**107.9**	1078.71	**107.9**
Chromium	CR	ICP	IP072271	1000.0	1027.92	**102.8**	1000.0	1034.68	**103.5**	1076.78	**107.7**	1103.54	**110.4**	1087.70	**108.8**	1113.06	**111.3**
Copper	CU	ICP	IP072271	1000.0	973.12	**97.3**	1000.0	974.55	**97.5**	1004.90	**100.5**	1028.62	**102.9**	1023.86	**102.4**	1025.97	**102.6**
Lead	PB	ICP	IP072271	2000.0	2051.53	**102.6**	2000.0	2071.01	**103.6**	2177.99	**108.9**	2227.46	**111.4**	1999.02	**100.0**	2024.41	**101.2**
Mercury	HG	CVA	HG072001	8.0	7.79	**97.4**	4.0	3.83	**95.8**	3.82	**95.5**	3.81	**95.3**	3.80	**95.0**	3.81	**95.3**
Silver	AG	ICP	IP072271	1000.0	1011.33	**101.1**	1000.0	1012.14	**101.2**	1040.08	**104.0**	1063.23	**106.3**	1023.10	**102.3**	1027.44	**102.7**
Zinc	ZN	ICP	IP072271	1000.0	994.73	**99.5**	1000.0	1001.79	**100.2**	1060.49	**106.0**	1086.48	**108.6**	965.62	**96.6**	994.34	**99.4**

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

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97

UNITS: ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	ICP	IP072272	2000.0	2037.70	**101.9**	2000.0	2046.16	**102.3**	2037.67	**101.9**						
Cadmium	CD	ICP	IP072272	1000.0	1023.36	**102.3**	1000.0	1028.94	**102.9**	1019.53	**102.0**						
Chromium	CR	ICP	IP072272	1000.0	1039.70	**104.0**	1000.0	1050.31	**105.0**	1050.23	**105.0**						
Copper	CU	ICP	IP072272	1000.0	1025.26	**102.5**	1000.0	1034.83	**103.5**	1027.56	**102.8**						
Lead	PB	ICP	IP072272	2000.0	2019.37	**101.0**	2000.0	2026.86	**101.3**	2016.17	**100.8**						
Silver	AG	ICP	IP072272	1000.0	1038.84	**103.9**	1000.0	1049.37	**104.9**	1037.75	**103.8**						
Zinc	ZN	ICP	IP072272	1000.0	964.70	**96.5**	1000.0	972.03	**97.2**	974.23	**97.4**						

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

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97

UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Arsenic	AS	ICP	IP072271	50.0	52.78	**105.6**										
Cadmium	CD	ICP	IP072271	2.0	2.42	**121.0**										
Chromium	CR	ICP	IP072271	5.0	6.97	**139.4**										
Copper	CU	ICP	IP072271	2.0	1.61	**80.5**										
Lead	PB	ICP	IP072271	20.0	20.45	**102.3**										
Mercury	HG	CVA	HG072001	0.1	0.10	**100.0**										
Silver	AG	ICP	IP072271	3.0	3.38	**112.7**										
Zinc	ZN	ICP	IP072271	10.0	10.69	**106.9**										

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

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97

UNITS: ug/L

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Arsenic	AS	ICP	IP072272	50.0	52.39	**104.8**										
Cadmium	CD	ICP	IP072272	2.0	2.13	**106.5**										
Chromium	CR	ICP	IP072272	5.0	6.75	**135.0**										
Copper	CU	ICP	IP072272	2.0	2.43	**121.5**										
Lead	PB	ICP	IP072272	20.0	20.97	**104.9**										
Silver	AG	ICP	IP072272	3.0	3.11	**103.7**										
Zinc	ZN	ICP	IP072272	10.0	8.35	**83.5**										

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

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	ICP	IP072271	10.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Cadmium	CD	ICP	IP072271	5.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Chromium	CR	ICP	IP072271	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Copper	CU	ICP	IP072271	25.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Lead	PB	ICP	IP072271	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Mercury	HG	CVA	HG072001	0.2	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Silver	AG	ICP	IP072271	10.0	3.0	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Zinc	ZN	ICP	IP072271	20.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U

RD97 00033

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	ICP	IP072272	10.0	50.0	50.0	U	50.0	U	50.0	U						
Cadmium	CD	ICP	IP072272	5.0	2.0	2.0	U	2.0	U	2.0	U						
Chromium	CR	ICP	IP072272	10.0	5.0	5.0	U	5.0	U	5.0	U						
Copper	CU	ICP	IP072272	25.0	2.0	2.0	U	2.0	U	2.0	U						
Lead	PB	ICP	IP072272	3.0	20.0	20.0	U	20.0	U	20.0	U						
Silver	AG	ICP	IP072272	10.0	3.0	3.0	U	3.0	U	3.0	U						
Zinc	ZN	ICP	IP072272	20.0	10.0	10.0	U	10.0	U	10.0	U						

RD97.00086

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

ICS SOURCE: I.V.

PROJECT: North Boeing Field

RUNID: IP072271

SDG: RD97

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	206388.4	205310.2	**102.7**						
Antimony		1000	19.6	1018.6	**101.9**						
Arsenic		1000	9.5	1017.3	**101.7**						
Barium		1000	3.4	1007.0	**100.7**						
Beryllium		1000	0.0	990.6	**99.1**						
Boron			-3.9	-5.6							
Cadmium		1000	1.8	1036.5	**103.7**						
Calcium	100000	100000	99501.4	99659.8	**99.7**						
Chromium		1000	4.2	1029.5	**103.0**						
Cobalt		1000	-0.3	966.3	**96.6**						
Copper		1000	-1.3	997.7	**99.8**						
Iron	200000	200000	196405.0	196043.8	**98.0**						
Lead		1000	-7.2	997.8	**99.8**						
Magnesium	100000	100000	101239.6	105266.5	**105.3**						
Manganese		1000	0.9	958.8	**95.9**						
Molybdenum			4.3	4.3							
Nickel		1000	1.7	976.9	**97.7**						
Potassium			18.0	47.0							
Selenium		1000	42.3	1041.7	**104.2**						
Silicon			-17.1	-13.7							
Silver		1000	-0.6	1013.9	**101.4**						
Sodium			7.7	19.9							
Strontium			3.7	3.7							
Thallium		1000	10.2	964.5	**96.5**						
Tin			-15.0	-14.2							
Titanium			0.5	1.8							
Vanadium		1000	2.4	971.8	**97.2**						
Zinc		1000	1.2	970.5	**97.1**						

RD97-00059

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97

ICS SOURCE: I.V.

RUNID: IP072272

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	204207.1	208044.0	**104.0**						
Antimony		1000	23.3	1061.9	**106.2**						
Arsenic		1000	5.3	1044.2	**104.4**						
Barium		1000	1.6	1052.6	**105.3**						
Beryllium		1000	0.0	1012.7	**101.3**						
Boron			-2.1	-4.7							
Cadmium		1000	1.6	1076.3	**107.6**						
Calcium	100000	100000	101911.8	104091.1	**104.1**						
Chromium		1000	2.8	1063.8	**106.4**						
Cobalt		1000	-0.4	996.2	**99.6**						
Copper		1000	-1.7	1077.2	**107.7**						
Iron	200000	200000	197780.3	200529.0	**100.3**						
Lead		1000	-5.7	1002.9	**100.3**						
Magnesium	100000	100000	100915.9	106114.6	**106.1**						
Manganese		1000	1.3	1012.0	**101.2**						
Molybdenum			4.6	4.5							
Nickel		1000	2.1	983.9	**98.4**						
Potassium			-33.1	-8.2							
Selenium		1000	28.2	1077.6	**107.8**						
Silicon			-18.7	-19.3							
Silver		1000	-0.9	1066.6	**106.7**						
Sodium			10.5	23.1							
Strontium			3.7	3.8							
Thallium		1000	5.7	1006.7	**100.7**						
Tin			-9.2	-9.4							
Titanium			0.8	2.3							
Vanadium		1000	5.8	1013.4	**101.3**						
Zinc		1000	-2.6	960.7	**96.1**						

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97 UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Arsenic	AS	ICP	OPTIMA ICP 2	197.20		10	50.0	4/1/2010	30000.0	10/6/2009
Cadmium	CD	ICP	OPTIMA ICP 2	228.80		5	2.0	4/1/2010	20000.0	10/6/2009
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2010	100000.0	10/6/2009
Copper	CU	ICP	OPTIMA ICP 2	324.75		25	2.0	4/1/2010	40000.0	10/6/2009
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2010	300000.0	10/6/2009
Mercury	HG	CVA	CETAC MERCURY	253.70		0.2	0.1	4/1/2010		
Silver	AG	ICP	OPTIMA ICP 2	328.07		10	3.0	4/1/2010	5000.0	10/6/2009
Zinc	ZN	ICP	OPTIMA ICP 2	213.86		20	10.0	4/1/2010	100000.0	10/6/2009

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

IEC DATE: 6/25/2010

SDG: RD97

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	10.6345000	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.0302010	0.0000000	-0.9445380	1.0514100	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0087705	0.0000000	-0.1163000	0.0000000	0.0000000	0.0917961
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	3.3930900	0.0000000	0.0000000	0.0000000	0.0000000	0.1261800	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.5291320	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0194491	0.0000000	-0.0579845	0.0000000	0.0000000	-0.0470434
Cobalt	228.62	0.0000000	0.0000000	0.1846310	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0124726
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2841270	-0.0424887	0.0000000	-0.0717000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	-0.1693720	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.9714800	1.2740100	0.0700135
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.1319490	0.0000000	-1.9410900	-0.9247460	0.0000000	0.5007690
Manganese	257.61	0.0067696	0.0000000	0.0000000	0.0000000	0.0023349	0.0000000	0.0000000	0.0000000	0.0000000	-0.0051882
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0173285	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0679605	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.5126200	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	-5.9937200	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	2.3133900	0.3288770	0.0000000	-0.1504990
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.0462590	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.0623399	0.0000000	0.0000000	0.1821360	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-4.1559900	0.0000000	0.1070520
Zinc	206.20	0.0279274	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.3041290	0.0000000	0.0000000

RD97.00093

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

IEC DATE: 6/25/2010

SDG: RD97

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	10.5279000	0.0000000	0.0000000	0.0000000	2.3617300	0.0000000	18.6686000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	-0.3653530	0.0000000	0.0000000	-1.2842400	0.0000000	-3.1614700	0.0000000
Arsenic	188.98	0.0000000	0.0000000	1.5685300	0.0000000	0.0000000	0.0000000	-18.0910000	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.1042590	0.0000000	0.0000000	0.0000000	0.0000000	0.5343320	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0111651	0.0000000	0.5182900	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.6501870	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.1304500	0.0000000	0.1655120	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.2567570	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.1920370	0.1791340	0.0000000	0.0000000	1.6866300	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0228258	0.0000000	0.7071800	0.0000000	0.0000000	0.0000000	0.3708110	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	5.3092800	0.0000000
Lead	220.35	0.0000000	0.0000000	-0.3219480	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-3.4563100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	-0.2309750	0.0000000	0.0000000	0.0000000	-0.0245610	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7107260	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.1962650	0.1355340	0.0000000	0.0000000	0.0000000	-0.0347846	0.0000000	-0.2306430	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	275.8690000	0.0000000	0.0000000	238.7330000
Thallium	190.80	0.0000000	-0.9583370	-3.2391700	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	1.5566700	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.6349390	-0.4579360	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	1.2012000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1525300	-0.7369790	0.0000000	0.0000000	0.0000000	0.5819800	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2610670	0.0000000	-0.0597607	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

RD97-S501

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97

ANALYSIS METHOD: ICP

ARI PREP CODE: SWC

PREPDATE: 7/19/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-D435BS-071310-	RD97A	1.025	0.0	50.0
NBF-D435BN-071310-	RD97B	1.081	0.0	50.0
NBF-D434AS-071310-	RD97C	1.026	0.0	50.0
NBF-434AN-071310-S	RD97D	1.012	0.0	50.0
NBF-D283A-071310-S	RD97E	1.029	0.0	50.0
NBF-D436A-071310-S	RD97F	1.030	0.0	50.0
PBS	RD97MB1	1.000	0.0	50.0
LCSS	RD97MB1SPK	1.000	0.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field

SDG: RD97

ANALYSIS METHOD: CVA

ARI PREP CODE: SMM

PREPDATE: 7/19/2010

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
NBF-D435BS-071310-	RD97A	0.223	0.0	50.0
NBF-D435BN-071310-	RD97B	0.272	0.0	50.0
NBF-D434AS-071310-	RD97C	0.265	0.0	50.0
NBF-434AN-071310-S	RD97D	0.276	0.0	50.0
NBF-D283A-071310-S	RD97E	0.209	0.0	50.0
NBF-D436A-071310-S	RD97F	0.293	0.0	50.0
PBS	RD97MB1	0.200	0.0	50.0
LCSW	RD97MB1SPK	0.200	0.0	50.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 7/22/2010

SDG: RD97 | RUNID: IP072271 | METHOD: ICP | END DATE: 7/22/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	09321		X		X					X		X	X									X									X
S2	S2	1.00	09361									X		X	X																		
S3	S3	1.00	09380		X		X																	X									X
S4	S4	1.00	09410																														
S5	S5	1.00	09431																														
ICV	ICV	1.00	09494		X		X					X		X	X									X									X
ICB	ICB	1.00	09535		X		X					X		X	X									X									X
CRI	CRII	1.00	09574		X		X					X		X	X									X									X
ICSA	ICSAI	1.00	10025		X		X					X		X	X									X									X
ICSAB	ICSABI	1.00	10070		X		X					X		X	X									X									X
CCV	CCV1	1.00	10132		X		X					X		X	X									X									X
CCB	CCB1	1.00	10200		X		X					X		X	X									X									X
PBS	RD97MB1	2.00	10261		X		X					X		X	X									X									X
NBF-D435BS-071310-	RD97A	2.00	10301																														
NBF-D435BN-071310-	RD97B	2.00	10335																														
NBF-D434AS-071310-	RD97C	2.00	10374		X		X					X		X	X									X									X
NBF-434AN-071310-S	RD97D	2.00	10412																														
NBF-D283A-071310-S	RD97E	2.00	10450		X		X					X		X	X									X									X
NBF-D436A-071310-S	RD97F	2.00	10530																														
LCSS	RD97MB1SPK	2.00	10564		X		X					X		X	X									X									X
ZZZZZZ	DIL	1.00	11012																														
CCV	CCV2	1.00	11051		X		X					X		X	X									X									X
CCB	CCB2	1.00	11120		X		X					X		X	X									X									X
NBF-D435BS-071310-	RD97A	5.00	11164																														
NBF-D435BN-071310-	RD97B	5.00	11203																														
NBF-434AN-071310-S	RD97D	2.00	11243																														
NBF-D436A-071310-S	RD97F	5.00	11281																														
ZZZZZZ	DIL	1.00	11321																														
CCV	CCV3	1.00	11360		X		X					X		X	X									X									X
CCB	CCB3	1.00	11421		X		X					X		X	X									X									X
S0	S0	1.00	11461		X		X					X		X	X									X									X
S3	S3	1.00	11504		X		X																	X									X
S5	S5	1.00	11542																														
CCV	CCV4	1.00	12034		X		X					X		X	X									X									X
CCB	CCB4	1.00	12075		X		X					X		X	X									X									X

FORM XIV

RD97 0097

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 7/22/2010

SDG: RD97 | RUNID: IP072271 | METHOD: ICP | END DATE: 7/22/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
NBF-D435BS-071310-	RD97A	5.00	12133																														
NBF-D435BN-071310-	RD97B	5.00	12173																														
NBF-434AN-071310-S	RD97D	2.00	12213																														
NBF-D436A-071310-S	RD97F	5.00	12251																														
ZZZZZZ	DIL	1.00	12290																														
CCV	CCV5	1.00	12330		X		X					X		X	X									X									X
CCB	CCB5	1.00	12393		X		X					X		X	X									X									X

RD97 00058

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 7/22/2010

SDG: RD97 | RUNID: IP072272 | METHOD: ICP | END DATE: 7/22/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	13211		X		X					X		X	X									X									X
S2	S2	1.00	13250									X		X	X																		
S3	S3	1.00	13265		X		X																	X									X
S4	S4	1.00	13290																														
S5	S5	1.00	13311																														
ICV	ICV	1.00	13363		X		X					X		X	X									X									X
ICB	ICB	1.00	13425		X		X					X		X	X									X									X
CRI	CRII	1.00	13464		X		X					X		X	X									X									X
ICSA	ICSAI	1.00	13504		X		X					X		X	X									X									X
ICSAB	ICSABI	1.00	13545		X		X					X		X	X									X									X
CCV	CCV1	1.00	14011		X		X					X		X	X									X									X
CCB	CCB1	1.00	14075		X		X					X		X	X									X									X
NBF-D435BS-071310-	RD97A	5.00	14134		X		X					X		X	X									X									X
NBF-D435BN-071310-	RD97B	5.00	14185		X		X					X		X	X									X									X
NBF-434AN-071310-S	RD97D	2.00	14240		X		X					X		X	X									X									X
NBF-D436A-071310-S	RD97F	5.00	14285		X		X					X		X	X									X									X
ZZZZZZ	DIL	1.00	14340																														
CCV	CCV2	1.00	14380		X		X					X		X	X									X									X
CCB	CCB2	1.00	14444		X		X					X		X	X									X									X

RD97 : 80695

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field   INSTRUMENT ID: CETAC MERCURY   START DATE: 7/20/2010

SDG: RD97   RUNID: HG072001   METHOD: CVA   END DATE: 7/20/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	11402														X																
S0.1	S0.1	1.00	11415														X																
S0.5	S0.5	1.00	11433														X																
S1	S1	1.00	11451														X																
S2	S2	1.00	11464														X																
S5	S5	1.00	11482														X																
S10	S10	1.00	11500														X																
ICV	AICV	1.00	12222														X																
ICB	ICB	1.00	12240														X																
CCV	ACCV1	1.00	12254														X																
CCB	CCB1	1.00	12272														X																
CRA	CRA	1.00	12285														X																
ZZZZZZ	RD95RMB1	1.00	12303																														
ZZZZZZ	RD95RMB1SPK	1.00	12320																														
ZZZZZZ	RD95RA	1.00	12334																														
ZZZZZZ	RD95RADUP	1.00	12352																														
ZZZZZZ	RD95RASPK	1.00	12365																														
ZZZZZZ	RD95RB	1.00	12383																														
ZZZZZZ	RD95RC	1.00	12401																														
ZZZZZZ	RE12RMB1	1.00	12415																														
ZZZZZZ	RE12RMB1SPK	1.00	12432																														
CCV	ACCV2	1.00	12450														X																
CCB	CCB2	1.00	12464														X																
ZZZZZZ	RE12RA	1.00	12482																														
ZZZZZZ	RE12RADUP	1.00	12500																														
ZZZZZZ	RE12RASPK	1.00	12513																														
ZZZZZZ	RE12RB	1.00	12531																														
ZZZZZZ	RE12RC	1.00	12544																														
ZZZZZZ	RE12RD	1.00	12562																														
ZZZZZZ	RE12RE	1.00	12580																														
ZZZZZZ	RE12RF	1.00	12593																														
ZZZZZZ	RE74MB1	1.00	13011																														
ZZZZZZ	RE74MB1SPK	1.00	13025																														
CCV	ACCV3	1.00	13043														X																
CCB	CCB3	1.00	13061														X																

FORM XIV

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Science App. Interna

PROJECT: North Boeing Field | INSTRUMENT ID: CETAC MERCURY | START DATE: 7/20/2010

SDG: RD97 | RUNID: HG072001 | METHOD: CVA | END DATE: 7/20/2010

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
ZZZZZZ	RE74A	1.00	13075																														
ZZZZZZ	RE74ADUP	1.00	13093																														
ZZZZZZ	RE74ASPK	1.00	13110																														
ZZZZZZ	RE74B	1.00	13124																														
ZZZZZZ	RE74C	1.00	13142																														
PBW	RD97MB1	1.00	13155														X																
LCSW	RD97MB1SPK	1.00	13173														X																
NBF-D435BS-071310-	RD97A	1.00	13190														X																
NBF-D435BN-071310-	RD97B	1.00	13204														X																
NBF-D434AS-071310-	RD97C	1.00	13222														X																
CCV	ACCV4	1.00	13240														X																
CCB	CCB4	1.00	13254														X																
NBF-434AN-071310-S	RD97D	1.00	13272														X																
NBF-D283A-071310-S	RD97E	1.00	13290														X																
NBF-D436A-071310-S	RD97F	1.00	13303														X																
CCV	ACCV5	1.00	13321														X																
CCB	CCB5	1.00	13340														X																

RD97.SS1

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: RD97

SAMPLE RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Client ID: NBF-D435BS-071310-S
ARI ID: 10-16509 RD97A

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/14/10 071410#1	EPA 160.3	Percent	0.01	99.20
Total Organic Carbon	07/23/10 072310#1	Plumb,1981	Percent	0.152	8.29

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Client ID: NBF-D435BN-071310-S
ARI ID: 10-16510 RD97B

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/14/10 071410#1	EPA 160.3	Percent	0.01	99.30
Total Organic Carbon	07/23/10 072310#1	Plumb,1981	Percent	0.236	9.23

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Client ID: NBF-D434AS-071310-S
ARI ID: 10-16511 RD97C

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/14/10 071410#1	EPA 160.3	Percent	0.01	99.60
Total Organic Carbon	07/23/10 072310#1	Plumb,1981	Percent	0.170	11.0

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Client ID: NBF-D434AN-071310-S
ARI ID: 10-16512 RD97D

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/14/10 071410#4	EPA 160.3	Percent	0.01	99.80
Total Organic Carbon	07/23/10 072310#1	Plumb,1981	Percent	0.164	6.83

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Client ID: NBF-D283A-071310-S
ARI ID: 10-16513 RD97E

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/14/10 071410#4	EPA 160.3	Percent	0.01	99.30
Total Organic Carbon	07/23/10 072310#1	Plumb,1981	Percent	0.212	12.8

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Client ID: NBF-D436A-071310-S
ARI ID: 10-16514 RD97F

Analyte	Date	Method	Units	RL	Sample
Total Solids	07/14/10 071410#4	EPA 160.3	Percent	0.01	99.60
Total Organic Carbon	07/23/10 072310#1	Plumb,1981	Percent	0.206	9.17

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: RD97A Client ID: NBF-D435BS-071310-S						
Total Organic Carbon	07/23/10	Percent	8.29	17.0	8.44	103.3%

REPLICATE RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: 07/13/10
Date Received: 07/13/10

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: RD97A Client ID: NBF-D435BS-071310-S					
Total Solids	07/14/10	Percent	99.20	99.20 99.30	0.1%
Total Organic Carbon	07/23/10	Percent	8.29	7.43 9.32	11.3%

LAB CONTROL RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon Plumb,1981	ICVL	07/23/10	Percent	0.104	0.100	104.0%

METHOD BLANK RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	07/14/10	Percent	< 0.01 U
Total Organic Carbon	07/23/10	Percent	< 0.020 U

STANDARD REFERENCE RESULTS-CONVENTIONALS
RD97-Science App. International Corp

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 07/27/10

Project: North Boeing Field
Event: NA
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST #8704	07/23/10	Percent	3.42	3.35	102.1%

Geotechnical Analysis
Report and Summary QC Forms

ARI Job ID: RD97

Science App. International Corp
North Boeing Field

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
NBF-D435BS-071310-S	100.0	99.7	97.2	89.5	73.7	45.9	27.4	17.2	12.1	4.3	1.7	0.8	0.5	0.3
	100.0	100.0	97.1	90.2	73.6	46.1	27.9	17.9	10.5	4.3	1.7	0.7	0.5	0.3
	100.0	99.5	97.0	89.8	74.4	45.7	26.3	16.0	9.2	3.3	1.3	0.6	0.4	0.3
NBF-D435BN-071310-S	100.0	99.7	93.1	82.2	58.0	29.3	15.8	10.3	5.8	2.3	1.0	0.4	0.3	0.2
NBF-D434AS-071310-S	100.0	98.5	88.1	70.4	47.0	24.1	12.5	7.5	4.2	1.7	0.7	0.3	0.2	0.2
NBF-D434AN-071310-S	100.0	97.7	87.8	67.8	39.5	19.8	11.8	7.8	4.1	1.3	0.5	0.2	0.2	0.1
NBF-D283A-071310-S	100.0	99.0	95.9	87.5	69.8	40.8	21.7	11.7	6.8	2.6	1.1	0.5	0.3	0.2
NBF-D436A-071310-S	100.0	95.4	83.4	70.0	52.4	29.5	14.9	7.9	3.3	1.1	0.4	0.2	0.2	0.1

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Science App. International Corp
North Boeing Field

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
NBF-D435BS-071310-S	2.8	7.6	15.8	27.8	18.5	10.2	5.1	7.8	2.6	0.9	0.3	0.2	0.3	17.2
	2.9	6.9	16.7	27.4	18.2	10.1	7.4	6.1	2.6	1.0	0.2	0.2	0.3	17.9
	3.0	7.2	15.4	28.7	19.4	10.4	6.7	5.9	1.9	0.8	0.2	0.1	0.3	16.0
NBF-D435BN-071310-S	6.9	11.0	24.2	28.7	13.5	5.5	4.5	3.5	1.3	0.5	0.2	0.1	0.2	10.3
NBF-D434AS-071310-S	11.9	17.8	23.4	22.9	11.6	5.0	3.3	2.6	0.9	0.4	0.0	0.1	0.2	7.5
NBF-D434AN-071310-S	12.2	20.1	28.3	19.7	8.0	4.1	3.7	2.8	0.8	0.3	0.0	0.1	0.1	7.8
NBF-D283A-071310-S	4.1	8.4	17.7	29.0	19.1	10.0	4.9	4.2	1.5	0.6	0.2	0.1	0.2	11.7
NBF-D436A-071310-S	16.6	13.5	17.6	23.0	14.6	7.0	4.6	2.2	0.7	0.3	0.0	0.1	0.1	7.9

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

QA SUMMARY

Client:	Science App. International Corp		
		Client Project:	North Boeing Field
ARI Trip. Sample ID:	RD97A	Batch No.:	RD97-1
Client Trip. Sample ID:	NBF-D435BS-071310-S	Page:	1 of 1

Relative Standard Deviation, By Phi Size

Sample ID	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
-D435BS-0713	100.0	99.7	97.2	89.5	73.7	45.9	27.4	17.2	12.1	4.3	1.7	0.8	0.5	0.3
	100.0	100.0	97.1	90.2	73.6	46.1	27.9	17.9	10.5	4.3	1.7	0.7	0.5	0.3
	100.0	99.5	97.0	89.8	74.4	45.7	26.3	16.0	9.2	3.3	1.3	0.6	0.4	0.3
AVE	NA	99.74	97.10	89.86	73.87	45.91	27.23	17.01	10.60	3.97	1.57	0.71	0.44	0.28
STDEV	NA	0.23	0.07	0.35	0.43	0.21	0.81	0.97	1.46	0.60	0.19	0.10	0.06	0.03
%RSD	NA	0.23	0.07	0.39	0.58	0.46	2.99	5.71	13.77	15.18	12.30	13.88	14.30	10.41

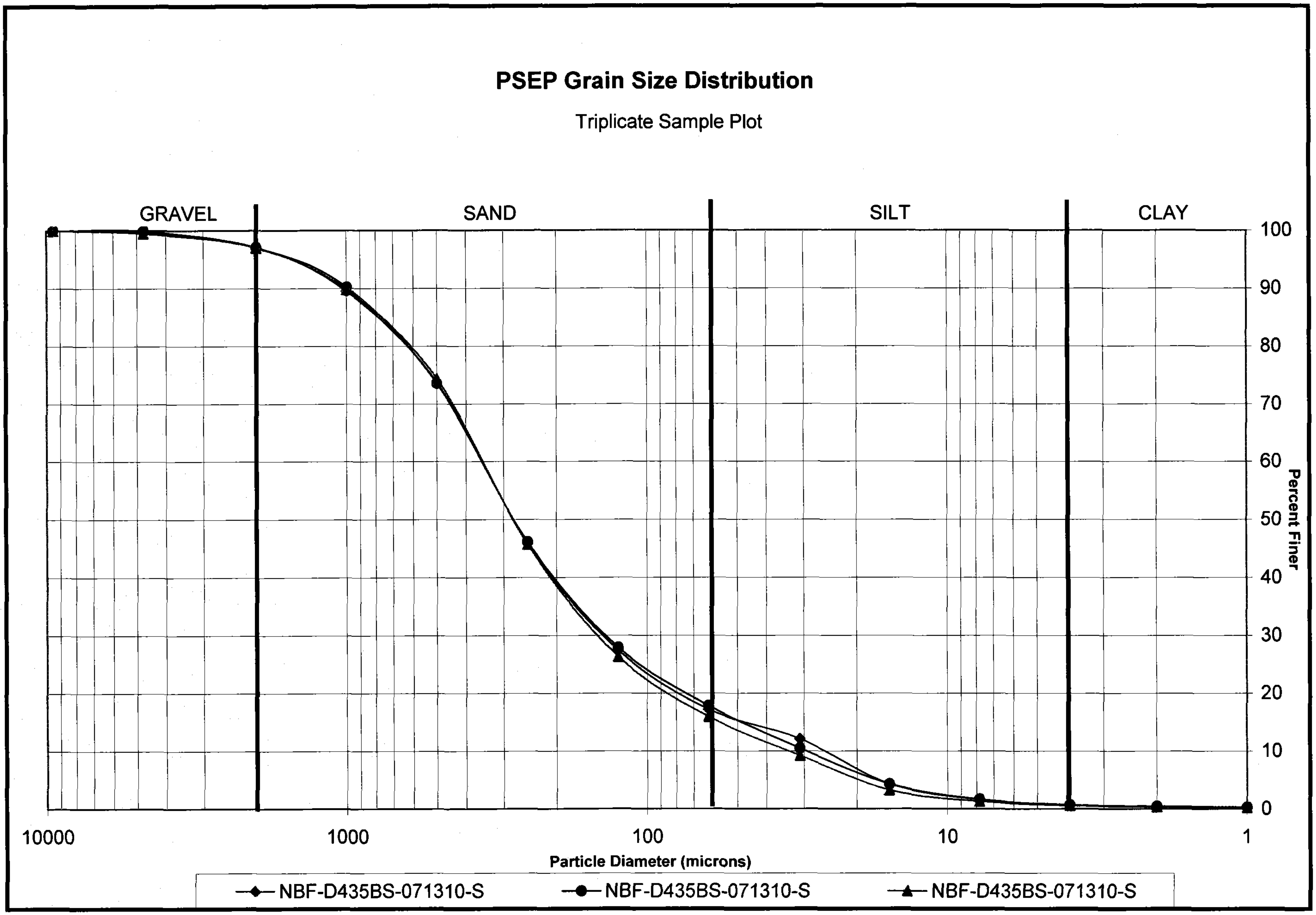
The Triplicate Applies To The Following Samples

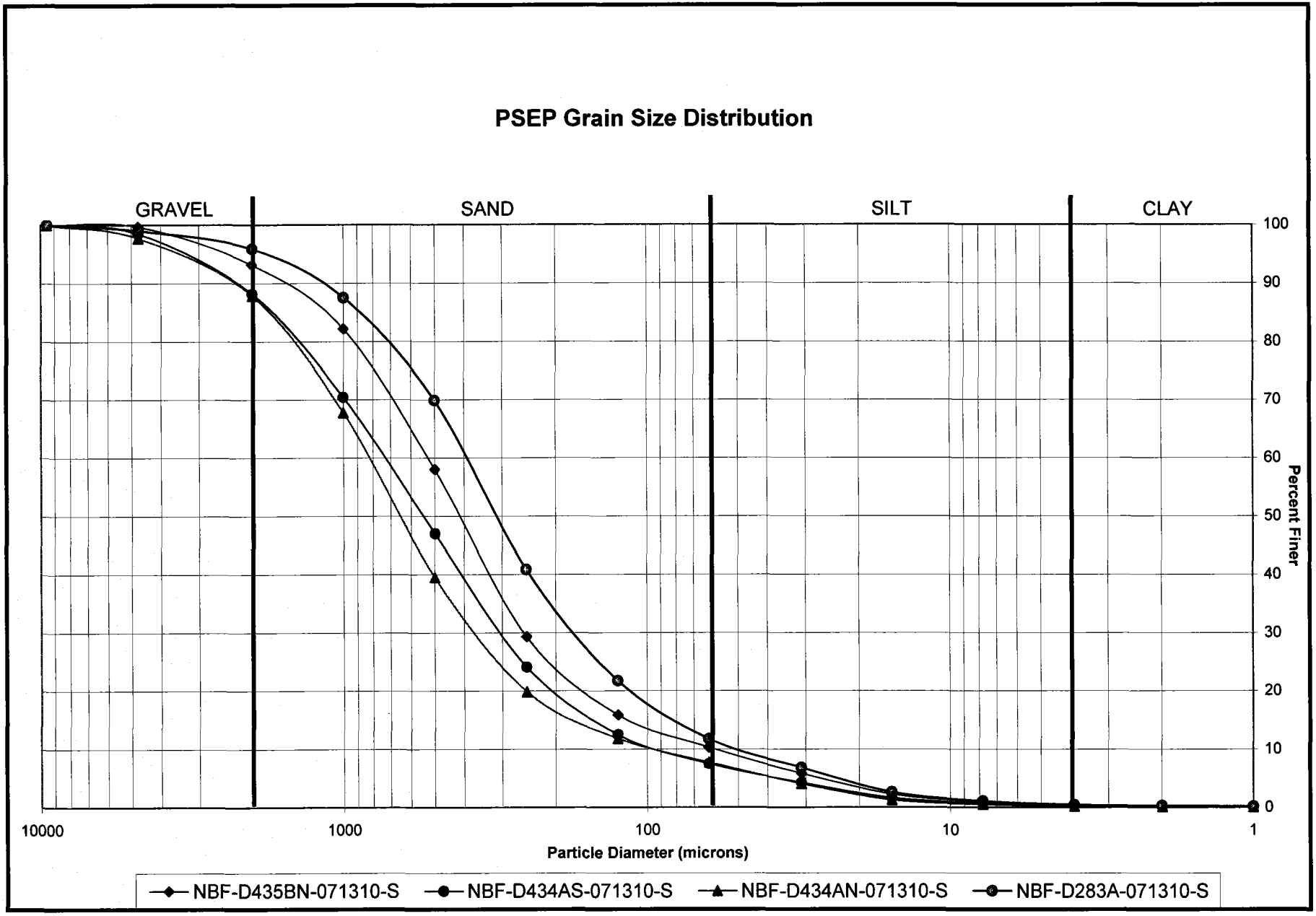
Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5.0-25.0g)
NBF-D435BS-071310-S	7/13/2010	7/16/2010	7/21/2010	101.7		20.6
	7/13/2010	7/16/2010	7/21/2010	100.9		21.3
	7/13/2010	7/16/2010	7/21/2010	101.4		19.0
NBF-D435BN-071310-S	7/13/2010	7/16/2010	7/21/2010	101.6		15.2
NBF-D434AS-071310-S	7/13/2010	7/16/2010	7/21/2010	101.0		10.9
NBF-D434AN-071310-S	7/13/2010	7/16/2010	7/21/2010	100.8		11.5
NBF-D283A-071310-S	7/13/2010	7/16/2010	7/21/2010	100.9		17.3
NBF-D436A-071310-S	7/13/2010	7/16/2010	7/21/2010	101.4		11.7

* ARI Internal QA limits = 95-105%

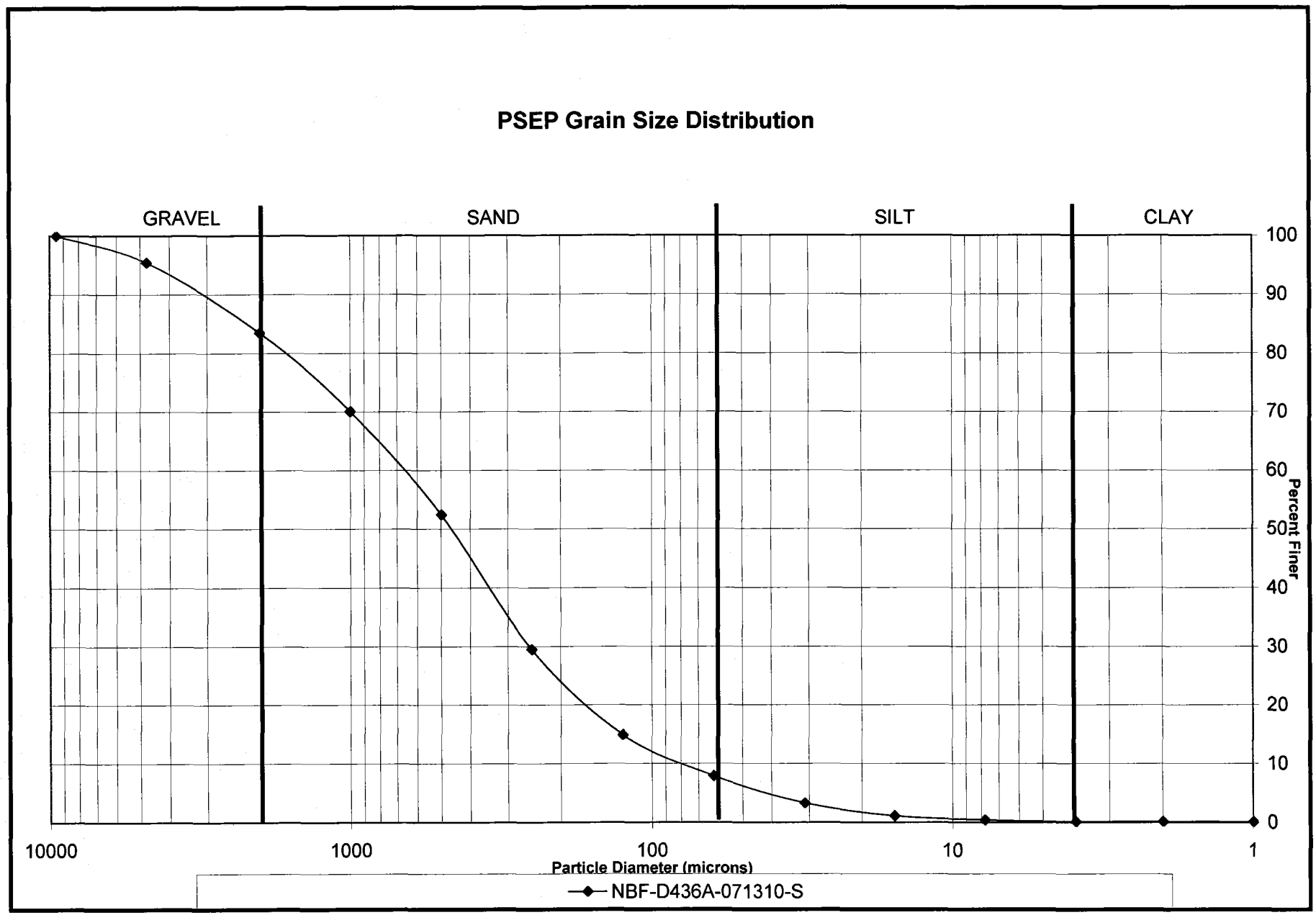
Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.


PSEP Grain Size Distribution
Triplicate Sample Plot
GRAVEL
SAND
SILT
CLAY
100
90
80
70
60
50
40
30
20
10
0
Percent Finer
10000
1000
100
10
1
Particle Diameter (microns)
NBF-D435BS-071310-S
NBF-D435BS-071310-S
NBF-D435BS-071310-S


PSEP Grain Size Distribution
GRAVEL
SAND
SILT
CLAY
100
90
80
70
60
50
40
30
20
10
0
Percent Finer
10000
1000
100
10
1
Particle Diameter (microns)
NBF-D435BN-071310-S
NBF-D434AS-071310-S
NBF-D434AN-071310-S
NBF-D283A-071310-S

RD87 : 99119


PSEP Grain Size Distribution
GRAVEL
SAND
SILT
CLAY
100
90
80
70
60
50
40
30
20
10
0
Percent Finer
10000
1000
100
10
1
Particle Diameter (microns)
NBF-D436A-071310-S

Total Solids

ARI Job ID: RD97

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET

SOLIDS *(dry at 104 (12-24 hr) then combust at 550 (30 min))*

DATE: 7/14/2010
ANALYST: KE 15:26

Instrumentation

Drying Ovens: 12
Muffle Furnace: N/A
Analytical Balance: 1123230597

Batch drying time

record times as mm/dd/yy hh:mm

7/14/2010 15:26	date/time in oven	KE
4/15/2010 9:42	date/time out	KE
elapsed hrs =	-2165.7	< 12 hr

TS (%) calculated as:
Final dry wt (g) = (Dry Wt - Tare Wt)
TS = (Final Dry Wt)/ (grams Sample-Tare)

TVS (mg/kg dry wt) calculated as:
Final ash wt (g) = (min ash wt - tare wt)
*TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000*
if ash wt > dry wt, "Chk for Err"
*if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000*

	Cal Weight ID	CV-02	CV-02	CV-02	CV-02	CV-02	CV-02
	Date & Time	7/14/10 15:08 KE	7/14/10 15:02 KE	7/15/10 9:58 KE			
Cal Wt (g)	10.0000	10.0000	10.0000	10.0000			
	record weights to 4 places	*Cal OK!*	*Cal OK!*	*Cal OK!*			

SAMPLE ID	DISH #	SAMPLE (grams)	TARE WT (grams)	DRY WT 104C (grams) 1			dry Wt (g)	TS (%)	ASH WT 550C (grams) 1	2		Ash Wt (g)	TVS (mg/kg)	TVS (%)
Blank			1.1376	1.1374			0.00							
RD95 A6		6.0330	1.1057	5.8903			4.78	**97.1%**						
RD95 A6 dup		6.0831	1.1055	5.9257			4.82	**96.8%**						
							RPD =	0.27%				RPD =	NA	
RD95 A6 trp		6.0596	1.1316	5.9218			4.79	**97.2%**						
							RSD =	0.19%				RSD =	NA	
RD95 B6		6.2549	1.1347	5.0421			3.91	**76.3%**						
RD95 C6		6.1243	1.1102	5.5261			4.42	**88.1%**						
RD97 A1		6.8167	1.1060	6.7705			5.66	**99.2%**						
RD97 A1 dup		6.7831	1.1307	6.7393			5.61	**99.2%**						
							RPD =	0.03%				RPD =	NA	
RD97 A1 trp		6.7848	1.0996	6.7433			5.64	**99.3%**						
							RSD =	0.04%				RSD =	NA	
RD97 B1		6.1522	1.0966	6.1152			5.02	**99.3%**						
RD97 C1		6.1615	1.1324	6.1449			5.01	**99.7%**						
RD97 D1		6.5120	1.1294	6.5008			5.37	**99.8%**						
RD97 E1		6.6868	1.1154	6.6489			5.53	**99.3%**						
RD97 F1		6.8761	1.1055	6.8551			5.75	**99.6%**						

RD97 : 00122

Solids Data Entry Report Checked by: KM Date: 7/20/10
Date: 07/20/10 Data Analyst: MH

Solids Determination performed on 07/19/10 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
RD97	A	NBF-D435BS-071310-S	0.998	10.534	10.392	98.51
RD97	B	NBF-D435BN-071310-S	0.962	10.808	10.652	98.42
RD97	C	NBF-D434AS-071310-S	0.957	10.787	10.687	98.98
RD97	D	NBF-434AN-071310-S	0.998	10.299	10.236	99.32
RD97	E	NBF-D283A-071310-S	0.959	10.602	10.496	98.90
RD97	F	NBF-D436A-071310-S	0.987	10.249	10.174	99.19

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 07 **Balance ID:** 068755

Samples in Oven: Date: 7-19-10 Time: 1800 Temp: 101°C Analyst: DM

Removed from Oven: Date: 7-20-10 Time: 1005 Temp: 101°C Analyst: MH

Source of Total Solids Data If From A Different Lab: —

ARI Sample ID		Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs[1]
RE89	A	0.992	10.634	10.002	—	✓
"	B	0.941	10.050	9.454	—	✓
"	C	0.985	10.112	9.581	—	✓
"	D	0.972	10.402	9.791	—	✓
"	E	0.956	10.520	9.610	—	✓
R097	A	0.998	10.534	10.392	—	✓
"	B	0.962	10.808	10.652	—	✓
"	C	0.957	10.787	10.687	—	✓
"	D	0.998	10.299	10.236	—	✓
"	E	0.959	10.602	10.496	—	✓
"	F	0.987	10.249	10.174	—	✓
RE62	A	0.952	10.922	8.877	—	✓
" 7-19-10 DM AR	B	0.951	10.331	8.353	—	✓
"	C	0.991	10.932	9.601	—	✓
"	D	0.939	10.754	9.481	—	✓
"	E	0.934	10.205	9.346	—	✓
"	F	0.957	10.948	8.638	—	✓
			7-19-10 DM			

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

DIOXIN/FURAN ANALYSIS

SOLID SAMPLES

AXYS METHOD: MLA-017

PROJECT NAME: NBF/GTSP Stormwater Sampling

Contract: 4406
Data Package Identification: DPWG32541

Analysis WG32291

26 April 2010

DIOXIN/FURAN ANALYSIS

SOLID SAMPLES

AXYS METHOD: MLA-017

PROJECT NAME: NBF/GTSP Stormwater Sampling

Contract: 4406
Data Package Identification: DPWG32541
Analysis WG32291

Prepared for:
Science Applications International Corporation

Prepared by:
AXYS Analytical Services Ltd.
2045 Mills Rd
Sidney, British Columbia V8L 5X2
CANADA

Contact: Devin Mitchell
Project Manager

26 April 2010

SCIENCE APPLICATIONS INTERNATIONAL CORP
FILTER BAG SAMPLES

DIOXIN AND FURAN ANALYSIS
AXYS METHOD: MLA-017
4406: L14460-1

NBF/GTSP Stormwater Sampling

27 April 2010

NARRATIVE

This narrative describes the analysis of one filter bag samples for polychlorinated dibenzodioxins and dibenzofurans using high-resolution gas chromatography / high-resolution mass spectrometry (HRGC/HRMS).

SAMPLE RECEIPT AND STORAGE

The sample was received on March 30th 2010. Details of sample conditions on receipt are provided on the Sample Receiving Record. The samples were stored at -20°C prior to extraction and analysis.

SAMPLE PREPARATION AND ANALYSIS

Extraction and analysis procedures were in general accordance with **USEPA Method 1613B,** as documented in Axys **Method MLA-017**: ***"Analytical Method for the Determination of Polychlorinated Dibenzodioxins and Dibenzofurans by EPA Method 1613B, EPA Method 8290A or Env. Canada EPS 1/RM/19"***. A method summary (MSU-018) of MLA-017, with a list of modifications of USEPA Method 1613B, is included following this narrative.

The filter bag sample was analyzed in batch WG32291, containing a procedural blank and a lab-generated reference sample known as the Ongoing Precision and Recovery (OPR). The composition of the batch is shown on the Cover Page and Correlation Table, and on the Batch List form accompanying the extraction workup sheets.

The procedural blank WG32291-101 and OPR WG32291-102 were prepared using clean sand.

The plastic ring for the sample was removed prior to extraction. The sample was spiked with the ^{13}C-labeled quantification standards, and then extracted, in its entirety, in a Soxhlet apparatus equipped with a Dean-Stark condenser, using toluene. The resulting extract was spiked with ^{13}C-labeled cleanup standards and split gravimetrically into two equal portions, one for analysis and one for backup. The half-portion for analysis was cleaned up on an automated chromatography apparatus (Fluid Management Systems (FMS), Inc *'Power-Prep™ System'*) equipped with the standard pre-packed columns listed on the extraction workup sheets. Following cleanup, each extract was reduced in volume and spiked with ^{13}C-labeled recovery (internal) standards prior to instrumental analysis. The final extract volume was 20µL, 1µL of which was injected for both the DB5 and DB225 column analyses.

CALCULATION

Target analyte concentrations were determined by isotope dilution or internal standard quantification procedures, using Waters MassLynx software for the DB5 analysis and Micromass OPUSQuan software for the DB22 analysis. Formulae used in the conversion of the raw chromatograms to concentrations are provided in the method summary document.

Sample specific detection limits (SDLs) were determined from the analysis data following the same procedures used to convert target peak responses to concentrations. In cases when the software selects unrepresentative area for the detection limit calculations, the SDLs are hand-corrected on the

quantification report pages.

Homologue totals were obtained by summing the concentration of all detected congeners at each level of chlorination. Toxic Equivalents (TEQs) were calculated using WHO 2005 TEFs. Congener peaks that did not meet the method ion abundance ratio criteria were excluded from the homologue totals and TEQ calculations.

REPORTING CONVENTIONS

For internal tracking, Axys assigned SAIC the contract number 4406. Axys logged the sample under unique laboratory identifier L14460-1. All data reports reference both the Axys ID and the client sample identifier, and a table correlating Axys versus client sample names is included. The report forms were generated using Laboratory Information Management Software (LIMS).

The following data qualifier flags are used in this data package:

B	=	analyte found in the sample and the associated blank
J	=	indicates an estimated value where the concentration of the analyte is less than the LMCL but greater than the greater of the MDL and the SDL
K	=	a peak was detected that did not meet all the criteria for identification as the target analyte; the reported value is the estimated maximum possible concentration of analyte present.
U	=	identifies a compound that was not detected

The quantification procedure accounts for the splitting of the extract, such that the final results are in terms of the entire filter bag. Results are reported to three significant figures, in units of picograms per sample (pg/sample).

ANALYTICAL DISCUSSION

The analyst noted on the laboratory worksheet for the OPR (AXYS ID: WG32291-102) that a portion of the sample was lost during the extraction procedure and that the solvent had gone dry during an extract concentration procedure. Given that the recovery values of the labeled standards and native analytes were within the method control limits and the isotope dilution quantification procedure automatically corrects for such losses, data is not affected.

Sample NBF-LS431B-032010-S (AXYS ID: L14460-2) was originally included in batch WG32291, but during sample extraction the sample was lost and no back up sample was available for a repeat analysis. Data for this sample is not available.

QA/QC NOTES

QC samples (a procedural blank, an OPR, and an SRM) were prepared alongside the field samples, and carried through the same analytical procedures. The field sample data were evaluated in relation to the batch QC sample data.

- Sample analyte concentrations are not blank-corrected.
- By virtue of the isotope dilution/internal standard quantification procedures, data are recovery-corrected for possible losses during extraction and cleanup.
- All linearity, calibration verification, OPR, and labeled compound recovery specifications were met.

DATA PACKAGE

This data package, assigned a unique identifier DPWG32541, includes:

Summary of MLA-017 (MSU-018)
Sample Cover Page and Correlation Table
Sample Receiving Documentation
Sample preparation record
Laboratory extraction logs for each sample
Sample data reports
QC sample data reports
Instrumental QC data reports
Sample raw data
QC sample raw data
Instrumental QC raw data

I certify that this data package complies with the terms and conditions of the contract, both technically and for completeness, except for the conditions detailed above. In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. The following signature, on behalf of Axys Analytical Services Ltd, authorizes the release of the data contained in this data package.

Shelley Facchin — Signed: Shelley Facchin, QC Chemist

27/Apr/2010 — Date Signed

ANALYSIS OF POLYCHLORINATED DIOXINS AND FURANS BY EPA METHOD 1613B

Samples are spiked with a suite of isotopically labelled surrogate standards prior to analysis, solvent extracted, and cleaned up through a series of chromatographic columns that may include gel permeation, silica, Florisil, carbon/Celite, and alumina columns. The extract is concentrated and spiked with an isotopically labelled recovery (internal) standard. Analysis is performed using a high-resolution mass spectrometer coupled to a high-resolution gas chromatograph equipped with a DB-5 capillary chromatography column (60 m, 0.25 mm i.d., 0.1 µm film thickness). A second column, DB-225 (30 m, 0.25 mm i.d., 0.15 µm film thickness), is used for confirmation of 2,3,7,8-TCDF identification. All procedures are carried out according to protocols as described in EPA Method 1613B, with the significant modifications summarized below. The data are evaluated against QC criteria presented in Tables 1 and 2.

Method Modifications:

Section 2.1.2

Non-aqueous liquid from multiphase sample is combined with the solid phase and extracted by Dean Stark soxhlet.

Section 7.2.1

Anhydrous sodium sulphate (Na_2SO_4) is purchased in powder form (not granular) and is baked overnight prior to use. There is no solvent rinse with dichloromethane.

Section 7.10

The concentration of the labelled compound spiking solution is 100 ng/mL (except for OCDD which is 200 ng/mL) and the sample spiking volume is 20 µL. The resulting concentrations in the final extracts are as specified in the method.

Section 7.11

The concentration of the clean-up standard spiking solution is 10 ng/mL and the sample spiking volume is 20 µL. The resulting concentration in the final extracts are as specified in the method.

Sections 7.13, 14.0, 15.0

An additional lower level calibration solution, 0.2 times the concentration of CS1, is prepared and included in the initial calibration series. Initial calibration is based on a six-point series.

Section 7.14

The concentration of the PAR spiking solutions is 0.2/1.0/2.0 ng/mL for tetra/penta, hexa, hepta, hexa/octas respectively and the spiking volume is 1 mL. The resulting final concentration in the extracts are as specified in the method.

Section 9.3.3, Table 7

Acceptance criteria for the percent recovery of surrogate standards in samples have been revised. Criteria that are higher than 130% have been lowered to 130%, as presented in Table 1.

Section 11.5

Aqueous samples containing >1% visible solids are prepared and extracted using the same procedure as samples containing ≤1% visible solids. This involves extracting the solids by soxhlet and the filtrate by separatory funnel extraction and combining the extract from the two phases.

Section 12.0

Samples with sufficiently low moisture content may be mixed with Na_2SO_4 and extracted using regular soxhlet apparatus in 80:20 toluene:acetone.

Section 12.4

The equilibration time for the sodium sulphate drying step is that required to produce a dry, free flowing powder (minimum thirty minutes). This may be less than the 12-hour minimum specified in EPA 1613B.

Section 12.5.1

Samples are spiked with cleanup standard right after extraction and before reduction; not spiked into the separatory funnels containing the extracts prior to the acid/base wash.

Section 12.6.1.1

Rotary evaporator baths are maintained at 35ºC. Mimic proofs are collected instead of collecting proofs each day and archiving.

Section 13.0

Extracts may be cleaned up on silica, alumina and carbon chromatographic columns using a Fluid Management System (FMS) automated cleanup system.

Section 13.7

Gravimetric lipid analysis is carried out on two subsamples of the extract.

Sections 14.0, 15.0, 16.0, Table 8, Table 9

M/Z channels 354/356 and 366/368 are used to confirm and quantify the native and surrogate penta-substituted dioxins, respectively; this change from the method's specification is made in the instrument method in order to avoid a persistent interference in the 356/358 and 368/370 M/Z channels. The theoretical ratio for the P5CDD M/M+2 ions is 0.61; therefore, the acceptance range is 0.52 - 0.70.

Section 15.3.5, Table 6

Acceptance criteria for calibration verification concentrations have been modified, as presented in Table 1, so that ranges do not exceed 70-130% of the test concentration.

Section 15.5.3 Table 6

Acceptance specifications for OPR concentrations have been modified, as presented in Table 1, so that ranges do not exceed 70-130%.

Section 17.0

$Conc_i$ - the concentrations of target analytes, and the labelled compound concentrations and recoveries, are calculated using the equations below. These procedures are equivalent to those described in the method but are more direct.

$$Conc_i = \frac{A_i}{A_{si}} \times \frac{M_{si}}{RRF_{i,si}} \times \frac{1}{M_x}$$

where A_i = summed areas of the primary and secondary m/z's for the analyte peak of interest (compound *i*)

A_{si} = summed areas of the primary and secondary m/z's for the labelled surrogate peak used to quantify *i*)

M_x = mass of sample taken for analysis

M_{si} = mass of labelled surrogate (compound *si*) added to sample as calculated by the concentration of standard spiked (pg/mL) multiplied by the volume spiked (mL)

$RRF_{i,si}$ = mean relative response factor of *i* to *si* from the five-point calibration range and defined individually as:

$$\frac{A_i}{A_{si}} \times \frac{M_{si}}{M_i}$$

Calculation of Surrogate Standard Concentrations and Percent Recoveries:

Concentrations of surrogate standards are calculated using the following equation:

$$Conc_{si} = \frac{A_{si}}{A_{rs}} \times \frac{M_{rs}}{RRF_{si,rs}}$$

and, the percent recoveries of the surrogate standards are calculated using the following equation:

$$\%\text{Recovery} = \frac{A_{si}}{A_{rs}} \times \frac{M_{rs}}{RRF_{si,rs}} \times \frac{1}{M_{si}} \times 100$$

where A_{rs} and A_{si} are the summed peak areas (from the primary and secondary m/z channels) of recovery standard and labelled surrogate added to the sample;

M_{rs} and M_{si} are the masses of recovery standard and labelled surrogate added to the sample, and;

$RRF_{si,rs}$ is the mean relative response factor of the labelled surrogate to the recovery standard as determined by the five-point calibration range and defined individually as:

.

$$\frac{A_{si}}{A_{rs}} \times \frac{M_{rs}}{M_{si}}$$

Section 17.5

Extracts may be diluted with solvent and re-analyzed by GC/MS isotope-dilution to bring the instrumental response to within the linear range of the instrument. For very high-level samples where a smaller sample aliquot may not be representative, extracts may be diluted and re-spiked with labelled quantification standards and re-analyzed by GC/MS to bring the instrumental response analytes within range. Final results may be recovery corrected using the mean recovery of labelled quantification standards.

Table 1. QC Acceptance Criteria for PCDD/F in CAL/VER, IPR, OPR and Test Samples[1]

	Test Conc ng/mL	IPR[2]		OPR[3] (%)	I-CAL %	CAL/VER[4] (%)	Labelled Cmpd %Rec. in Sample	
		RSD (%)	X(%)				Warning Limit	Control Limit
Native Compound								
2,3,7,8-TCDD	10	28	83-129	70-130	20	78-129	-	-
2,3,7,8-TCDF	10	20	87-137	75-130	20	84-120	-	-
1,2,3,7,8-PeCDD	50	15	76-132	70-130	20	78-130	-	-
1,2,3,7,8-PeCDF	50	15	86-124	80-130	20	82-120	-	-
2,3,4,7,8-PeCDF	50	17	72-150	70-130	20	82-122	-	-
1,2,3,4,7,8-HxCDD	50	19	78-152	70-130	20	78-128	-	-
1,2,3,6,7,8-HxCDD	50	15	84-124	76-130	20	78-128	-	-
1,2,3,7,8,9-HXCDD	50	22	74-142	70-130	35	82-122	-	-
1,2,3,4,7,8-HxCDF	50	17	82-108	72-130	20	90-112	-	-
1,2,3,6,7,8-HxCDF	50	13	92-120	84-130	20	88-114	-	-
1,2,3,7,8,9-HxCDF	50	13	84-122	78-130	20	90-112	-	-
2,3,4,6,7,8-HxCDF	50	15	74-158	70-130	20	88-114	-	-
1,2,3,4,6,7,8-HpCDD	50	15	76-130	70-130	20	86-116	-	-
1,2,3,4,6,7,8-HpCDF	50	13	90-112	82-122	20	90-110	-	-
1,2,3,4,7,8,9-HpCDF	50	16	86-126	78-130	20	86-116	-	-
OCDD	100	19	86-126	78-130	20	79-126	-	-
OCDF	100	27	74-146	70-130	35	70-130	-	-
Surrogate Standards								
$^{13}C_{12}$-2,3,7,8-TCDD	100	37	28-134	25-130	35	82-121	40-120	25-130
$^{13}C_{12}$-2,3,7,8-TCDF	100	35	31-113	25-130	35	71-130	40-120	24-130
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	39	27-184	25-150	35	70-130	40-120	25-130
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	34	27-156	25-130	35	76-130	40-120	24-130
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	38	16-279	25-130	35	77-130	40-120	21-130
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	41	29-147	25-130	35	85-117	40-120	32-130
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	38	34-122	25-130	35	85-118	40-120	28-130
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	43	27-152	25-130	35	76-130	40-120	26-130
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	35	30-122	25-130	35	70-130	40-120	26-123
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	40	24-157	25-130	35	74-130	40-120	29-130
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	37	29-136	25-130	35	73-130	40-120	28-130
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	35	34-129	25-130	35	72-130	40-120	23-130
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	41	32-110	25-130	35	78-129	40-120	28-130
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	40	28-141	25-130	35	77-129	40-120	26-130
$^{13}C_{12}$-OCDD	200	48	20-138	25-130	35	70-130	25-120	17-130
Cleanup Standard								
$^{37}Cl_4$-2,3,7,8-TCDD	10	36	39-154	31-130	35	79-127	40-120	35-130

[1] QC acceptance criteria for IPR, OPR, and samples based on a 20 µL extract final volume
[2] IPR: Initial Precision and Recovery demonstration
[3] OPR: Ongoing Precision and Recovery test run with every batch of samples.
[4] CAL VER: Calibration Verification test run at least every 12 hours

Table 2. QC Specifications for QC Samples, Instrumental Analysis, and Analyte Quantification

QC Parameter	Specification
Analysis Duplicate	Must agree to within ±20% of the mean (applicable to concentrations >10 times the DL)[1]
Procedural Blank	**Blood:** TCDD/F <0.2 pg/sample, PeCDD/F <0.5 pg/sample, HxCDD/F and HpCDD/F <1.0 pg/ sample, OCDD/F<5 pg/sample **Other Matrices:** TCDD/F <0.5 pg/sample, PeCDD/F, HxCDD/F, HpCDD/F <1.0 pg/sample, OCDD/F <5 pg/sample Higher levels acceptable where all sample concentrations a >10X the blank
Detection Limit	SDL Requirements **Blood:** Tetra-penta-CDD/F 0.2 pg/sample Hexa-octa-CDD/F 0.5 pg/sample **Other Matrices**: 1 pg/sample
Instrument Carryover: **Toluene Blank** **Samples**	 A. 1st toluene blank following CAL-VER must have <0.6 pg TCDD and <25 pg OCDD B. 2nd toluene blank following CAL-VER must have <0.2 pg TCDD and <0.8 pg Pe – HpCDD/f, and <0.5 pg OCDD. <10% contribution from preceding sample (based on observed instrument carryover
Analyte/Surrogate Ratios	Response must be within the calibrated range of the instrument. Coders may use data from more than one chromatogram to get the responses in the calibrated range.
Ion Ratios	Must be within ±15% of theoretical
Sensitivity	S:N≥10:1 for all compounds for 0.1 pg/µL (CS-0.2), plus For bloods: S:N≥3:1 for 0.025 pg/µL 2,3,7,8-T4CDD

[1] Duplicate criterion is a guideline; final assessment depends upon sample characteristics, overall batch QC and on-going lab performance.

Science Applications International Corporation

COVER PAGE AND CORRELATION TABLE

DIOXIN/FURAN ANALYSIS

Lab Name: AXYS Analytical Services Ltd.	**Project Manager: Devin Mitchell**
Project Name: NBF/GTSP Stormwater Sampling	**Contract No: 4406**
	AXYS Method: MLA-017
Data Package Identification: DPWG32541	**Program: Solid Samples**
Client Sample No.	**Lab Sample ID**
LAB BLANK	WG32291-101
OPR	WG32291-102
NBF-MH108B-022310-S	L14460-1

CUSTODY TRANSFER
Printed: 03/29/10
ARI Job No: QP33

4406

ANALYTICAL RESOURCES INCORPORATED
4611 South 134th Place, Suite 100
Tukwila WA 98168
206-695-6200 206-695-6201 (fax)

ARI Project Manager: Cheronne Oreiro	Client Contact: Glen Verdera	Sampling Event: NA	Samples Received: 02/23/10
	Client: Science App. International Corp	Project: NBF/GTSP Stormwater Sampling	Sample Site: NA

LOGNUM ARI ID	CLIENT ID	MATRIX	# CONTAINERS	ANALYTICAL REQUEST	ANALYTICAL REQUEST	ANALYTICAL REQUEST	COMMENTS
10-7487 QP33A	NBF-MH108B-022310-S	Filter Bag	1	Dioxin Furan			L14460-1
10-7488 QP33B	NBF-LS431B-032010-S	Filter Bag	1	Dioxin Furan			-2

7985 1849 5810

Comments/Special Instructions	Relinquished By:	Received by: (Signature)	Relinquished By:	Received by: (Signature)
	Printed Name: A. Volgardsen	Printed Name: M. MASLIN	Printed Name:	Printed Name:
	Company: ARI	Company: AXYS	Company:	Company:
	Date/Time: 3/29/10 1210	Date/Time: 30MAR10 10:30	Date/Time:	Date/Time:

From: Origin ID: BFIA (206) 695-6200
Sample Receiving
analytical resources
4611 s 134th place
suite 100
tukwila, WA 98168
UNITED STATES

FedEx Express

J10101002228224

Ship Date: 29MAR10
ActWgt: 20.0 LB
CAD: 7865404/INET3010

44106

REF:
DESC-1: Sample for analysis
DESC-2:
DESC-3:
DESC-4:
EEI: NO EEI 30.36
COUNTRY MFG: US
CARRIAGE VALUE: 1.00 USD
CUSTOMS VALUE: 2.00 USD
T/C: S 249205940 D/T: R
SIGN: Sample Receiving
EIN/VAT:
PKG TYPE: CUSTOMER

M. Magn
30 mar 10 10:30

SHIP TO: (206) 695-6200 BILL SENDER
Devin Mitchell
Axys Analytical Services LTD
2045 MILLS RD

SIDNEY, BC V8L5X2
CA

TRK# 0430 7985 1849 5818

AM
INTL PRIORITY

V8L 5X2
BC-CA
YVR

XV YYJA

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AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /No — Waybill #: 798518495818
Date Shipped: 29-MAR-10 — Date /Time Received: 30-MAR-10 10:30
AXYS Client & Contract # 4406-Science Applications International Corp
Project Number: — Receipt No: WB8885
Login Number:
Received By: MMASLIN — Log in by: M.MASLIN Signature: M.Maslin
Axys Sample ID's: L14460-1,-2
Matrix Type: 2 filter bags
Condition of Shipping Container: Intact.
Temperature upon Receipt: 1 Celcius ice packs frozen — Thermometer ID: 3093

Custody Seals: Shipping Containers Yes /No — Intact Yes /No — Seal Numbers Yes /No — date & signature see reverse
Samples Yes /No — Intact Yes /No — Seal Numbers Yes /No

Chain of Custody or Documents:	Yes /No	Tracking Report /Packing List:	Yes /No
Sample ID's	Yes /No	Sample Tag Numbers	Yes /No
Collection Location	Yes /No	Sample Type	Yes /No
Date & Time Collection	Yes /No	Preservative Added	Yes /No
Collector's Name	Yes /No	Preservation Requested	Yes /No

Sample Tags	Yes /No		
Sample Labels	Yes /No		
Sample Labels Cross Referenced to COC	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments:

Action Taken:

CUSTODY SEAL

Date 3/29/10

Signature

Nalge Nunc International

I-CHEM™ Brand Products

90009

For Scanning
Jm
30-Mar-10

AXYS

AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Mar. 30, 2010
02:52 PM

Login Number: L14460
Account: 4406 Science Applications International Corp
Project: NBF-GTSP STORMWATER

Axys ID versus Client Sample Identification			**Received**	**Due**	**PR**
L14460-1			30-MAR-10		
		Storage: WIF-4, 3A Permit #: P-2010-00826			
NBF-MH108B-022310-S					
		Project #: NBF-GTSP STORMWATER			
		Description: 103.24			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Filter - Flat	USD
L14460-2			30-MAR-10		
		Storage: WIF-4, 3A Permit #: P-2010-00826			
NBF-LS431B-032010-S					
		Project #: NBF-GTSP STORMWATER			
		Description: 100.98g			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Filter - Flat	USD

BATCH ID: WG32291

Method ID: MLA-017 R17	
Method ID:	
Method ID:	
Analyst:	
Start Date:	31-Mar-10
Batch List Author:	D.Clark
Checked By:	D.Smith
Project Manager:	Devin
Glassware Type:	regular
Glassware Treatment:	regular high level
Rotovap Type:	regular high level

Matrix:	Solid
Sample size:	g
Moistures required?	NO
Lipids required?	NO
Extraction Solvent:	toluene
FMS Program:	DIOXIN-JUMBO-02.DGF
Save FMS discards?	YES
Biohazard Type:	Agricultural Biohazard

Comments:

Dean Stark extraction. Remove ring, do not include in extraction. Dispose of any standing water unless water is coloured.

After extraction split 1/2 workup and 1/2 backup. Spike cleanup after split. Previous samples required an acid/base wash and A/B silica before FMS.

previous WG's associated with samples:

Calibration: | DX036D-CAL/

Contract #	Sample	Wt	Contract #	Sample	Wt
4406	L14460-1	1 filter			
4406	L14460-2	1 filter			

Spiking:

Product	Samples required:	Before Extraction: Surrogate	After Extraction: Cleanup Surrogate	Recovery	F.V.	U-vial	Instructions and Comments:
DX1613 (DB 5)	ALL	20uL DX041A-SUR/03 #109 (7020)	(7007) mrk #36 20uL DX040A-SUR/02	(7020) DA #24 20uL DX018A-REC/02	20 uL	GCMS	none

BATCH ID: WG32291

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:
WG32291-101 BLANK	10G SC5207 (10-S-REF)	DX1613 (DB 5)		
WG32291-102 SPM	10G SC5207 (10-S-REF)	DX1613 (DB 5)	1000uL DX026A-AUT/03 #115 RR	

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:

Thursday, April 08, 2010 11:44:06

Dxn-GPC File- C:\DMS6000\Routine use\dioxin-jumbo-02.dgf

dioxin-jumbo-02.dgf-WG32291-SAH-08-apr-10

Step	Flow	Vol	M1 - M8	M9 - M16	Smpl#	Description
1	10.0000	50.0000	01122006	00000000		Leaktest Silica
2	10.0000	10.0000	01222006	00000000		Flush bypass w\hexane
3	10.0000	30.0000	01212006	00000000		Wet Alumina
4	10.0000	20.0000	01221226	00000000		Wet Carbon
5	10.0000	250.000	01122006	00000000		Condition Silica
6	10.0000	12.0000	05222006	00000000		Change to toluene
7	10.0000	40.0000	05221226	00000000		Pre-Elute Carbon W\toluene
8	10.0000	12.0000	04222006	00000000		Change to Ethyl Acetate & Toluene
9	10.0000	10.0000	04221226	00000000		Pre-Elute Carbon W\Ethyl Acetate & Tolu
10	10.0000	12.0000	03222005	00000000		Change to 50% DCM/Hexane
11	10.0000	20.0000	03221225	00000000		Pre-Elute Carbon W\50% DCM&Hexane
12	10.0000	12.0000	01222006	00000000		Change to Hexane
13	10.0000	30.0000	01221226	00000000		Pre-Elute Carbon W\Hexane
14	0.05000	5.00000	01112006	00000000	0	Load Sample
15	9.00000	200.000	01112006	00000000	0	Elute Silica W\Hexane
16	10.0000	12.0000	02222005	00000000		Change to 2% DCM in Hexane
17	10.0000	60.0000	02212005	00000000	0	Elute Alumina W\2% DCM in Hexane
18	10.0000	12.0000	03222005	00000000		Change to 50% DCM&Hexane
19	10.0000	120.000	03211225	00000000		Elute W\50% DCM&Hexane
20	10.0000	12.0000	04222006	00000000		Change to Etyl Acetate & Toluene
21	10.0000	4.00000	04221226	00000000		Elute Carbon W\Ethyl Acetate & Toluene
22	10.0000	12.0000	01222006	00000000		Change to Hexane
23	10.0000	10.0000	01221226	00000000		Flush Carbon W\Hexane
24	10.0000	12.0000	05222006	00000000		Change to Toluene
25	5.00000	100.000	05221111	00000000	0	Elute PCDD/PCDF w/ Toluene
26	0.50000	0.05000	00000000	00000000		Shut Off Valves

(1st Run (4 Samples) 08 APR.10 WW

AXYS Analytical Services Ltd

Sample Labeling Information: Batch ID: WG32291 Date: 31Mar10 Analyst: DJC Contract #: 4406

Method: MLA-017 R17

Sample ID	Sample Type and Description	Original Labeling
L14460-1	solid + filter bag orange brown solids on filter bag.	NBF-MH108B-022310-S Filter Bag QP33A 103.24g
L14460-2	solid + filter bag orange/brown solids on filter bag.	NBF-LS431B-032010-S Filter Bag QP33B 100.98g
WG32291-101 (BLANK)	Blank	SC5207 Jar 5of18 10SREF
WG32291-102 (SPM)	Spiked Matrix	SC5207 Jar 5of18 10SREF

AXYS Analytical Services Ltd

Sample Wt & Moistures: Batch ID: WG32291 Date: 31Mar10 Analyst: DJC Balance or Syringe # 2022
Method: MLA-017 R17

Sample ID	Moisture (SLA-015) (all weights in grams)						Sample Wt or Vol (SLA-085) (g or mL)	Backup (g)
	Tare (a)	Tare + Wet	Tare + dry	Tare (b)	Tare + wet	Tare + dry		
L14460-1							87.94	
L14460-2							85.37	
WG32291-101 (BLANK)							10.66	
WG32291-102 (SPM)							10.90	

Moistures into oven: Date: _____ Time: _____ Analyst: _____ Out of Oven: Date: _____ Time: _____ Analyst: _____

Extraction Information: Soxhlet: ____ Dean Stark: ✓ Steam Distillation: ____ Base Digest: ____ Vol: _____mL

Drying: Drying Time: _____ mins Analyst: _____ Reagent: _____

Extraction Solvent used: toluene Volume: ~700 mL

Begin: Date: 31Mar10 Time: 16:00 Analyst: DJC **End:** Date: 01Apr10 Time: 14:00 Analyst: DJC

AXYS Analytical Services Ltd

Dean Stark Extraction Work Sheet: Batch ID: WG32291 Method: MLA-017 R17 Analyst: MMS

Sample ID	Time	Vol. Water removed (mL)	Time	Vol. Water removed (mL)	Time	Vol. Water removed (mL)	Time	Vol. Water removed (mL)	Time	Vol. Water removed (mL)
L14460-1	22:45	~5								
L14460-2	↓	<5								
WG32291-101 (BLANK)		0								
WG32291-102 (SPM)	↓	0								

Before starting extraction make sure that all joints are snug to avoid solvent vapour leaks.

Extraction start date: 31 Mar 10 time: 15:50 Initial T setting: 10 ✓

Check that solvent/water is dripping from condenser into Dean Stark Arm ✓

Replace water removed with equal or greater volume of toluene. Fill out times and volumes above.

Water removal complete: date: ~~01 Apr 10~~ 31 Mar 10 time: ~~8:00~~ 22:45

1 hr after last water has been removed, turn down temperature and check to make sure soxhlet is refluxing. ✓

Extraction end date: 01 Apr 10 time: ~~8~~ 9:30 Second T setting: 7-8 ✓

Reviewed by: [illegible], date: 9-Apr-10

AXYS Analytical Services Ltd

Extract Splitting Sheet: Batch ID: WG32291 Balance #: 1067 Analyst: LG Date: 7Apr10 Time: 11:00

Method: MLA-017 R17

Sample ID	Weight (g)								
	C-tube	C-tube + extract	Extract	Backup ½ 2.891	Cleanup ½ portion: Analysis: DX	Cleanup portion: Analysis:	Cleanup portion Analysis:	Cleanup portion Analysis:	Cleanup portion Analysis:
L14460-1	14.473	20.274	5.801	~~2.951~~ 7Apr10 2.891	2.881				
L14460-2	14.455	21.751	7.296	3.558	3.672				
WG32291-101 (BLANK)	14.522	18.793	4.271	2.087	2.138				
WG32291-102 (SPM)	14.447	18.987	4.540	2.256	2.240				

AXYS Analytical Services Ltd

FMS Cleanup: Batch#: WG32291 Method: MLA-017 R17

Sample ID	Valve Module #	Valve Drive Module#	J Si lot#	Sm A/B Si lot#	Fl lot#	Al lot#	C lot#
L144160-1	16		17	34	-	43	30
L14460-2	3		↓	↓	↓	↓	↓
WG32291-101 BLK	11						
WG32291-102 SPM	18						

FMS Program(s): Norm-Jumbo-02

Run #: 1
Date: 08-Apr-10
Analyst: Suh
Ben: _____
Jerry: √
Control Module #: A1
Power Supply #: B2

Run #: _____
Date: _____
Analyst: _____
Ben: _____
Jerry: _____
Control Module #: _____
Power Supply #: _____

Run #: _____
Date: _____
Analyst: _____
Ben: _____
Jerry: _____
Control Module #: _____
Power Supply #: _____

Run #: _____
Date: _____
Analyst: _____
Ben: _____
Jerry: _____
Control Module #: _____
Power Supply #: _____

Manual Alumina:

____PCB
____BDPE
____PCB/BDPE

Batch #: _____
Analyst: _____
Date: _____

Solvent type (and batch # for F3 or other mixed solvents):

F1: _____
F2: _____
F3: _____
_____

Volume:

F1: _____mL
F2: _____mL
F3: _____mL

Reviewed by Suh Date 9-Apr-10

AXYS Analytical Services Ltd

Notes: Batch ID: WG32291 Method: MLA-017 R17

Date:	Analyst	Fraction	Notes:
31Mar10	[illegible]	—	WG32291-102 SPM : soxhlet body had a small crack in it. ~5mL out of the initial ~100mL to cycle through the sample soxhlet was lost.
01Apr 10	[illegible]	—	L14460-2 went dry during soxhlet extraction. The sample was turned off at 8:10am and continued on as such.
05APR10	[illegible]	—	WG32291-102 SPM reduced to a scant sweet before FMS and split.
06APR10	[illegible]		BK + SPM showed significant colour (bright yellow) on acid wash and SPM produced small amount of emulsion.
			Jumbo silica on Samples L14460-1, -2 extremely slow to run due to excessive fine particulate which clogged column.
			L14460-1 took > 14 hrs to elute 200 ml Hexane.
			L14460-2 took ~ 10 hrs to elute 200 ml Hexane.

Reviewed by [illegible] date 9-Apr-10

Contact: analytical@axys.com

AXYS Analytical Services Ltd

Cleanup Information Sheet: Batch ID: WG32291 Method: MLA-017 R17

SLA-045 (Cu test for sulphur)

Sample ID	Solvent exchange to ___ µL Time: ___ Date: ___	Biobead #	Base/Acid Wash: date: 06APR10 time: 10:00 Portion: ___ Analyst: [initials] — Base	Water	Acid	Water	Cu test 1: Date: ___ Time: ___ Analyst: ___ Portion:	Cu test 2: Date: ___ Time: ___ Analyst: ___ Portion:
L14460-1			–	–	5	1	___ +ve ___ -ve	___ +ve ___ -ve
L14460-2			–	–	6	1	___ +ve ___ -ve	___ +ve ___ -ve
WG32291-101 (BLANK)			–	–	2	1	___ +ve ___ -ve	___ +ve ___ -ve
WG32291-102 (SPM)			–	–	2	1	___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve

Cleanup Type	Portion	Batch #	Date	Time	Solvent	Elution vol. (mL)	Pre-elute	Analyst
A/B Silica (PCB/BE)					Hexane ___			
Florisil (PCB/BE/Pest)					E1 15% DCM/Hex. ___ / E2 DCM ___	E1 / E2		
Alumina (PCB)					F1 Hex. ___ / F2 1:1 DCM:Hex. ___	F1 / F2		
Carbon Celite					Toluene ___			
$AgNO_3$ Silica (DX)					2% DCM/Hexane ___			
Florisil (DX)					F1 5% DCM/Hex. ___ / F2 DCM ___	F1 / F2		
Derivatizing - Sterols					1. Pyridine ___ / 3. 99:1 BSTFA:TMCS ___	1. 50 µL x2 / 2. 50 µL x2		
5% Silica (PAH)					F1 Pentane ___ / F2 DCM ___ / F3 1:1 DCM/MeOH ___	F1 / F2 / F3		
Alumina (BE)					F1 Hex. ___ / F2 Hex. ___ / F3 1:1 DCM/Hex. ___	F1 / F2 / F3		
Water Backwash		N/A			#1 Seastar ultra pure water / #2 Seastar ultra pure water	#1 / #2		
Acetylation - Nonylphenols		N/A			1. Hex ___ / 2. pyridine / 3. Acetic Anhydride	1. 200uL / 2: 50uL / 3: 50uL		
Extraction after Acetylation		N/A			1. K_2CO_3 ___ / 2. 3x Hexane ___	1. / 2.		
Biobead		N/A			F1 1:1 DCM/Hex. ___ / F2 1:1 DCM/Hex. ___	F1 / F2		
2% Alumina					F1 Hex. ___ / F2 DCM ___	F1 / F2		
Jumbo A/B Silica.		507	06APR10	12:00	Hexanes	200 ml	–	[initials]

Reviewed by [signature] Date 8-Apr-10

AXYS Analytical Services Ltd

Spiking Sheet - Standards Spiked into C-tube: Batch ID: WG32291 Method: MLA-017 R17

SLA-017 Witness name/initials: Kristen Brady

Sample ID	Before extraction Surr. ID: DX041A-SUR/03 Date: 31mar10 Vol.: 20 µL Syringe#: 7020 Ampoule: 109 Analyst: DJZ		Before extraction Surr. ID: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule: _____ Analyst: _____		Before extraction Surr. ID: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule: _____ Analyst: _____		Before extraction Surr. ID: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule: _____ Analyst: _____		Addition of diluted Surr. to sample. Analyst: DJZ	
	Time	Witness	Time	Witness	Time	Witness	Time	Witness	Time	Witness
							31MAR10	KB		
L14460-1	12:59	KB					~~13:01~~	~~KB~~	13:01	KB
L14460-2	13:00	KB							13:01	KB
WG32291-101 (BLANK)	13:00	KB							13:02	KB
WG32291-102 (SPM)	13:00	KB							13:03	KB

Sample ID	Aut. Std: DX026A-AUT/03 Date: 31mar10 Vol.: 1000 µL Syringe#: — Ampoule#: 115 Analyst: DJZ		Aut. Std: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#: _____ Analyst: _____		Aut. Std: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#: _____ Analyst: _____		Aut. Std: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#: _____ Analyst: _____		Addition of diluted Std. to sample Analyst: _____	
	Time	Witness	Time	Witness	Time	Witness	Time	Witness	Time	Witness
WG32291-102SPM	12:57	KB							12:58	KB

FWO-309 Rev 07, 16-Feb-2010

Reviewed by Sarah Date 9-Apr-10

AXYS Analytical Services Ltd

Spiking Sheet: Batch ID: WG32291 Method: MLA-017 R17

SLA-017 Witness name/ initials: _____

Sample ID	**Before extraction** Surr. ID: _____ Date: _____ Vol.: _____µL Syringe#: _____ Ampoule: _____ Analyst: _____		**Before extraction** Surr. ID: _____ Date: _____ Vol.: _____µL Syringe#: _____ Ampoule: _____ Analyst: _____		**Cleanup Std.** Surr.: DX640A-SURR-02 Date: 05 APR 10 Vol.: 20 µL Syringe#: 7007 Ampoule: 36 Start time: 15:50 Fin. time: 15:57	**Cleanup Std.** Surr.: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule: _____ Start time: _____ Fin. time: _____	**Recovery** Surr.: DX018A-RCS-10C Date: 09-Apr-10 Vol.: 20 µL F.V.: 20 µL Syringe#: 7020 Ampoule: 26 Start time: 16:30 Fin. time: 17:00	**Recovery** Surr.: _____ Date: _____ Vol.: _____ µL F.V.: _____µL Syringe#: _____ Ampoule: _____ Start time: _____ Fin. time: _____
	Time	Witness	Time	Witness	Analyst: RZ	Analyst: _____	Analyst: RWh	Analyst: _____
L14460-1					✓		✓	
L14460-2					✓		✓	
WG32291-101 (BLANK)					✓		✓	
WG32291-102 (SPM)					✓		✓	

Sample ID	Authentic Std: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#: _____ Analyst: _____		Authentic Std: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#: _____ Analyst: _____		Authentic Std: _____ Date: _____ Vol.: _____ µL Syringe#: _____ Ampoule#: _____ Analyst: _____	
	Time	Witness	Time	Witness	Time	Witness

Reviewed by RWh date 9-Apr-10

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH108B-022310-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14460-1
Sample Receipt Date:	30-Mar-2010	**Sample Size:**	1 sample
Extraction Date:	31-Mar-2010	**Initial Calibration Date:**	16-Feb-2010
Analysis Date:	10-Apr-2010 **Time:** 04:23:42	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_043B S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_043B S: 6
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_043B S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		61.2	0.822	0.75	1.001
1,2,3,7,8-PECDD [3]		214	0.828	0.56	1.001
1,2,3,4,7,8-HXCDD		167	1.62	1.17	1.000
1,2,3,6,7,8-HXCDD		357	1.62	1.19	1.000
1,2,3,7,8,9-HXCDD		674	1.62	1.25	1.000
1,2,3,4,6,7,8-HPCDD	B	5500	2.56	1.01	1.000
OCDD	B	33700	4.01	0.88	1.000
2,3,7,8-TCDF		764	0.885	0.76	1.001
1,2,3,7,8-PECDF	J	84.3	1.36	1.53	1.001
2,3,4,7,8-PECDF		451	1.36	1.47	1.001
1,2,3,4,7,8-HXCDF		972	1.24	1.20	1.001
1,2,3,6,7,8-HXCDF		410	1.24	1.22	1.000
1,2,3,7,8,9-HXCDF	J	12.0	1.24	1.09	1.000
2,3,4,6,7,8-HXCDF		135	1.24	1.16	1.001
1,2,3,4,6,7,8-HPCDF		1150	1.13	0.99	1.001
1,2,3,4,7,8,9-HPCDF		232	1.13	1.00	1.000
OCDF	B	2520	1.12	0.85	1.002
TOTAL TETRA-DIOXINS		1220	0.822		
TOTAL PENTA-DIOXINS		1860	0.828		
TOTAL HEXA-DIOXINS		4770	1.62		
TOTAL HEPTA-DIOXINS		11500	2.56		
TOTAL TETRA-FURANS		7800	0.885		
TOTAL PENTA-FURANS		5950	1.36		
TOTAL HEXA-FURANS		4010	1.24		
TOTAL HEPTA-FURANS		2640	1.13		

(1) Where applicable, custom lab flags have been used on this report; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Shelley Facchin_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 27-Apr-2010 13:56:12; Application: XMLTransformer-1.10.17;
Report Filename: 1613_DIOXINS_1613DB5_L14460-1_Form1A_DX0M_043BS10_SJ1134774.html; Workgroup: WG32291; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH108B-022310-S
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	NBF-GTSP STORMWATER		
Contract No.:	4406	**Lab Sample I.D.:**	L14460-1
Matrix:	SOLID	**Sample Size:**	1 sample
Sample Receipt Date:	30-Mar-2010	**Initial Calibration Date:**	16-Feb-2010
Extraction Date:	31-Mar-2010	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Apr-2010 **Time:** 04:23:42	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX0M_043B S: 10**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX0M_043B S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX0M_043B S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1410	70.5	0.77	1.011
13C-1,2,3,7,8-PECDD [4]		2000	1240	61.8	0.63	1.378
13C-1,2,3,4,7,8-HXCDD		2000	1270	63.6	1.25	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1290	64.7	1.24	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1190	59.7	0.96	1.094
13C-OCDD		4000	2450	61.2	0.87	1.179
13C-2,3,7,8-TCDF		2000	1310	65.5	0.73	0.966
13C-1,2,3,7,8-PECDF		2000	1160	57.8	1.46	1.280
13C-2,3,4,7,8-PECDF		2000	1140	57.1	1.54	1.347
13C-1,2,3,4,7,8-HXCDF		2000	1270	63.4	0.51	0.953
13C-1,2,3,6,7,8-HXCDF		2000	1290	64.3	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1210	60.7	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1280	63.9	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1220	60.9	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1220	60.9	0.42	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	141	70.7		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Shelley Facchin_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 23-Apr-2010 12:10:09; Application: XMLTransformer-1.10.17;
Report Filename: 1613_DIOXINS_1613DB5_L14460-1_Form2_DX0M_043BS10_SJ1134774.html; Workgroup: WG32291; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH108B-022310-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14460-1
Sample Receipt Date:	30-Mar-2010	**Sample Size:**	1 sample
Extraction Date:	31-Mar-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	13-Apr-2010 **Time:** 00:15:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_026E S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	N/A
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_026E S: 3

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		359	9.34	0.76	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

Approved by: _____Shelley Facchin_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 23-Apr-2010 12:10:26; Application: XMLTransformer-1.10.17;
Report Filename: 1613_DIOXINS_1613DB225_L14460-1_Form1A_DB03_026ES7_SJ1135155.html; Workgroup: WG32291; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH108B-022310-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14460-1
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_026E S: 7** **DX0M_043B S: 10**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		61.2	0.822	1	6.12e+01	6.12e+01	
1,2,3,7,8-PECDD		214	0.828	1	2.14e+02	2.14e+02	
1,2,3,4,7,8-HXCDD		167	1.62	0.1	1.67e+01	1.67e+01	
1,2,3,6,7,8-HXCDD		357	1.62	0.1	3.57e+01	3.57e+01	
1,2,3,7,8,9-HXCDD		674	1.62	0.1	6.74e+01	6.74e+01	
1,2,3,4,6,7,8-HPCDD		5500	2.56	0.01	5.50e+01	5.50e+01	
OCDD		33700	4.01	0.0003	1.01e+01	1.01e+01	
2,3,7,8-TCDF		359	9.34	0.1	3.59e+01	3.59e+01	
1,2,3,7,8-PECDF		84.3	1.36	0.03	2.53e+00	2.53e+00	
2,3,4,7,8-PECDF		451	1.36	0.3	1.35e+02	1.35e+02	
1,2,3,4,7,8-HXCDF		972	1.24	0.1	9.72e+01	9.72e+01	
1,2,3,6,7,8-HXCDF		410	1.24	0.1	4.10e+01	4.10e+01	
1,2,3,7,8,9-HXCDF		12.0	1.24	0.1	1.20e+00	1.20e+00	
2,3,4,6,7,8-HXCDF		135	1.24	0.1	1.35e+01	1.35e+01	
1,2,3,4,6,7,8-HPCDF		1150	1.13	0.01	1.15e+01	1.15e+01	
1,2,3,4,7,8,9-HPCDF		232	1.13	0.01	2.32e+00	2.32e+00	
OCDF		2520	1.12	0.0003	7.56e-01	7.56e-01	
			TOTAL TEQ		801	801	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Shelley Facchin_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 23-Apr-2010 12:10:37; Application: XMLTransformer-1.10.17;
Report Filename: 1613_DIOXINS_1613-TEQ_L14460-1_TEQ_SJ1134774.html; Workgroup: WG32291; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	N/A
Matrix:	SOLID	**Lab Sample I.D.:**	WG32291-101
Sample Receipt Date:	N/A	**Sample Size:**	1 sample
Extraction Date:	31-Mar-2010	**Initial Calibration Date:**	16-Feb-2010
Analysis Date:	10-Apr-2010 **Time:** 00:43:55	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_043B S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_043B S: 6
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_043B S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	U		0.500		
1,2,3,7,8-PECDD [3]	U		0.500		
1,2,3,4,7,8-HXCDD	U		0.500		
1,2,3,6,7,8-HXCDD	U		0.500		
1,2,3,7,8,9-HXCDD	U		0.500		
1,2,3,4,6,7,8-HPCDD	K J	0.639	0.500	2.37	1.000
OCDD	J	1.17	0.500	0.83	1.001
2,3,7,8-TCDF	U		0.500		
1,2,3,7,8-PECDF	U		0.500		
2,3,4,7,8-PECDF	U		0.500		
1,2,3,4,7,8-HXCDF	U		0.500		
1,2,3,6,7,8-HXCDF	U		0.500		
1,2,3,7,8,9-HXCDF	U		0.500		
2,3,4,6,7,8-HXCDF	U		0.500		
1,2,3,4,6,7,8-HPCDF	U		0.500		
1,2,3,4,7,8,9-HPCDF	U		0.500		
OCDF	K J	0.564	0.500	0.45	1.003
TOTAL TETRA-DIOXINS	U		0.500		
TOTAL PENTA-DIOXINS	U		0.500		
TOTAL HEXA-DIOXINS	U		0.500		
TOTAL HEPTA-DIOXINS	U		0.500		
TOTAL TETRA-FURANS	U		0.500		
TOTAL PENTA-FURANS	U		0.500		
TOTAL HEXA-FURANS	U		0.500		
TOTAL HEPTA-FURANS	U		0.500		

(1) Where applicable, custom lab flags have been used on this report; U = not detected; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Shelley Facchin_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 27-Apr-2010 13:56:12; Application: XMLTransformer-1.10.17;
Report Filename: 1613_DIOXINS_1613DB5_WG32291-101_Form1A_DX0M_043BS6_SJ1134785.html; Workgroup: WG32291; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4406	**Lab Sample I.D.:**	WG32291-101
Matrix:	SOLID	**Sample Size:**	1 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	16-Feb-2010
Extraction Date:	31-Mar-2010	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Apr-2010 **Time:** 00:43:55	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX0M_043B S: 6**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX0M_043B S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX0M_043B S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1810	90.5	0.76	1.011
13C-1,2,3,7,8-PECDD [4]		2000	1680	84.0	0.63	1.378
13C-1,2,3,4,7,8-HXCDD		2000	1760	87.9	1.29	0.986
13C-1,2,3,6,7,8-HXCDD		2000	1700	85.0	1.26	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1780	88.8	0.95	1.095
13C-OCDD		4000	3280	82.1	0.86	1.179
13C-2,3,7,8-TCDF		2000	1730	86.3	0.75	0.966
13C-1,2,3,7,8-PECDF		2000	1550	77.6	1.48	1.279
13C-2,3,4,7,8-PECDF		2000	1520	75.9	1.50	1.347
13C-1,2,3,4,7,8-HXCDF		2000	1700	85.2	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1740	87.2	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1660	82.9	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1720	86.0	0.51	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1720	85.9	0.44	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1690	84.7	0.43	1.105
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	181	90.5		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Shelley Facchin_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 23-Apr-2010 12:10:09; Application: XMLTransformer-1.10.17;
Report Filename: 1613_DIOXINS_1613DB5_WG32291-101_Form2_DX0M_043BS6_SJ1134785.html; Workgroup: WG32291; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
Lab Blank

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	1 sample	**Lab Sample I.D.:**	WG32291-101
Concentration Units:	pg/sample	**GC Column ID:**	DB5
		Sample Data Filename:	**DX0M_043B S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		0.500	1	0.00e+00	2.50e-01	
1,2,3,7,8-PECDD	U		0.500	1	0.00e+00	2.50e-01	
1,2,3,4,7,8-HXCDD	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,6,7,8-HXCDD	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,7,8,9-HXCDD	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,4,6,7,8-HPCDD	U		0.500	0.01	0.00e+00	2.50e-03	
OCDD		1.17	0.500	0.0003	3.51e-04	3.51e-04	
2,3,7,8-TCDF	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,7,8-PECDF	U		0.500	0.03	0.00e+00	7.50e-03	
2,3,4,7,8-PECDF	U		0.500	0.3	0.00e+00	7.50e-02	
1,2,3,4,7,8-HXCDF	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,6,7,8-HXCDF	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,7,8,9-HXCDF	U		0.500	0.1	0.00e+00	2.50e-02	
2,3,4,6,7,8-HXCDF	U		0.500	0.1	0.00e+00	2.50e-02	
1,2,3,4,6,7,8-HPCDF	U		0.500	0.01	0.00e+00	2.50e-03	
1,2,3,4,7,8,9-HPCDF	U		0.500	0.01	0.00e+00	2.50e-03	
OCDF	U		0.500	0.0003	0.00e+00	7.50e-05	
			TOTAL TEQ		0.000351	0.790	

(1) Where applicable, custom lab flags have been used on this report; U = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

Approved by: _____Shelley Facchin_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 23-Apr-2010 12:10:37; Application: XMLTransformer-1.10.17;
Report Filename: 1613_DIOXINS_1613-TEQ_WG32291-101_TEQ_SJ1134785.html; Workgroup: WG32291; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4406 **OPR Data Filename:** **DX0M_043B S: 2**

Matrix: SOLID **Lab Sample I.D.:** WG32291-102

Extraction Date: 31-Mar-2010 **Analysis Date:** 09-Apr-2010 **Time:** 21:06:03

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.76	10.0	7.95	6.70 - 15.8	79.5
1,2,3,7,8-PECDD [4]		0.59	52.0	42.1	36.4 - 73.8	80.9
1,2,3,4,7,8-HXCDD		1.23	56.5	47.5	39.6 - 92.7	84.1
1,2,3,6,7,8-HXCDD		1.21	55.5	48.7	42.2 - 74.4	87.7
1,2,3,7,8,9-HXCDD		1.21	54.0	47.7	34.6 - 87.5	88.3
1,2,3,4,6,7,8-HPCDD		1.04	47.5	42.8	33.3 - 66.5	90.0
OCDD		0.88	100	89.8	78.0 - 144	89.8
2,3,7,8-TCDF		0.77	10.7	9.68	8.03 - 16.9	90.4
1,2,3,7,8-PECDF		1.53	46.0	41.6	36.8 - 61.6	90.4
2,3,4,7,8-PECDF		1.48	47.0	42.2	32.0 - 75.2	89.7
1,2,3,4,7,8-HXCDF		1.21	50.0	44.4	36.0 - 67.0	88.8
1,2,3,6,7,8-HXCDF		1.18	47.5	42.2	39.9 - 61.8	88.7
1,2,3,7,8,9-HXCDF		1.21	52.5	46.1	41.0 - 68.3	87.8
2,3,4,6,7,8-HXCDF		1.19	53.0	46.5	37.1 - 82.7	87.8
1,2,3,4,6,7,8-HPCDF		1.00	50.0	48.9	41.0 - 61.0	97.8
1,2,3,4,7,8,9-HPCDF		0.99	50.0	43.7	39.0 - 69.0	87.3
OCDF		0.87	104	81.3	65.5 - 177	78.2

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under OPR.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Shelley Facchin_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 23-Apr-2010 12:10:09; Application: XMLTransformer-1.10.17;
Report Filename: 1613_DIOXINS_1613DB5_WG32291-102_Form8A_SJ1134778.html; Workgroup: WG32291; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4406 **OPR Data Filename:** **DX0M_043B S: 2**

Matrix: SOLID **Lab Sample I.D.:** WG32291-102

Extraction Date: 31-Mar-2010 **Analysis Date:** 09-Apr-2010 **Time:** 21:06:03

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.77	100	74.3	20.0-175	74.3
13C-1,2,3,7,8-PECDD [4]		0.62	100	67.7	21.0-227	67.7
13C-1,2,3,4,7,8-HXCDD		1.27	100	70.1	21.0-193	70.1
13C-1,2,3,6,7,8-HXCDD		1.27	100	69.6	25.0-163	69.6
13C-1,2,3,4,6,7,8-HPCDD		0.93	100	71.2	26.0-166	71.2
13C-OCDD		0.87	200	130	26.0-397	64.8
13C-2,3,7,8-TCDF		0.75	100	67.6	22.0-152	67.6
13C-1,2,3,7,8-PECDF		1.51	100	65.4	21.0-192	65.4
13C-2,3,4,7,8-PECDF		1.52	100	60.7	13.0-328	60.7
13C-1,2,3,4,7,8-HXCDF		0.51	100	65.7	19.0-202	65.7
13C-1,2,3,6,7,8-HXCDF		0.51	100	70.0	21.0-159	70.0
13C-1,2,3,7,8,9-HXCDF		0.52	100	64.0	17.0-205	64.0
13C-2,3,4,6,7,8-HXCDF		0.51	100	66.8	22.0-176	66.8
13C-1,2,3,4,6,7,8-HPCDF		0.42	100	68.7	21.0-158	68.7
13C-1,2,3,4,7,8,9-HPCDF		0.44	100	65.2	20.0-186	65.2
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	8.28	3.10-19.1	82.8

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

Approved by: _____Shelley Facchin_____ QA/QC Chemist

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 23-Apr-2010 12:10:09; Application: XMLTransformer-1.10.17;
Report Filename: 1613_DIOXINS_1613DB5_WG32291-102_Form8B_SJ1134778.html; Workgroup: WG32291; Design ID: 1204]

DIOXIN/FURAN ANALYSIS

SOLID SAMPLES

AXYS METHOD: MLA-017

PROJECT NAME: NBF-GTSP STORMWATER SAMPLING

Contract: 4406
Data Package Identification: DPWG33440

Analysis WG33003

20 July 2010

DIOXIN/FURAN ANALYSIS

SOLID SAMPLES

AXYS METHOD: MLA-017

PROJECT NAME: NBF-GTSP STORMWATER SAMPLING

Contract: 4406
Data Package Identification: DPWG33440
Analysis WG33003

Prepared for:
Science Applications International Corporation

Prepared by:
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2045 Mills Rd
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CANADA

Contact: Devin Mitchell
Project Manager

20 July 2010

SCIENCE APPLICATIONS INTERNATIONAL CORP
FILTER BAG SAMPLES

DIOXIN AND FURAN ANALYSIS
AXYS METHOD: MLA-017
4406: L14824-1 to -13

NBF/GTSP Stormwater Sampling

22 July 2010

NARRATIVE

This narrative describes the analysis of thirteen filter bag samples for polychlorinated dibenzodioxins and dibenzofurans using high-resolution gas chromatography / high-resolution mass spectrometry (HRGC/HRMS).

SAMPLE RECEIPT AND STORAGE

The samples were received on June 8th 2010. Details of sample conditions on receipt are provided on the Sample Receiving Record. The samples were stored at -20°C prior to extraction and analysis.

SAMPLE PREPARATION AND ANALYSIS

Extraction and analysis procedures were in general accordance with **USEPA Method 1613B,** as documented in Axys **Method MLA-017**: ***"Analytical Method for the Determination of Polychlorinated Dibenzodioxins and Dibenzofurans by EPA Method 1613B, EPA Method 8290A or Env. Canada EPS 1/RM/19".*** A method summary (MSU-018) of MLA-017, with a list of modifications of USEPA Method 1613B, is included following this narrative.

The thirteen filter bag samples analyzed in batch WG33003, containing a procedural blank, a lab-generated reference sample known as the Ongoing Precision and Recovery (OPR), and a standard reference material (SRM). The composition of the batch is shown on the Cover Page and Correlation Table, and on the Batch List form accompanying the extraction workup sheets.

The procedural blank WG33003-101 and OPR WG33003-102 were prepared using clean sand. The SRM analyzed was NIST 1944.

The plastic rings for each sample were removed prior to extraction. Each sample was spiked with the ^{13}C-labeled quantification standards, and then extracted, in its entirety, in a Soxhlet apparatus equipped with a Dean-Stark condenser, using toluene. The resulting extract was spiked with ^{13}C-labeled cleanup standards and split gravimetrically into two equal portions, one for analysis and one for backup. The half-portion for analysis was cleaned up using standard chromatographic columns as documented on the laboratory worksheets included in this data package. Following cleanup, each extract was reduced in volume and spiked with ^{13}C-labeled recovery (internal) standards prior to instrumental analysis. The final extract volume was 20µL, 1µL of which was injected for the DB5 and 2µL was injected for the DB225 column analyses.

CALCULATION

Target analyte concentrations were determined by isotope dilution or internal standard quantification procedures, using Waters MassLynx software for the DB5 analysis and Micromass OPUSQuan software for the DB225 analysis. Formulae used in the conversion of the raw chromatograms to concentrations are provided in the method summary document.

Sample specific detection limits (SDLs) were determined from the analysis data following the same procedures used to convert target peak responses to concentrations. In cases when the software

selects unrepresentative area for the detection limit calculations, the SDLs are hand-corrected on the quantification report pages.

Homologue totals were obtained by summing the concentration of all detected congeners at each level of chlorination. Toxic Equivalents (TEQs) were calculated using WHO 2005 TEFs. Congener peaks that did not meet the method ion abundance ratio criteria were excluded from the homologue totals and TEQ calculations.

REPORTING CONVENTIONS

For internal tracking, Åxys assigned SAIC the contract number 4406. Axys logged the samples under unique laboratory identifiers L14824-1 to -13. All data reports reference both the Axys ID and the client sample identifier, and a table correlating Axys versus client sample names is included. The report forms were generated using Laboratory Information Management Software (LIMS).

Any additional work performed after the first GC-MS acquisition of the sample is indicated by suffixes added to the Axys IDs. The following extra work suffixes occur in this data package:

W = the sample extract was diluted within its GC-vial, and re-run on the GC-MS
L = extract was given further cleanup to remove interferences
i = instrumental re-analysis performed on the sample extract

The following data qualifier flags are used in this data package:

B = analyte found in the sample and the associated blank
J = indicates an estimated value where the concentration of the analyte is less than the LMCL but greater than the greater of the MDL and the SDL
K = a peak was detected that did not meet all the criteria for identification as the target analyte; the reported value is the estimated maximum possible concentration of analyte present.
U = identifies a compound that was not detected
X = results reported separately

The quantification procedure accounts for the splitting of the extract, such that the final results are in terms of the entire filter bag. Results are reported to three significant figures, in units of picograms per sample (pg/sample).

ANALYTICAL DISCUSSION

All samples and QC samples were given additional chromatographic cleanup using acid/base silica, silver nitrate and alumina columns and a small dilution to minimize interferences. All target concentration data have been reported from the analysis of the re-columned extract or the re-columned and diluted extract (indicated by 'L' or 'LW' on Axys IDs).

Sample NBF-MH133B-052010-S (AXYS ID: L14824-11) required additional chromatographic cleanup to minimize interferences in DB225 analysis. The cleaned up extract required instrumental re-analysis to ensure that all method specifications were met. The re-analysis was successful and data are reported from the re-analysis of the cleaned up extract (indicated by 'Li' on the Axys ID).

The analyst noted on the laboratory worksheet for the samples listed below that the solvent had gone dry in the soxhlet during extraction. Given that the recovery values of the labeled standards were within the method control limits, data are not considered significantly affected.

CLIENT ID	AXYS ID
NBF-CB423B-052010-S and NBF-MH423B-052810-S	L14824-3
NBF-MH152B-052010-S	L14824-7
NBF-CB165B-052010-S	L14824-8
NBF-MH133B-052010-S	L14824-11
OPR	WG33003-102

QA/QC NOTES

QC samples (a procedural blank, and OPR, and an SRM) were prepared alongside the field samples, and carried through the same analytical procedures. The field sample data were evaluated in relation to the batch QC sample data.

- Sample analyte concentrations are not blank-corrected.
- By virtue of the isotope dilution/internal standard quantification procedures, data are recovery-corrected for possible losses during extraction and cleanup.
- All linearity, calibration verification, OPR, and labeled compound recovery specifications were met.

DATA PACKAGE

This data package, assigned a unique identifier DPWG33440, includes:

Summary of MLA-017 (MSU-018)
Sample Cover Page and Correlation Table
Sample Receiving Documentation
Sample preparation record
Laboratory extraction logs for each sample
Sample data reports
QC sample data reports
Instrumental QC data reports
Sample raw data
QC sample raw data
Instrumental QC raw data

I certify that this data package complies with the terms and conditions of the contract, both technically and for completeness, except for the conditions detailed above. In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. The following signature, on behalf of Axys Analytical Services Ltd, authorizes the release of the data contained in this data package.

Shelley Facchin

Signed: Shelley Facchin, QC Chemist

23-Jul-2010

Date Signed

ANALYSIS OF POLYCHLORINATED DIOXINS AND FURANS BY EPA METHOD 1613B

Samples are spiked with a suite of isotopically labelled surrogate standards prior to analysis, solvent extracted, and cleaned up through a series of chromatographic columns that may include gel permeation, silica, Florisil, carbon/Celite, and alumina columns. The extract is concentrated and spiked with an isotopically labelled recovery (internal) standard. Analysis is performed using a high-resolution mass spectrometer coupled to a high-resolution gas chromatograph equipped with a DB-5 capillary chromatography column (60 m, 0.25 mm i.d., 0.1 µm film thickness). A second column, DB-225 (30 m, 0.25 mm i.d., 0.15 µm film thickness), is used for confirmation of 2,3,7,8-TCDF identification. All procedures are carried out according to protocols as described in EPA Method 1613B, with the significant modifications summarized below. The data are evaluated against QC criteria presented in Tables 1 and 2.

Method Modifications:

Section 2.1.2

Non-aqueous liquid from multiphase sample is combined with the solid phase and extracted by Dean Stark soxhlet.

Section 7.2.1

Anhydrous sodium sulphate (Na_2SO_4) is purchased in powder form (not granular) and is baked overnight prior to use. There is no solvent rinse with dichloromethane.

Section 7.10

The concentration of the labelled compound spiking solution is 100 ng/mL (except for OCDD which is 200 ng/mL) and the sample spiking volume is 20 µL. The resulting concentrations in the final extracts are as specified in the method.

Section 7.11

The concentration of the clean-up standard spiking solution is 10 ng/mL and the sample spiking volume is 20 µL. The resulting concentration in the final extracts are as specified in the method.

Sections 7.13, 14.0, 15.0

An additional lower level calibration solution, 0.2 times the concentration of CS1, is prepared and included in the initial calibration series. Initial calibration is based on a six-point series.

Section 7.14

The concentration of the PAR spiking solutions is 0.2/1.0/2.0 ng/mL for tetra/penta, hexa, hepta, hexa/octas respectively and the spiking volume is 1 mL. The resulting final concentration in the extracts are as specified in the method.

Section 9.3.3, Table 7

Acceptance criteria for the percent recovery of surrogate standards in samples have been revised. Criteria that are higher than 130% have been lowered to 130%, as presented in Table 1.

Section 11.5

Aqueous samples containing >1% visible solids are prepared and extracted using the same procedure as samples containing ≤1% visible solids. This involves extracting the solids by soxhlet and the filtrate by separatory funnel extraction and combining the extract from the two phases.

Section 12.0

Samples with sufficiently low moisture content may be mixed with Na_2SO_4 and extracted using regular soxhlet apparatus in 80:20 toluene:acetone.

Section 12.4

The equilibration time for the sodium sulphate drying step is that required to produce a dry, free flowing powder (minimum thirty minutes). This may be less than the 12-hour minimum specified in EPA 1613B.

Section 12.5.1

Samples are spiked with cleanup standard right after extraction and before reduction; not spiked into the separatory funnels containing the extracts prior to the acid/base wash.

Section 12.6.1.1

Rotary evaporator baths are maintained at 35ºC. Mimic proofs are collected instead of collecting proofs each day and archiving.

Section 13.0

Extracts may be cleaned up on silica, alumina and carbon chromatographic columns using a Fluid Management System (FMS) automated cleanup system.

Section 13.7

Gravimetric lipid analysis is carried out on two subsamples of the extract.

Sections 14.0, 15.0, 16.0, Table 8, Table 9

M/Z channels 354/356 and 366/368 are used to confirm and quantify the native and surrogate penta-substituted dioxins, respectively; this change from the method's specification is made in the instrument method in order to avoid a persistent interference in the 356/358 and 368/370 M/Z channels. The theoretical ratio for the P5CDD M/M+2 ions is 0.61; therefore, the acceptance range is 0.52 - 0.70.

Section 15.3.5, Table 6

Acceptance criteria for calibration verification concentrations have been modified, as presented in Table 1, so that ranges do not exceed 70-130% of the test concentration.

Section 15.5.3 Table 6

Acceptance specifications for OPR concentrations have been modified, as presented in Table 1, so that ranges do not exceed 70-130%.

Section 17.0

$Conc_i$ - the concentrations of target analytes, and the labelled compound concentrations and recoveries, are calculated using the equations below. These procedures are equivalent to those described in the method but are more direct.

$$Conc_i = \frac{A_i}{A_{si}} \times \frac{M_{si}}{RRF_{i,si}} \times \frac{1}{M_x}$$

where A_i = summed areas of the primary and secondary m/z's for the analyte peak of interest (compound *i*)

A_{si} = summed areas of the primary and secondary m/z's for the labelled surrogate peak used to quantify *i*)

M_x = mass of sample taken for analysis

M_{si} = mass of labelled surrogate (compound *si*) added to sample as calculated by the concentration of standard spiked (pg/mL) multiplied by the volume spiked (mL)

$RRF_{i,si}$ = mean relative response factor of *i* to *si* from the five-point calibration range and defined individually as:

$$\frac{A_i}{A_{si}} \times \frac{M_{si}}{M_i}$$

Calculation of Surrogate Standard Concentrations and Percent Recoveries:

Concentrations of surrogate standards are calculated using the following equation:

$$Conc_{si} = \frac{A_{si}}{A_{rs}} \times \frac{M_{rs}}{RRF_{si,rs}}$$

and, the percent recoveries of the surrogate standards are calculated using the following equation:

$$\%\text{Recovery} = \frac{A_{si}}{A_{rs}} \times \frac{M_{rs}}{RRF_{si,rs}} \times \frac{1}{M_{si}} \times 100$$

where A_{rs} and A_{si} are the summed peak areas (from the primary and secondary m/z channels) of recovery standard and labelled surrogate added to the sample;

M_{rs} and M_{si} are the masses of recovery standard and labelled surrogate added to the sample, and;

$RRF_{si,rs}$ is the mean relative response factor of the labelled surrogate to the recovery standard as determined by the five-point calibration range and defined individually as:

.

$$\frac{A_{si}}{A_{rs}} \times \frac{M_{rs}}{M_{si}}$$

Section 17.5

Extracts may be diluted with solvent and re-analyzed by GC/MS isotope-dilution to bring the instrumental response to within the linear range of the instrument. For very high-level samples where a smaller sample aliquot may not be representative, extracts may be diluted and re-spiked with labelled quantification standards and re-analyzed by GC/MS to bring the instrumental response analytes within range. Final results may be recovery corrected using the mean recovery of labelled quantification standards.

Table 1. QC Acceptance Criteria for PCDD/F in CAL/VER, IPR, OPR and Test Samples[1]

	Test Conc ng/mL	IPR[2]		OPR[3] (%)	I-CAL %	CAL/VER[4] (%)	Labelled Cmpd %Rec. in Sample	
		RSD (%)	X(%)				Warning Limit	Control Limit
Native Compound								
2,3,7,8-TCDD	10	28	83-129	70-130	20	78-129	-	-
2,3,7,8-TCDF	10	20	87-137	75-130	20	84-120	-	-
1,2,3,7,8-PeCDD	50	15	76-132	70-130	20	78-130	-	-
1,2,3,7,8-PeCDF	50	15	86-124	80-130	20	82-120	-	-
2,3,4,7,8-PeCDF	50	17	72-150	70-130	20	82-122	-	-
1,2,3,4,7,8-HxCDD	50	19	78-152	70-130	20	78-128	-	-
1,2,3,6,7,8-HxCDD	50	15	84-124	76-130	20	78-128	-	-
1,2,3,7,8,9-HXCDD	50	22	74-142	70-130	35	82-122	-	-
1,2,3,4,7,8-HxCDF	50	17	82-108	72-130	20	90-112	-	-
1,2,3,6,7,8-HxCDF	50	13	92-120	84-130	20	88-114	-	-
1,2,3,7,8,9-HxCDF	50	13	84-122	78-130	20	90-112	-	-
2,3,4,6,7,8-HxCDF	50	15	74-158	70-130	20	88-114	-	-
1,2,3,4,6,7,8-HpCDD	50	15	76-130	70-130	20	86-116	-	-
1,2,3,4,6,7,8-HpCDF	50	13	90-112	82-122	20	90-110	-	-
1,2,3,4,7,8,9-HpCDF	50	16	86-126	78-130	20	86-116	-	-
OCDD	100	19	86-126	78-130	20	79-126	-	-
OCDF	100	27	74-146	70-130	35	70-130	-	-
Surrogate Standards								
$^{13}C_{12}$-2,3,7,8-TCDD	100	37	28-134	25-130	35	82-121	40-120	25-130
$^{13}C_{12}$-2,3,7,8-TCDF	100	35	31-113	25-130	35	71-130	40-120	24-130
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	39	27-184	25-150	35	70-130	40-120	25-130
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	34	27-156	25-130	35	76-130	40-120	24-130
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	38	16-279	25-130	35	77-130	40-120	21-130
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	41	29-147	25-130	35	85-117	40-120	32-130
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	38	34-122	25-130	35	85-118	40-120	28-130
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	43	27-152	25-130	35	76-130	40-120	26-130
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	35	30-122	25-130	35	70-130	40-120	26-123
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	40	24-157	25-130	35	74-130	40-120	29-130
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	37	29-136	25-130	35	73-130	40-120	28-130
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	35	34-129	25-130	35	72-130	40-120	23-130
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	41	32-110	25-130	35	78-129	40-120	28-130
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	40	28-141	25-130	35	77-129	40-120	26-130
$^{13}C_{12}$-OCDD	200	48	20-138	25-130	35	70-130	25-120	17-130
Cleanup Standard								
$^{37}Cl_4$-2,3,7,8-TCDD	10	36	39-154	31-130	35	79-127	40-120	35-130

[1] QC acceptance criteria for IPR, OPR, and samples based on a 20 µL extract final volume
[2] IPR: Initial Precision and Recovery demonstration
[3] OPR: Ongoing Precision and Recovery test run with every batch of samples.
[4] CAL VER: Calibration Verification test run at least every 12 hours

Table 2. QC Specifications for QC Samples, Instrumental Analysis, and Analyte Quantification

QC Parameter	Specification
Analysis Duplicate	Must agree to within ±20% of the mean (applicable to concentrations >10 times the DL)[1]
Procedural Blank	**Blood:** TCDD/F <0.2 pg/sample, PeCDD/F <0.5 pg/sample, HxCDD/F and HpCDD/F <1.0 pg/ sample, OCDD/F<5 pg/sample **Other Matrices:** TCDD/F <0.5 pg/sample, PeCDD/F, HxCDD/F, HpCDD/F <1.0 pg/sample, OCDD/F <5 pg/sample Higher levels acceptable where all sample concentrations a >10X the blank
Detection Limit	SDL Requirements **Blood:** Tetra-penta-CDD/F 0.2 pg/sample Hexa-octa-CDD/F 0.5 pg/sample **Other Matrices**: 1 pg/sample
Instrument Carryover: **Toluene Blank** **Samples**	 A. 1st toluene blank following CAL-VER must have <0.6 pg TCDD and <25 pg OCDD B. 2nd toluene blank following CAL-VER must have <0.2 pg TCDD and <0.8 pg Pe – HpCDD/f, and <0.5 pg OCDD. <10% contribution from preceding sample (based on observed instrument carryover
Analyte/Surrogate Ratios	Response must be within the calibrated range of the instrument. Coders may use data from more than one chromatogram to get the responses in the calibrated range.
Ion Ratios	Must be within ±15% of theoretical
Sensitivity	S:N≥10:1 for all compounds for 0.1 pg/µL (CS-0.2), plus For bloods: S:N≥3:1 for 0.025 pg/µL 2,3,7,8-T4CDD

[1] Duplicate criterion is a guideline; final assessment depends upon sample characteristics, overall batch QC and on-going lab performance.

Science Applications International Corporation

COVER PAGE AND CORRELATION TABLE

DIOXIN/FURAN ANALYSIS

Lab Name: AXYS Analytical Services Ltd.	**Project Manager: Devin Mitchell**
Project Name: NBF-GTSP STORMWATER SAMPLING	**Contract No: 4406**
Project No.: N/A	**AXYS Method: MLA-017**
Data Package Identification: DPWG33440	**Program: Solid Samples**
Client Sample No.	**Lab Sample ID**
LAB BLANK	WG33003-101
OPR	WG33003-102
CERTIFIED REFERENCE MATERIAL	WG33003-103
NBF-MH108B-052010-S	L14824-1
NBF-LS431B-052010-S	L14824-2
NBF-CB423B-052010-S and NBF-MH423B-052810-S	L14824-3
NBF-MH356B-052010-S	L14824-4
NBF-MH369B-052010-S	L14824-5
NBF-MH226B-052010-S	L14824-6
NBF-MH152B-052010-S	L14824-7
NBF-CB165B-052010-S	L14824-8
NBF-MH178B-052010-S	L14824-9
NBF-CB173B-052010-S	L14824-10
NBF-MH133B-052010-S	L14824-11
NBF-MH138B-052010-S	L14824-12
NBF-MH434B-052810-S	L14824-13

CUSTODY TRANSFER
Printed: 06/07/10
ARI Job No: QX25

4406

ANALYTICAL RESOURCES INCORPORATED
4611 South 134th Place, Suite 100
Tukwila WA 98168
206-695-6200 206-695-6201 (fax)

ARI Project Manager: Cheronne Oreiro	Client Contact: Glen Verdera	Sampling Event: NA	Samples Received: 05/20/10
	Client: Science App. International Corp	Project: NBF	Sample Site: NA

LOGNUM ARI ID	CLIENT ID	MATRIX	# CONTAINERS	ANALYTICAL REQUEST	ANALYTICAL REQUEST	ANALYTICAL REQUEST	COMMENTS
10-12151 QX25AC	NBF-MH108B-052010-S	Filter	1	Dioxin/Furans	L4824-1		
10-12152 QX25AD	NBF-LS431B-052010-S	Filter	1		-2		
10-12153 QX25AE	NBF-CB423B-052010-S	Filter	1		-3		
10-12154 QX25AF	NBF-MH356B-052010-S	Filter	1		-4		
10-12155 QX25AG	NBF-MH369B-052010-S	Filter	1		-5		
10-12156 QX25AH	NBF-MH226B-052010-S	Filter	1		-6		
10-12157 QX25AI	NBF-MH152B-052010-S	Filter	1		-7		
10-12158 QX25AJ	NBF-CB165B-052010-S	Filter	1		-8		
10-12159 QX25AK	NBF-MH178B-052010-S	Filter	1		-9		
10-12160 QX25AL	NBF-CB173B-052010-S	Filter	1		-10		
10-12161 QX25AM	NBF-MH133B-052010-S	Filter	1		-11		
10-12162 QX25AN	NBF-MH138B-052010-S	Filter	1	✓	-12		

Comments/Special Instructions:	Relinquished By:	Received by: (Signature)	Relinquished By:	Received by: (Signature)
	Printed Name: Jonathon Walter	Printed Name: M. Maslin	Printed Name:	Printed Name:
	Company: ARI	Company: AXYS	Company:	Company:
	Date/Time: 6/7/10	Date/Time: 08JUNE10 10:15	Date/Time:	Date/Time:

CUSTODY TRANSFER
Printed: 06/07/10
ARI Job No: QY86

4406

ANALYTICAL RESOURCES INCORPORATED
4611 South 134th Place, Suite 100
Tukwila WA 98168
206-695-6200 206-695-6201 (fax)

ARI Project Manager: Cheronne Oreiro	Client Contact: Glen Verdera	Sampling Event: NA	Samples Received: 06/01/10
	Client: Science App. International Corp	Project: NBF/GTSP Stormwater Sampling	Sample Site: NA

LOGNUM ARI ID	CLIENT ID	MATRIX	# CONTAINERS	ANALYTICAL REQUEST	ANALYTICAL REQUEST	ANALYTICAL REQUEST	COMMENTS
10-13029 QY86A	NBF-MH434B-052810-S	Filter Bag	1	Dioxin/ Furans	U4824-	13	
10-13030 QY86B	NBF-MH423B-052810-S	Filter Bag	1	↓	-	14	

Comments/Special Instructions:	Relinquished By:	Received by: (Signature)	Relinquished By:	Received by: (Signature)
	Printed Name: Jonathon Walter	Printed Name: M. Maslin	Printed Name: M. MASLIN	Printed Name:
	Company: ARI	Company: AXYS	Company:	Company:
	Date/Time: 6/7/10	Date/Time: 08 JUNE 10 10:15	Date/Time:	Date/Time:

mm 08 june 10

From: Origin ID: BFIA (206) 957-7126
Sue Dunnihoo
ANALYTICAL RESOURCES, INC
4611 SOUTH 134TH PLACE
SUITE 100
TUKWILA, WA 98168
UNITED STATES

FedEx Express

J10101002220224

Ship Date: 07JUN10
ActWgt: 37.0 LB
CAD: 1037323/INET3010

Dims: 20 X 12 X 12 IN

4406

REF:
DESC-1: Filter Bag for analysis
DESC-2:
DESC-3:
DESC-4:
EEI: NO EEI 30.36
COUNTRY MFG: US
CARRIAGE VALUE: 3.50 USD
CUSTOMS VALUE: 3.50 USD
T/C: S 249205940 D/T: R
SIGN: Sue Dunnihoo
EIN/VAT:
PKG TYPE: CUSTOMER

M. Mastin
08-June-10
10:15

SHIP TO: (250) 655-5800 BILL SENDER

Devin Mitchell
AXYS
2045 MILLS RD

SIDNEY, BC V8L5X2
CA

TRK# 0430 7987 3444 6351

AM
INTL PRIORITY

V8L 5X2
BC-CA
YVR

XV YYJA

505G1/22F2/5FE8

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The invalidity or unenforceability of any provisions shall not affect any other part of this Air Waybill. Unless otherwise indicated, FEDERAL EXPRESS CORPORATION, 2005 Corporate Avenue, Memphis, TN 38132, USA, is the first carrier of this shipment. Email address located at www.fedex.com.

AXYS Analytical Services Ltd
SAMPLE RECEIVING RECORD

Waybill : Yes /No — Waybill #: 798734446351
Date Shipped: 07-JUN-10 — Date /Time Received: 08-JUN-10 10:15
AXYS Client & Contract # 4406-Science Applications International Corp
Project Number: — Receipt No: WB9360
Login Number:
Received By: MMASLIN — Log in by: M. MASLIN — Signature: M. Maslin
Axys Sample ID's: L14824-1 to 14.
Matrix Type: 14 filter bags
Condition of Shipping Container: Intact.
Temperature upon Receipt: 1 Celcius lots of wet ice present — Thermometer ID: 3093

Custody Seals: Shipping Containers Yes /No — Intact Yes /No — Seal Numbers Yes /No — date & signature see reverse.
Samples Yes /No — Intact Yes /No — Seal Numbers Yes /No

Chain of Custody or Documents:	Yes /No	Tracking Report /Packing List:	Yes /No
Sample ID's	Yes /No	Sample Tag Numbers	Yes /No
Collection Location	Yes /No	Sample Type	Yes /No
Date & Time Collection	Yes /No	Preservative Added	Yes /No
Collector's Name	Yes /No	Preservation Requested	Yes /No

Sample Tags	Yes /No		
Sample Labels	Yes /No		
Sample Labels Cross Referenced to COC	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to Sample Labels	Yes /No	Information Agrees	Yes /No
Sample Tags Cross Referenced to COC	Yes /No	Information Agrees	Yes /No

Comments:

Sample NBF-MH423B-052810-S has been combined with NBF-CB423B-052010-S as per client request.
DM 11-Jun-10

Action Taken:

Nalge Nunc International

I-CHEM™ Brand Products

90009

CUSTODY SEAL

Date 6/7/10

Signature

For Scanning
Dm
14-Jun-10

AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jun. 14, 2010
12:40 PM

Login Number: L14824
Account: 4406 Science Applications International Corp
Project: NBF-GTSP STORMWATER

Axys ID versus Client Sample Identification			**Received**	**Due**	**PR**
L14824-1			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-MH108B-052010-S		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD
L14824-2			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-LS431B-052010-S		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD
L14824-3			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-CB423B-052010-S and NBF-MH423B-052810-S		Project #: NBF-GTSP STORMWATER			
Comments: L14824-14 has been combined with this sample					
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		2	: Misc	USD
L14824-4			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-MH356B-052010-S		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD

AXYS

AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jun. 14, 2010

12:40 PM

Login Number: L14824

Account: 4406 Science Applications International Corp

Project: NBF-GTSP STORMWATER

Axys ID versus Client Sample Identification			**Received**	**Due**	**PR**
L14824-5			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-MH369B-052010-S		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD
L14824-6			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-MH226B-052010-S		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD
L14824-7			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-MH152B-052010-S		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD
L14824-8			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-CB165B-052010-S		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD

AXYS

AXYS Analytical Services Ltd.

Login Chain of Custody Report (In01)

Jun. 14, 2010

12:40 PM

Login Number: L14824

Account: 4406 Science Applications International Corp

Project: NBF-GTSP STORMWATER

Axys ID versus Client Sample Identification			**Received**	**Due**	**PR**
L14824-9			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-MH178B-052010-S					
		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD
L14824-10			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-CB173B-052010-S					
		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD
L14824-11			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-MH133B-052010-S					
		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD
L14824-12			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-MH138B-052010-S					
		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD

AXYS

AXYS Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Jun. 14, 2010

12:40 PM

Login Number: L14824

Account: 4406 Science Applications International Corp

Project: NBF-GTSP STORMWATER

Axys ID versus Client Sample Identification			**Received**	**Due**	**PR**
L14824-13			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
NBF-MH434B-052810-S					
		Project #: NBF-GTSP STORMWATER			
Solid	DX1613 (DB 5)		:		USD
Solid	DX1613 (DB225)		:		USD
EDataDeliv	DX EDD		:		USD
D.Package	DX DATA PKG		:		USD
ANY	SAMPLE RECEIPT		1	: Misc	USD
L14824-14			08-JUN-10		
		Storage: WIF-4, FLOOR	Permit #: P-2010-00826		
Place holder					
		Project #: NBF-GTSP STORMWATER			
Comments: has been combined with L14824-3					
ANY	SAMPLE RECEIPT		1	: Misc	USD

Devin Mitchell

From: Hafner, William D. [WILLIAM.D.HAFNER@saic.com]
Sent: Friday, June 11, 2010 4:06 PM
To: Devin Mitchell
Subject: Dioxin filters

DATA PKG.

Devin,

Here's a list of the filters:

Sample ID	Dioxin/Furan Congeners	Collection Date
Analyze these 12 samples as usual		
MH108B-052010-S	X	5/20/2010
LS431B-052010-S	X	5/20/2010
MH356B-052010-S	X	5/20/2010
MH369B-052010-S	X	5/20/2010
MH226B-052010-S	X	5/20/2010
MH152B-052010-S	X	5/20/2010
CB165B-052010-S	X	5/20/2010
MH178B-052010-S	X	5/20/2010
CB173B-052010-S	X	5/20/2010
MH133B-052010-S	X	5/20/2010
MH138B-052010-S	X	5/20/2010
MH434B-052810-S	X	5/28/2010
Combine these two samples if possible		
CB423B-052010-S	X	5/20/2010
MH423B-052810-S	X	5/28/2010

For the two filters to combine, the options are:

1. Extract both filters together.

2. Extract separately and combine extracts.

3. Don't analyze and archive.

Please run an SRM with this batch.

Thanks,

Will

William Hafner, Ph.D. | SAIC

Environmental Chemist | Infrastructure, Logistics, and Product Solutions Group

phone: 425.482.3327 | mobile: 425.318.0420

email: hafnerw@saic.com

BATCH ID: WG33003

Method ID: MLA-017 R17	
Method ID:	
Method ID:	
Analyst:	
Start Date:	10-Jun-10
Batch List Author:	Surjit Dhesi
Checked By:	AA
Project Manager:	Devin
Glassware Type:	Regular
Glassware Treatment:	Regular High
Rotovap Type:	Regular High

Matrix:	Solid
Sample size:	1 Filter Bag
Moistures required?	NO
Lipids required?	NO
Extraction Solvent:	Toluene
FMS Program:	DIOXIN-JUMBO-02.DGF
Save FMS discards?	YES
Biohazard Type:	Agricultural Biohazard

Comments:

Samples are 1 polypropylene felt bag containing solids Remove ring for extraction (do not include ring in extraction). Dispose of any standing water unless the water is coloured

L14824-3 has two filter bags. Use two soxhlets - one for each bag, combine after extraction

Dean Stark extraction with Toluene (use 1 large soxhlet per sample, with wad of glasswool at bottom, no thimble required)

After extraction split extracts: 1/2 analysis, 1/2 Backup (ampoule)

add SPB WG33003-104 16 Jun 10 DZ

Calibration: | DX036D-CAL/

previous WG's associated with samples:

Contract #	Sample	Wt	Contract #	Sample	Wt
4406	L14824-1				
4406	L14824-2				
4406	L14824-3	2 Filter bags			
4406	L14824-4				
4406	L14824-5				
4406	L14824-6				
4406	L14824-7				
4406	L14824-8				
4406	L14824-9				
4406	L14824-10				
4406	L14824-11				
4406	L14824-12				
4406	L14824-13				

Spiking:

Product	Samples required:	Before Extraction: Surrogate	After Extraction: Cleanup Surrogate	Recovery	F.V.	U-vial	Instructions and Comments:
DX1613 (DB 5)	ALL	(7000) #3 20uL DX041A-SUR/ (7008) #86,87 PT 85,84	(7004) #20 20uL DX040A-SUR/02. (7000) #4	(7000) #13 20uL DX018A-REC/02 80.	20 uL	GCMS	none

BATCH ID: WG33003

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:
WG33003-101 BLANK	10G SC5207 (10-S-REF)	DX1613 (DB 5)		
WG33003-102 SPM	10G SC5207 (10-S-REF)	DX1613 (DB 5)	1000uL DX026A-AUT/03 #64 pT	
WG33003-103 CRM	3G OF NIST 1944 (~~SC5036~~) SC5172 14-Jun-10	DX1613 (DB 5)		
WG33003-104 SPB	1mL Hexane.	DX1613 (DB5)	1000µL DX026A-Aut/03 #60	added SPB 16 Jun 10 DSR.

QC Samples	Type and Weight	Analysis QC required for:	Authentic spiking:	Comments:

WorkGroup: WG33003

Sample	Contract	Product	Matrix	Lab Code	Additional Work Action	Reason	Requested by/date		Lab Completed by/Date		Inst. Completed by/Date		Remedial Action
L14824-1	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	XXIE	16/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
L14824-10	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	XXIE	16/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
L14824-11	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	6/Jul/2010	NPETROWITZ	7/Jul/2010	XXIE	16/Jul/2010	based on DB225; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JL 06-JUL-10 AgNO3 Silica batch id 2 F1 50mL Hexane F2 mL Analyst/Date JL 06-JUL-10INIT□20uL Comments: F2 of the alumina used 2% DCM in Hexanes□ dilute to 50uL after DB225.
L14824-11	4406	DX1613 (DB225)	S	L	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	6/Jul/2010	NPETROWITZ	7/Jul/2010	MATTHEWOU	7/Jul/2010	Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JL 06-JUL-10 AgNO3 Silica batch id 2 F1 50mL Hexane F2 mL Analyst/Date JL 06-JUL-10INIT□20uL Comments: F2 of the alumina used 2% DCM in Hexanes
L14824-11	4406	DX1613 (DB225)	S	LI	REINJECT	operational	MATTHEWOU	7/Jul/2010			XXIE	8/Jul/2010	Closing MR fail.
L14824-12	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	VREESOR	9/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
L14824-13	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	XXIE	16/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA

Reviewed by/Date SF 23-Jul-2010

L14824-2	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	XXIE	16/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
L14824-3	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	VREESOR	9/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
L14824-4	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	XXIE	16/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
L14824-5	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	XXIE	16/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
L14824-6	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	XXIE	16/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
L14824-7	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	XXIE	16/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
L14824-8	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	XXIE	16/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA

Reviewed by/Date BF 23-Jul-2010

L14824-9	4406	DX1613 (DB 5)	S	LW	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	VREESOR	9/Jul/2010	dilute to 50uL; Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□50uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
WG33003-101	BLANK	DX1613 (DB 5)	S	L	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	QC run with samples	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	VREESOR	9/Jul/2010	Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□20uL Comments: F2 fraction of Alumina column. was 10mL of 2% DCM in Hexanes- JA
WG33003-102	SPM	DX1613 (DB 5)	S	L	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	QC run with samples	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	VREESOR	9/Jul/2010	Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□20uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA
WG33003-103	4406	DX1613 (DB 5)	S	L	A/B SI + AGNO3 RECOLUMN and AL RECOLUMN	instrumental interferences	ASCHLAK	7/Jul/2010	JANDRADE	8/Jul/2010	XXIE	16/Jul/2010	Alumina batchid 282A F1 50mL Hexane F2 10mL F3 35mL 1:1 DCM:Hexane Analyst/Date JA 08-JUL-10 AgNO3 Silica batch id MKBC3527 F1 50mL Hexane F2 mL Analyst/Date WW 07-JUL-10INIT□20uL Comments: F2 fraction of Alumina column was 10mL of 2% DCM in Hexanes- JA

Reviewed by/Date SF 23-Jul-2010

AXYS Analytical Services Ltd

Sample Labeling Information: Batch ID: WG33003 Date: 14Jun10 Analyst: AA/JN Contract #: 4406

Method: MLA-017 R17

Sample ID	Sample Type and Description	Original Labeling
L14824-1	large filter bag with brownish solid inside	NBF-MH108B-052010-S
L14824-2	large filter bag with brownish solid inside	NBF-LS431B-052010-S
L14824-3	2x large filter bags with brownish solid inside	NBF-CB423B-052010-S and NBF-MH423B-052810-S * corrected ID
L14824-4	large filter bag (14Jun10 JA) with brownish solid inside	NBF-MH356B-052010-S
L14824-5	large filter bag with brownish solid (14Jun10 JA) inside	NBF-MH369B-052010-S
L14824-6	large filter bag with brownish solid inside	NBF-MH226B-052010-S
L14824-7	large filter bag with brownish solid inside	NBF-MH152B-052010-S
L14824-8	large filter bag with brownish solid inside	NBF-CB165B-052010-S
L14824-9	large filter bag with brownish solid inside	NBF-MH178B-052010-S *
L14824-10	large filter bag with brownish solid inside	NBF-CB173B-052010-S
L14824-11	large filter bag with brownish solid inside	NBF-MH133B-052010-S
L14824-12	large filter bag with some brownish solid inside	NBF-MH138B-052010-S
L14824-13	large filter bag with some brownish solid inside	NBF-MH434B-052810-S
WG33003-101 (BLANK)	Procedural Blank; beige sand	SC5207, 10SREF, Jar 10 of 18
WG33003-102 (SPM)	Spike matrix; beige sand.	SC5207, 10SREF, Jar 10 of 18
WG33003-103 (CRM)	Certified Reference Material - fine, dry, grey solid	SC5172 1944 New York - New Jersey Waterway Sediment

Sample Wt & Moistures: Batch ID: WG33003 Date: 14Jun10 Analyst: AA Balance or Syringe # 2014

Method: MLA-017 R17

*please see pg 3 for sample weight

Sample ID	Moisture (SLA-015) (all weights in grams)						Sample Wt or Vol (SLA-085) (g or mL)	Backup (g)
	Tare (a)	Tare + Wet	Tare + dry	Tare (b)	Tare + wet	Tare + dry		
L14824-1								
L14824-2								
L14824-3								
L14824-4								
L14824-5								
L14824-6								
L14824-7								
L14824-8								
L14824-9								
L14824-10								
L14824-11								
L14824-12								
L14824-13								
WG33003-101 (BLANK)							10.02	—
WG33003-102 (SPM)							10.08	—
WG33003-103 (CRM)							3.20	~15

Moistures into oven: Date: _____ Time: _____ Analyst: _____ Out of Oven: Date: _____ Time: _____ Analyst: _____

Extraction Information: Soxhlet: ____ Dean Stark: ✓ Steam Distillation: ____ Base Digest: ____ Vol: _____mL

Drying: Drying Time: ✓ mins Analyst: AA Reagent: _____

Extraction Solvent used: Toluene Volume: 650 mL

Begin: Date: 14Jun10 Time: 15:35 Analyst: AA **End:** Date: 16Jun10 Time: 12:15 Analyst: DJC

Reviewed by KB date 28Jun10

Sample Wt #2 : Batch ID: WG33003 Analyst AA/SA Date: 14Jun10 Balance #: 2214

Method: MLA-017 R17

Sample ID	Sample wt (g) (Compositing SLA-084 ____)						Subsample required (SLA-084 (g) _____)				Sample Wt. (g)	Particulate Y/N
	Container *a + Sample	Container *b + Sample	Container a	Container b	Sample wt a	Sample wt b	Bottle + cap + sample	Empty bottle	Total sample	Remaining sample		
L14824-1							154.44	61.48			92.96	
L14824-2							149.15	56.37			92.78	
L14824-3	89.92	117.42 14Jun10AA	41.57	64.00	48.35	55.42	14Jun10AA ~~89.92~~				103.77	
L14824-4							171.58	51.61			119.97	
L14824-5							116.24	53.76			62.48	
L14824-6							118.39	64.74			53.65	
L14824-7							14Jun10JA ~~138.27~~	66.35			71.92	
L14824-8							132.04	62.97			69.07	
L14824-9							118.41	49.33			69.08	
L14824-10							113.32	49.27 14Jun10AA	31		64.01	
L14824-11							130.63	60.72			69.91	
L14824-12							119.54	61.77			57.77	
L14824-13							143.65	44.29			99.36	
WG33003-101 (BLANK)												
WG33003-102 (SPM)												
WG33003-103 (CRM)												
* a= NBF-mH423B-052810-S												
b= NBF-CB423B-052010-S												

Extraction Information: visible particulate: _____ no visible particulate: _____

Stirring: Solvent used: DCM volume: _____mL Analyst: _____

Start Date: _____ time: _____ end Date: _____ time: _____

Shaking: Solvent used: DCM # of shakes: _____ volume: _____mL Analyst: _____

Date: _____ time: _____

Particulate (soxhlet extraction): Solvent: _____ volume: _____ mL Analyst: _____

Start Date: _____ time: _____ end Date: _____ time: _____

AXYS Analytical Services Ltd

Spiking Sheet: Batch ID: WG33003 Method: MLA-017 R17

SLA-017 Witness name/ initials: Jennifer Andrade / JA. Alexandria Jack AJ

Sample ID	**Before extraction** Surr. ID: DX041A-SUR/03 Date: 14 Jun 10 Vol.: 20 µL Syringe#: 7008 Ampoule: 86, 87, 85, 84 Analyst: AA		**Before extraction** Surr. ID: Date: Vol.: µL Syringe#: Ampoule: Analyst:		**Cleanup Std.** Surr.: DX040A-SUR/04 Date: 24Jun10 Vol.: 20 µL Syringe#: 7004 Ampoule: 20, 19 Start time: 08:50 Fin. time: 09:05	**Cleanup Std.** Surr.: Date: Vol.: µL Syringe#: Ampoule: Start time: Fin. time:	**Recovery** Surr.: DX018A-Rec/02 Date: 28Jun10 Vol.: 20 µL F.V.: 20 µL Syringe#: 7000 Ampoule: 13 Start time: 14:30 Fin. time: 14:50	**Recovery** Surr.: Date: Vol.: µL F.V.: µL Syringe#: Ampoule: Start time: Fin. time:
	Time	Witness	Time	Witness	Analyst: AA	Analyst:	Analyst: KB	Analyst:
L14824-1	13:16	JA			✓		✓	
L14824-2	13:16	JA			✓		✓	
L14824-3	13:16	JA			✓		✓	
L14824-4	13:18	JA			✓		✓	
L14824-5	13:18	AA JA			✓		✓	
L14824-6	13:18	JA			✓		✓	
L14824-7	13:19	JA			✓		✓	
L14824-8	13:19	JA			✓		✓	
L14824-9	13:20	JA			✓		✓	
L14824-10	13:28	JA			✓		✓	
L14824-11	13:20	JA			✓		✓	
L14824-12	13:28	JA			✓		✓	
L14824-13	13:29	JA			✓		✓	
WG33003-101 (BLANK)	13:29	JA			✓		✓	
WG33003-102 (SPM)	13:29	JA			✓		✓	
WG33003-103 (CRM)	13:30	JA			✓		✓	
* WG33003-104 SPB	15:24	AJ			✓		✓	
*Syringe #: 7000								

Sample ID	Authentic Std: DX026A-AUT/03 Date: 14Jun10 Vol.: 1000 µL Syringe#: — Ampoule#: 64, 60 Analyst: AA		Authentic Std: Date: Vol.: µL Syringe#: Ampoule#: Analyst:		Authentic Std: Date: Vol.: µL Syringe#: Ampoule#: Analyst:	
	Time	Witness	Time	Witness	Time	Witness
WG33003-102 SPM	13:10	AA JA				
WG33003-104 SPB	15:23	AJ				

AXYS Analytical Services Ltd

Extract Splitting Sheet: Batch ID: WG33003 Balance #: 1067/1035 Analyst: AW/JA Date: 21Jun10 / 22Jun10 Time: 08:40

Method: MLA-017 R17

Sample ID	Weight (g)								
	C-tube	C-tube + extract	Extract	Backup ½ Ampouled	Cleanup portion: Analysis: ½ DX	Cleanup portion: Analysis:	Cleanup portion Analysis:	Cleanup portion Analysis:	Cleanup portion Analysis:
L14824-1	14.618	25.869 (22Jun10 JA)	11.251	5.645	5.469				
L14824-2	14.459	22.153	7.694	3.884	3.728				
L14824-3	14.483	28.630 (22Jun10 JA)	14.147	7.124	6.689				
L14824-4	14.477	21.568	7.091	3.611	3.348				
L14824-5	14.461	24.239	9.778	4.909	4.726				
L14824-6	14.582	24.070	9.488	4.814	4.525				
L14824-7	14.465	22.689	8.224	4.160	3.945				
L14824-8	14.610	24.329	9.719	4.863	4.686				
L14824-9	14.660	25.713	11.053	5.574	5.342				
L14824-10	14.552	25.558	11.006	5.528	5.314				
L14824-11	14.507	25.129	10.622	5.360	5.135				
L14824-12	14.451	25.305	10.854	5.494	5.228				
L14824-13	14.602	24.290	9.688	4.945	4.586				
WG33003-101 (BLANK)	14.610	22Jun10 JA 18.484	3.874	1.992	1.849				
WG33003-102 (SPM)	14.516	19.172	4.656	2.329	2.291				
WG33003-103 (CRM)	14.431	17.969	3.538	1.855	1.638				
WG33003-104	14.610	17.599	2.989	1.493	1.449				

AXYS Analytical Services Ltd

Cleanup Information Sheet: Batch ID: WG33003 Method: MLA-017 R17

Sample ID	Solvent exchange to 300 µL Time: 12:00 Date: 24Jun10	Biobead #	Base/Acid Wash: date: ____ time: ____ Portion: ____ Analyst: ____ Base	Water	Acid	Water	SLA-045 (Cu test for sulphur) Cu test 1: Date: 25Jun10 Time: 12:00 Analyst: BS Portion: —	Cu test 2: Date: ____ Time: ____ Analyst: ____ Portion:
L14824-1	✓	40					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-2	✓	48					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-3	✓	48a					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-4	✓	68					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-5	✓	66					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-6	✓	63					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-7	✓	60					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-8	✓	65					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-9	✓	2					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-10	✓	62					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-11	✓	47a					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-12	✓	41a					___ +ve ✓ -ve	___ +ve ___ -ve
L14824-13	✓	98a					___ +ve ✓ -ve	___ +ve ___ -ve
WG33003-101 (BLANK)	✓	41					___ +ve ✓ -ve	___ +ve ___ -ve
WG33003-102 (SPM)	✓	64					___ +ve ✓ -ve	___ +ve ___ -ve
WG33003-103 (CRM)	✓	3					___ +ve ✓ -ve	___ +ve ___ -ve
WG33003-104 (SPB)	✓	67					___ +ve ✓ -ve	___ +ve ___ -ve
							___ +ve ___ -ve	___ +ve ___ -ve

Cleanup Type	Portion	Batch #	Date	Time	Solvent	Elution vol. (mL)	Pre-elute	Analyst
A/B Silica (PCB/BE)					Hexane ____			
Florisil (PCB/BE/Pest)					E1 15% DCM/Hex.____ E2 DCM ____	E1 E2		
Alumina (PCB)					F1 Hex. ____ F2 1:1 DCM:Hex. ____	F1 F2		
Carbon Celite	DX	129	25Jun10	14:55	Toluene ✓	50	Yes	BS
Jumbo $AgNO_3$ Silica (DX)	DX	2/509	22Jun10	14:45	KB 28Jun10 ~~2% DCM/Hexane~~ ____ Hexane ✓	100	✓	SA
Florisil (DX)					F1 5% DCM/Hex. ____ F2 DCM ____	F1 F2		
Derivatizing - Sterols					1. Pyridine ____ 3. 99:1 BSTFA:TMCS ____	1. 50 µL x2 2. 50 µL x2		
5% Silica (PAH)					F1 Pentane___ F2 DCM ___ F3 1:1 DCM/MeOH __	F1 F2 F3		
Alumina (BE)					F1 Hex. ___ F2 Hex. ___ F3 1:1 DCM/Hex.__	F1 F2 F3		
Water Backwash		N/A			#1 Seastar ultra pure water #2 Seastar ultra pure water	#1 #2		
Acetylation - Nonylphenols		N/A			1. Hex ____ 2. pyridine 3. Acetic Anhydride	1. 200uL 2: 50uL 3: 50uL		
Extraction after Acetylation		N/A			1. K_2C0_3 ____ 2. 3x Hexane ____	1. 2.		
Biobead	DX	N/A	23Jun10	15:00	F1 1:1 DCM/Hex. ✓ F2 1:1 DCM/Hex. ✓	F1 140 F2 200	~	SAH/EOL
2% Alumina					F1 Hex. ____ F2 DCM ____	F1 F2		
Alumina (DX)	DX	282B	24Jun10	15:15	F1 Hex ✓ F2 2% DCM/Hex ✓ F3 1:1 DCM/Hex ✓	F1 50 F2 10 F3 35	—	BS

AXYS Analytical Services Ltd

Notes: Batch ID: WG33003 Method: MLA-017 R17

Date:	Analyst	Fraction	Notes:
			14Jun10 AA
14Jun10	AA	—	During dean stark extraction filters appeared to shrink, ~~and~~ extracts exhibited foamy behavior while boiling, and a dark scum was observed on the round bottoms when the soxhlet body was full.
14 Jun10	DJC	—	L14824-3 2of2, L14824-7, 11, 8 found dry @ 16:50
14Jun10	DJC		L14824-12 was not rolling properly, turned off @ 16:50 turned all samples off @17:00
15Jun10	DJZ		Restarted extraction @ 1100 15Jun10 DJZ.
16Jun10	AA	—	SPM found dry at 08:00 16-Jun-10
17Jun10	AA		After extraction, samples were filtered through glass wool to remove solid scum.
22Jun10	NP	—	WG33003-104 SPB started and split like all other samples.

Reviewed by KB date 28Jun10

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH108B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-1 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 22:59:33	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 33**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	J	35.4	3.39	0.81	1.001
1,2,3,7,8-PECDD [3]	K J	181	6.39	0.72	1.000
1,2,3,4,7,8-HXCDD	K J	249	6.46	0.94	1.001
1,2,3,6,7,8-HXCDD		496	6.46	1.19	1.000
1,2,3,7,8,9-HXCDD		541	6.46	1.24	1.000
1,2,3,4,6,7,8-HPCDD		8920	13.7	0.98	1.000
OCDD	B	57000	27.0	0.90	1.000
2,3,7,8-TCDF		601	2.64	0.79	1.002
1,2,3,7,8-PECDF	J	113	4.86	1.61	1.000
2,3,4,7,8-PECDF		271	4.86	1.45	1.001
1,2,3,4,7,8-HXCDF		481	13.1	1.19	1.000
1,2,3,6,7,8-HXCDF		316	13.1	1.18	1.001
1,2,3,7,8,9-HXCDF	K J	13.5	13.1	0.97	1.000
2,3,4,6,7,8-HXCDF	J	188	13.1	1.15	1.000
1,2,3,4,6,7,8-HPCDF		1800	11.8	1.01	1.000
1,2,3,4,7,8,9-HPCDF	J	185	11.8	0.94	1.000
OCDF	B	3640	10.9	0.97	1.002
TOTAL TETRA-DIOXINS		825	3.39		
TOTAL PENTA-DIOXINS		1440	6.39		
TOTAL HEXA-DIOXINS		4960	6.46		
TOTAL HEPTA-DIOXINS		19200	13.7		
TOTAL TETRA-FURANS		4470	2.64		
TOTAL PENTA-FURANS		4360	4.86		
TOTAL HEXA-FURANS		4780	13.1		
TOTAL HEPTA-FURANS		4340	11.8		

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-1_Form1A_DX0M_090CS33_SJ1170506.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH108B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-1 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 22:59:33	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 33**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1780	89.0	0.74	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1450	72.3	0.64	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1880	94.0	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1850	92.7	1.21	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1470	73.6	0.90	1.094
13C-OCDD		4000	2730	68.1	0.85	1.177
13C-2,3,7,8-TCDF		2000	1750	87.4	0.80	0.965
13C-1,2,3,7,8-PECDF		2000	1560	78.0	1.50	1.284
13C-2,3,4,7,8-PECDF		2000	1390	69.6	1.57	1.350
13C-1,2,3,4,7,8-HXCDF		2000	2140	107	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1850	92.7	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1680	83.8	0.54	1.004
13C-2,3,4,6,7,8-HXCDF		2000	1510	75.4	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1770	88.3	0.42	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	1690	84.3	0.41	1.103
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	154	76.8		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-1_Form2_DX0M_090CS33_SJ1170506.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH108B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-1
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	29-Jun-2010 **Time:** 15:54:32	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_079 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_079 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		402	14.6	0.82	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-1_Form1A_DB03_079S6_SJ1166060.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH108B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-1
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_079 S: 6** **DX0M_090C S: 33**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		35.4	3.39	1	3.54e+01	3.54e+01	
1,2,3,7,8-PECDD	U		6.39	1	0.00e+00	3.20e+00	
1,2,3,4,7,8-HXCDD	U		6.46	0.1	0.00e+00	3.23e-01	
1,2,3,6,7,8-HXCDD		496	6.46	0.1	4.96e+01	4.96e+01	
1,2,3,7,8,9-HXCDD		541	6.46	0.1	5.41e+01	5.41e+01	
1,2,3,4,6,7,8-HPCDD		8920	13.7	0.01	8.92e+01	8.92e+01	
OCDD		57000	27.0	0.0003	1.71e+01	1.71e+01	
2,3,7,8-TCDF		402	14.6	0.1	4.02e+01	4.02e+01	
1,2,3,7,8-PECDF		113	4.86	0.03	3.39e+00	3.39e+00	
2,3,4,7,8-PECDF		271	4.86	0.3	8.13e+01	8.13e+01	
1,2,3,4,7,8-HXCDF		481	13.1	0.1	4.81e+01	4.81e+01	
1,2,3,6,7,8-HXCDF		316	13.1	0.1	3.16e+01	3.16e+01	
1,2,3,7,8,9-HXCDF	U		13.1	0.1	0.00e+00	6.55e-01	
2,3,4,6,7,8-HXCDF		188	13.1	0.1	1.88e+01	1.88e+01	
1,2,3,4,6,7,8-HPCDF		1800	11.8	0.01	1.80e+01	1.80e+01	
1,2,3,4,7,8,9-HPCDF		185	11.8	0.01	1.85e+00	1.85e+00	
OCDF		3640	10.9	0.0003	1.09e+00	1.09e+00	
			TOTAL TEQ		490	494	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-1_TEQ_SJ1166060.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-LS431B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-2 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 20:14:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 30**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	J	15.8	2.43	0.80	1.001
1,2,3,7,8-PECDD [3]	K J	79.1	4.27	0.74	1.000
1,2,3,4,7,8-HXCDD	K J	118	6.41	1.53	1.000
1,2,3,6,7,8-HXCDD	J	266	6.41	1.33	1.000
1,2,3,7,8,9-HXCDD		332	6.41	1.14	1.000
1,2,3,4,6,7,8-HPCDD		4170	6.49	1.02	1.000
OCDD	B	35600	12.7	0.88	1.000
2,3,7,8-TCDF		324	10.7	0.78	1.001
1,2,3,7,8-PECDF	J	57.0	3.08	1.34	1.001
2,3,4,7,8-PECDF	J	133	3.08	1.61	1.001
1,2,3,4,7,8-HXCDF	J	196	2.62	1.38	1.001
1,2,3,6,7,8-HXCDF	J	115	2.62	1.19	1.000
1,2,3,7,8,9-HXCDF	K J	4.64	2.62	1.50	1.000
2,3,4,6,7,8-HXCDF	J	99.8	2.62	1.14	1.000
1,2,3,4,6,7,8-HPCDF		1050	5.37	1.03	1.000
1,2,3,4,7,8,9-HPCDF	J	73.5	5.37	1.12	1.001
OCDF	B	2580	7.51	0.85	1.002
TOTAL TETRA-DIOXINS		456	2.43		
TOTAL PENTA-DIOXINS		860	4.27		
TOTAL HEXA-DIOXINS		3080	6.41		
TOTAL HEPTA-DIOXINS		9360	6.49		
TOTAL TETRA-FURANS		2790	10.7		
TOTAL PENTA-FURANS		2420	3.08		
TOTAL HEXA-FURANS		2320	2.62		
TOTAL HEPTA-FURANS		2910	5.37		

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-2_Form1A_DX0M_090CS30_SJ1170503.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-LS431B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-2 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 20:14:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 30**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	2040	102	0.78	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1680	84.0	0.65	1.382
13C-1,2,3,4,7,8-HXCDD		2000	2130	106	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	2100	105	1.06	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	2420	121	0.99	1.094
13C-OCDD		4000	3190	79.7	0.85	1.178
13C-2,3,7,8-TCDF		2000	1850	92.7	0.69	0.966
13C-1,2,3,7,8-PECDF		2000	1670	83.5	1.50	1.284
13C-2,3,4,7,8-PECDF		2000	1590	79.6	1.54	1.350
13C-1,2,3,4,7,8-HXCDF		2000	2220	111	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2420	121	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	2390	119	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	2250	113	0.54	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	2330	116	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	2070	104	0.47	1.103
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	164	82.2		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-2_Form2_DX0M_090CS30_SJ1170503.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-LS431B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-2
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	29-Jun-2010 **Time:** 16:31:06	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_079 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_079 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		194	9.45	0.79	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-2_Form1A_DB03_079S7_SJ1166061.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-LS431B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-2
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_079 S: 7** **DX0M_090C S: 30**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		15.8	2.43	1	1.58e+01	1.58e+01	
1,2,3,7,8-PECDD	U		4.27	1	0.00e+00	2.14e+00	
1,2,3,4,7,8-HXCDD	U		6.41	0.1	0.00e+00	3.21e-01	
1,2,3,6,7,8-HXCDD		266	6.41	0.1	2.66e+01	2.66e+01	
1,2,3,7,8,9-HXCDD		332	6.41	0.1	3.32e+01	3.32e+01	
1,2,3,4,6,7,8-HPCDD		4170	6.49	0.01	4.17e+01	4.17e+01	
OCDD		35600	12.7	0.0003	1.07e+01	1.07e+01	
2,3,7,8-TCDF		194	9.45	0.1	1.94e+01	1.94e+01	
1,2,3,7,8-PECDF		57.0	3.08	0.03	1.71e+00	1.71e+00	
2,3,4,7,8-PECDF		133	3.08	0.3	3.99e+01	3.99e+01	
1,2,3,4,7,8-HXCDF		196	2.62	0.1	1.96e+01	1.96e+01	
1,2,3,6,7,8-HXCDF		115	2.62	0.1	1.15e+01	1.15e+01	
1,2,3,7,8,9-HXCDF	U		2.62	0.1	0.00e+00	1.31e-01	
2,3,4,6,7,8-HXCDF		99.8	2.62	0.1	9.98e+00	9.98e+00	
1,2,3,4,6,7,8-HPCDF		1050	5.37	0.01	1.05e+01	1.05e+01	
1,2,3,4,7,8,9-HPCDF		73.5	5.37	0.01	7.35e-01	7.35e-01	
OCDF		2580	7.51	0.0003	7.74e-01	7.74e-01	
			TOTAL TEQ		242	245	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-2_TEQ_SJ1166061.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-CB423B-052010-S and NBF-MH423B-052810-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-3 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	19-May-2010
Analysis Date:	09-Jul-2010 **Time:** 03:40:35	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_086 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_086 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	J	29.1	2.08	0.74	1.001
1,2,3,7,8-PECDD [3]	J	150	2.21	0.64	1.000
1,2,3,4,7,8-HXCDD		312	3.42	1.21	1.001
1,2,3,6,7,8-HXCDD		619	3.42	1.19	1.000
1,2,3,7,8,9-HXCDD		837	3.42	1.20	1.000
1,2,3,4,6,7,8-HPCDD		11200	6.70	1.00	1.000
OCDD	B	73500	2.63	0.86	1.000
2,3,7,8-TCDF		345	3.17	0.74	1.001
1,2,3,7,8-PECDF	J	79.2	2.67	1.51	1.000
2,3,4,7,8-PECDF	J	116	2.67	1.66	1.001
1,2,3,4,7,8-HXCDF	J	184	2.88	1.21	1.000
1,2,3,6,7,8-HXCDF	J	138	2.88	1.22	1.001
1,2,3,7,8,9-HXCDF	J	6.89	2.88	1.34	1.000
2,3,4,6,7,8-HXCDF	J	117	2.88	1.20	1.000
1,2,3,4,6,7,8-HPCDF		1690	4.84	1.06	1.000
1,2,3,4,7,8,9-HPCDF	J	123	4.84	1.06	1.000
OCDF	B	3180	2.35	0.86	1.002
TOTAL TETRA-DIOXINS		517	2.08		
TOTAL PENTA-DIOXINS		1460	2.21		
TOTAL HEXA-DIOXINS		6490	3.42		
TOTAL HEPTA-DIOXINS		23000	6.70		
TOTAL TETRA-FURANS		2270	3.17		
TOTAL PENTA-FURANS		2090	2.67		
TOTAL HEXA-FURANS		2560	2.88		
TOTAL HEPTA-FURANS		3810	4.84		

(1) Where applicable, custom lab flags have been used on this report; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-3_Form1A_DX0M_086S8_SJ1167974.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-CB423B-052010-S and NBF-MH423B-052810-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	NBF-GTSP STORMWATER		
Contract No.:	4406	**Lab Sample I.D.:**	L14824-3 LW
Matrix:	SOLID	**Sample Size:**	1 sample
Sample Receipt Date:	08-Jun-2010	**Initial Calibration Date:**	19-May-2010
Extraction Date:	14-Jun-2010	**Instrument ID:**	HR GC/MS
Analysis Date:	09-Jul-2010 **Time:** 03:40:35	**GC Column ID:**	DB5
Extract Volume (uL):	50	**Sample Data Filename:**	**DX0M_086 S: 8**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX0M_086 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX0M_086 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1740	86.9	0.75	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1850	92.3	0.59	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1610	80.5	1.19	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1630	81.5	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1650	82.5	0.91	1.095
13C-OCDD		4000	3560	89.1	0.88	1.179
13C-2,3,7,8-TCDF		2000	1430	71.3	0.67	0.966
13C-1,2,3,7,8-PECDF		2000	1700	84.9	1.41	1.283
13C-2,3,4,7,8-PECDF		2000	1590	79.4	1.50	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1490	74.7	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1520	76.2	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1430	71.3	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1370	68.6	0.52	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1460	73.0	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1480	74.0	0.41	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	153	76.6		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-3_Form2_DX0M_086S8_SJ1167974.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-CB423B-052010-S and NBF-MH423B-052810-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-3
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	29-Jun-2010 **Time:** 17:07:40	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_079 S: 8**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_079 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		197	9.96	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-3_Form1A_DB03_079S8_SJ1166062.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

PCDD/PCDF ANALYSIS TEQ DATA REPORT

CLIENT SAMPLE NO.
NBF-CB423B-052010-S and NBF-MH423B-052810-S

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-3
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_079 S: 8** **DX0M_086 S: 8**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		29.1	2.08	1	2.91e+01	2.91e+01	
1,2,3,7,8-PECDD		150	2.21	1	1.50e+02	1.50e+02	
1,2,3,4,7,8-HXCDD		312	3.42	0.1	3.12e+01	3.12e+01	
1,2,3,6,7,8-HXCDD		619	3.42	0.1	6.19e+01	6.19e+01	
1,2,3,7,8,9-HXCDD		837	3.42	0.1	8.37e+01	8.37e+01	
1,2,3,4,6,7,8-HPCDD		11200	6.70	0.01	1.12e+02	1.12e+02	
OCDD		73500	2.63	0.0003	2.21e+01	2.21e+01	
2,3,7,8-TCDF		197	9.96	0.1	1.97e+01	1.97e+01	
1,2,3,7,8-PECDF		79.2	2.67	0.03	2.38e+00	2.38e+00	
2,3,4,7,8-PECDF		116	2.67	0.3	3.48e+01	3.48e+01	
1,2,3,4,7,8-HXCDF		184	2.88	0.1	1.84e+01	1.84e+01	
1,2,3,6,7,8-HXCDF		138	2.88	0.1	1.38e+01	1.38e+01	
1,2,3,7,8,9-HXCDF		6.89	2.88	0.1	6.89e-01	6.89e-01	
2,3,4,6,7,8-HXCDF		117	2.88	0.1	1.17e+01	1.17e+01	
1,2,3,4,6,7,8-HPCDF		1690	4.84	0.01	1.69e+01	1.69e+01	
1,2,3,4,7,8,9-HPCDF		123	4.84	0.01	1.23e+00	1.23e+00	
OCDF		3180	2.35	0.0003	9.54e-01	9.54e-01	
			TOTAL TEQ		610	610	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-3_TEQ_SJ1166062.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH356B-052010-S
Sample Collection:
N/A

Form 1A

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-4 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 21:09:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 31**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	J	22.0	2.42	0.72	1.001
1,2,3,7,8-PECDD [3]	J	116	1.91	0.64	1.000
1,2,3,4,7,8-HXCDD	J	190	3.67	1.09	1.000
1,2,3,6,7,8-HXCDD		368	3.67	1.14	1.001
1,2,3,7,8,9-HXCDD		439	3.67	1.19	1.000
1,2,3,4,6,7,8-HPCDD		6550	8.13	0.99	1.000
OCDD	B	48500	11.4	0.88	1.000
2,3,7,8-TCDF		312	1.93	0.78	1.001
1,2,3,7,8-PECDF	J	58.4	4.65	1.69	1.001
2,3,4,7,8-PECDF	J	139	4.65	1.47	1.001
1,2,3,4,7,8-HXCDF	J	145	4.63	1.27	1.001
1,2,3,6,7,8-HXCDF	J	127	4.63	1.25	1.000
1,2,3,7,8,9-HXCDF	K J	7.37	4.63	0.52	1.001
2,3,4,6,7,8-HXCDF	J	141	4.63	1.21	1.000
1,2,3,4,6,7,8-HPCDF		1470	3.75	0.99	1.000
1,2,3,4,7,8,9-HPCDF	J	111	3.75	1.16	1.000
OCDF	B	4090	6.36	0.85	1.002
TOTAL TETRA-DIOXINS		387	2.42		
TOTAL PENTA-DIOXINS		1020	1.91		
TOTAL HEXA-DIOXINS		4050	3.67		
TOTAL HEPTA-DIOXINS		15000	8.13		
TOTAL TETRA-FURANS		3200	1.93		
TOTAL PENTA-FURANS		3250	4.65		
TOTAL HEXA-FURANS		3170	4.63		
TOTAL HEPTA-FURANS		3830	3.75		

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-4_Form1A_DX0M_090CS31_SJ1170504.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH356B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-4 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 21:09:29	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 31**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	2030	101	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1680	83.8	0.65	1.382
13C-1,2,3,4,7,8-HXCDD		2000	2280	114	1.21	0.987
13C-1,2,3,6,7,8-HXCDD		2000	2110	106	1.19	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1740	86.9	0.99	1.094
13C-OCDD		4000	2300	57.5	0.89	1.177
13C-2,3,7,8-TCDF		2000	1920	96.0	0.77	0.966
13C-1,2,3,7,8-PECDF		2000	1740	86.9	1.47	1.284
13C-2,3,4,7,8-PECDF		2000	1590	79.3	1.50	1.351
13C-1,2,3,4,7,8-HXCDF		2000	2190	110	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2410	120	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	2210	110	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1810	90.7	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	2300	115	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1870	93.4	0.42	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	190	94.9		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-4_Form2_DX0M_090CS31_SJ1170504.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH356B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-4
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	29-Jun-2010 **Time:** 17:44:14	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_079 S: 9**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_079 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		197	6.71	0.84	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-4_Form1A_DB03_079S9_SJ1166063.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH356B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-4
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_079 S: 9** **DX0M_090C S: 31**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		22.0	2.42	1	2.20e+01	2.20e+01	
1,2,3,7,8-PECDD		116	1.91	1	1.16e+02	1.16e+02	
1,2,3,4,7,8-HXCDD		190	3.67	0.1	1.90e+01	1.90e+01	
1,2,3,6,7,8-HXCDD		368	3.67	0.1	3.68e+01	3.68e+01	
1,2,3,7,8,9-HXCDD		439	3.67	0.1	4.39e+01	4.39e+01	
1,2,3,4,6,7,8-HPCDD		6550	8.13	0.01	6.55e+01	6.55e+01	
OCDD		48500	11.4	0.0003	1.46e+01	1.46e+01	
2,3,7,8-TCDF		197	6.71	0.1	1.97e+01	1.97e+01	
1,2,3,7,8-PECDF		58.4	4.65	0.03	1.75e+00	1.75e+00	
2,3,4,7,8-PECDF		139	4.65	0.3	4.17e+01	4.17e+01	
1,2,3,4,7,8-HXCDF		145	4.63	0.1	1.45e+01	1.45e+01	
1,2,3,6,7,8-HXCDF		127	4.63	0.1	1.27e+01	1.27e+01	
1,2,3,7,8,9-HXCDF	U		4.63	0.1	0.00e+00	2.32e-01	
2,3,4,6,7,8-HXCDF		141	4.63	0.1	1.41e+01	1.41e+01	
1,2,3,4,6,7,8-HPCDF		1470	3.75	0.01	1.47e+01	1.47e+01	
1,2,3,4,7,8,9-HPCDF		111	3.75	0.01	1.11e+00	1.11e+00	
OCDF		4090	6.36	0.0003	1.23e+00	1.23e+00	
			TOTAL TEQ		439	439	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-4_TEQ_SJ1166063.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH369B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-5 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	16-Jul-2010 **Time:** 00:49:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 35**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	K J	5.25	3.24	0.52	1.001
1,2,3,7,8-PECDD [3]	J	48.6	5.84	0.52	1.001
1,2,3,4,7,8-HXCDD	J	92.2	5.62	1.41	1.000
1,2,3,6,7,8-HXCDD	J	183	5.62	1.29	1.001
1,2,3,7,8,9-HXCDD	J	213	5.62	1.42	1.000
1,2,3,4,6,7,8-HPCDD		3620	8.49	1.07	1.000
OCDD	B	26800	19.5	0.88	1.000
2,3,7,8-TCDF		754	3.15	0.78	1.001
1,2,3,7,8-PECDF	J	85.1	6.28	1.75	1.001
2,3,4,7,8-PECDF		252	6.28	1.46	1.001
1,2,3,4,7,8-HXCDF	J	101	3.26	1.13	1.000
1,2,3,6,7,8-HXCDF	J	70.5	3.26	1.16	1.000
1,2,3,7,8,9-HXCDF	K J	3.34	3.26	0.33	1.001
2,3,4,6,7,8-HXCDF	J	104	3.26	1.20	1.000
1,2,3,4,6,7,8-HPCDF		756	12.0	1.02	1.001
1,2,3,4,7,8,9-HPCDF	K J	56.0	12.0	1.42	1.000
OCDF	B	2140	5.04	0.80	1.002
TOTAL TETRA-DIOXINS		230	3.24		
TOTAL PENTA-DIOXINS		428	5.84		
TOTAL HEXA-DIOXINS		1970	5.62		
TOTAL HEPTA-DIOXINS		7820	8.49		
TOTAL TETRA-FURANS		5840	3.15		
TOTAL PENTA-FURANS		2910	6.28		
TOTAL HEXA-FURANS		1500	3.26		
TOTAL HEPTA-FURANS		1730	12.0		

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-5_Form1A_DX0M_090CS35_SJ1170508.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH369B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-5 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	16-Jul-2010 **Time:** 00:49:38	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 35**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1550	77.4	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1350	67.6	0.62	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1810	90.7	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1900	94.9	1.34	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1520	76.0	1.08	1.094
13C-OCDD		4000	2390	59.8	0.88	1.177
13C-2,3,7,8-TCDF		2000	1490	74.6	0.70	0.966
13C-1,2,3,7,8-PECDF		2000	1470	73.7	1.49	1.284
13C-2,3,4,7,8-PECDF		2000	1250	62.4	1.49	1.351
13C-1,2,3,4,7,8-HXCDF		2000	2120	106	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2110	105	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1970	98.7	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1690	84.5	0.49	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1840	91.9	0.45	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	1640	81.9	0.40	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	126	63.1		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-5_Form2_DX0M_090CS35_SJ1170508.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH369B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-5
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	29-Jun-2010 **Time:** 18:20:52	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_079 S: 10**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_079 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		633	9.03	0.81	1.002

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-5_Form1A_DB03_079S10_SJ1166064.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH369B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-5
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_079 S: 10** **DX0M_090C S: 35**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		3.24	1	0.00e+00	1.62e+00	
1,2,3,7,8-PECDD		48.6	5.84	1	4.86e+01	4.86e+01	
1,2,3,4,7,8-HXCDD		92.2	5.62	0.1	9.22e+00	9.22e+00	
1,2,3,6,7,8-HXCDD		183	5.62	0.1	1.83e+01	1.83e+01	
1,2,3,7,8,9-HXCDD		213	5.62	0.1	2.13e+01	2.13e+01	
1,2,3,4,6,7,8-HPCDD		3620	8.49	0.01	3.62e+01	3.62e+01	
OCDD		26800	19.5	0.0003	8.04e+00	8.04e+00	
2,3,7,8-TCDF		633	9.03	0.1	6.33e+01	6.33e+01	
1,2,3,7,8-PECDF		85.1	6.28	0.03	2.55e+00	2.55e+00	
2,3,4,7,8-PECDF		252	6.28	0.3	7.56e+01	7.56e+01	
1,2,3,4,7,8-HXCDF		101	3.26	0.1	1.01e+01	1.01e+01	
1,2,3,6,7,8-HXCDF		70.5	3.26	0.1	7.05e+00	7.05e+00	
1,2,3,7,8,9-HXCDF	U		3.26	0.1	0.00e+00	1.63e-01	
2,3,4,6,7,8-HXCDF		104	3.26	0.1	1.04e+01	1.04e+01	
1,2,3,4,6,7,8-HPCDF		756	12.0	0.01	7.56e+00	7.56e+00	
1,2,3,4,7,8,9-HPCDF	U		12.0	0.01	0.00e+00	6.00e-02	
OCDF		2140	5.04	0.0003	6.42e-01	6.42e-01	
			TOTAL TEQ		319	321	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-5_TEQ_SJ1166064.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH226B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-6 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 19:19:23	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 29**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	J	27.9	3.92	0.66	1.000
1,2,3,7,8-PECDD [3]	J	141	3.40	0.53	1.000
1,2,3,4,7,8-HXCDD	J	206	6.06	1.36	1.000
1,2,3,6,7,8-HXCDD		390	6.06	1.09	1.000
1,2,3,7,8,9-HXCDD		477	6.06	1.14	1.000
1,2,3,4,6,7,8-HPCDD		6430	9.34	1.04	1.000
OCDD	B	42500	7.37	0.88	1.000
2,3,7,8-TCDF		362	2.81	0.81	1.002
1,2,3,7,8-PECDF	J	76.4	4.15	1.72	1.001
2,3,4,7,8-PECDF	J	144	4.15	1.33	1.001
1,2,3,4,7,8-HXCDF	J	142	5.99	1.30	1.001
1,2,3,6,7,8-HXCDF	J	115	5.99	1.18	1.000
1,2,3,7,8,9-HXCDF	K J	11.7	5.99	1.85	1.001
2,3,4,6,7,8-HXCDF	J	124	5.99	1.23	1.000
1,2,3,4,6,7,8-HPCDF		1170	7.94	1.03	1.000
1,2,3,4,7,8,9-HPCDF	J	115	7.94	0.91	1.000
OCDF	B	2600	11.0	0.90	1.002
TOTAL TETRA-DIOXINS		596	3.92		
TOTAL PENTA-DIOXINS		1160	3.40		
TOTAL HEXA-DIOXINS		4470	6.06		
TOTAL HEPTA-DIOXINS		14900	9.34		
TOTAL TETRA-FURANS		2930	2.81		
TOTAL PENTA-FURANS		2660	4.15		
TOTAL HEXA-FURANS		2370	5.99		
TOTAL HEPTA-FURANS		3130	7.94		

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-6_Form1A_DX0M_090CS29_SJ1170502.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH226B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-6 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 19:19:23	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 29**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1810	90.3	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1630	81.5	0.64	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1990	99.5	1.42	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1900	95.2	1.17	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1640	81.8	0.94	1.094
13C-OCDD		4000	2670	66.7	0.97	1.178
13C-2,3,7,8-TCDF		2000	1800	90.0	0.75	0.965
13C-1,2,3,7,8-PECDF		2000	1710	85.4	1.40	1.284
13C-2,3,4,7,8-PECDF		2000	1460	72.9	1.46	1.351
13C-1,2,3,4,7,8-HXCDF		2000	2310	116	0.52	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2040	102	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1810	90.4	0.53	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1770	88.4	0.47	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1810	90.3	0.48	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1660	83.2	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	159	79.4		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-6_Form2_DX0M_090CS29_SJ1170502.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH226B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-6
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	29-Jun-2010 **Time:** 18:57:27	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_079 S: 11**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_079 S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		235	8.63	0.80	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-6_Form1A_DB03_079S11_SJ1166065.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH226B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-6
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_079 S: 11** **DX0M_090C S: 29**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		27.9	3.92	1	2.79e+01	2.79e+01	
1,2,3,7,8-PECDD		141	3.40	1	1.41e+02	1.41e+02	
1,2,3,4,7,8-HXCDD		206	6.06	0.1	2.06e+01	2.06e+01	
1,2,3,6,7,8-HXCDD		390	6.06	0.1	3.90e+01	3.90e+01	
1,2,3,7,8,9-HXCDD		477	6.06	0.1	4.77e+01	4.77e+01	
1,2,3,4,6,7,8-HPCDD		6430	9.34	0.01	6.43e+01	6.43e+01	
OCDD		42500	7.37	0.0003	1.28e+01	1.28e+01	
2,3,7,8-TCDF		235	8.63	0.1	2.35e+01	2.35e+01	
1,2,3,7,8-PECDF		76.4	4.15	0.03	2.29e+00	2.29e+00	
2,3,4,7,8-PECDF		144	4.15	0.3	4.32e+01	4.32e+01	
1,2,3,4,7,8-HXCDF		142	5.99	0.1	1.42e+01	1.42e+01	
1,2,3,6,7,8-HXCDF		115	5.99	0.1	1.15e+01	1.15e+01	
1,2,3,7,8,9-HXCDF	U		5.99	0.1	0.00e+00	3.00e-01	
2,3,4,6,7,8-HXCDF		124	5.99	0.1	1.24e+01	1.24e+01	
1,2,3,4,6,7,8-HPCDF		1170	7.94	0.01	1.17e+01	1.17e+01	
1,2,3,4,7,8,9-HPCDF		115	7.94	0.01	1.15e+00	1.15e+00	
OCDF		2600	11.0	0.0003	7.80e-01	7.80e-01	
			TOTAL TEQ		474	474	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-6_TEQ_SJ1166065.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH152B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-7 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 22:04:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 32**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		59.6	6.54	0.70	1.001
1,2,3,7,8-PECDD [3]		391	2.38	0.58	1.000
1,2,3,4,7,8-HXCDD		1360	10.4	1.26	1.000
1,2,3,6,7,8-HXCDD		1380	10.4	1.20	1.001
1,2,3,7,8,9-HXCDD		2170	10.4	1.28	1.000
1,2,3,4,6,7,8-HPCDD		23200	19.1	1.01	1.000
OCDD	B	115000	12.0	0.89	1.000
2,3,7,8-TCDF		800	3.49	0.76	1.001
1,2,3,7,8-PECDF	J	171	7.77	1.51	1.001
2,3,4,7,8-PECDF		320	7.77	1.40	1.001
1,2,3,4,7,8-HXCDF		638	8.04	1.22	1.000
1,2,3,6,7,8-HXCDF		412	8.04	1.32	1.000
1,2,3,7,8,9-HXCDF	J	13.2	8.04	1.21	1.000
2,3,4,6,7,8-HXCDF	J	269	8.04	1.06	1.001
1,2,3,4,6,7,8-HPCDF		3350	6.48	0.98	1.000
1,2,3,4,7,8,9-HPCDF		297	6.48	0.92	1.000
OCDF	B	3890	4.88	0.82	1.002
TOTAL TETRA-DIOXINS		2960	6.54		
TOTAL PENTA-DIOXINS		5310	2.38		
TOTAL HEXA-DIOXINS		21300	10.4		
TOTAL HEPTA-DIOXINS		65700	19.1		
TOTAL TETRA-FURANS		6110	3.49		
TOTAL PENTA-FURANS		6600	7.77		
TOTAL HEXA-FURANS		7620	8.04		
TOTAL HEPTA-FURANS		7740	6.48		

(1) Where applicable, custom lab flags have been used on this report; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-7_Form1A_DX0M_090CS32_SJ1170505.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH152B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-7 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 22:04:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 32**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1510	75.7	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1830	91.5	0.61	1.382
13C-1,2,3,4,7,8-HXCDD		2000	2070	104	1.09	0.987
13C-1,2,3,6,7,8-HXCDD		2000	2150	107	1.23	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	2020	101	1.03	1.094
13C-OCDD		4000	3200	80.1	0.90	1.177
13C-2,3,7,8-TCDF		2000	1720	86.1	0.74	0.966
13C-1,2,3,7,8-PECDF		2000	1750	87.6	1.50	1.284
13C-2,3,4,7,8-PECDF		2000	1460	73.2	1.50	1.350
13C-1,2,3,4,7,8-HXCDF		2000	2190	109	0.56	0.955
13C-1,2,3,6,7,8-HXCDF		2000	2450	123	0.53	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1500	75.2	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1690	84.3	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	2150	108	0.42	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1640	81.9	0.40	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	114	57.2		1.015

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-7_Form2_DX0M_090CS32_SJ1170505.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH152B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-7
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	30-Jun-2010 **Time:** 05:07:18	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_080B S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_080B S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		501	4.63	0.77	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-7_Form1A_DB03_080BS12_SJ1166072.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH152B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-7
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_080B S: 12** **DX0M_090C S: 32**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		59.6	6.54	1	5.96e+01	5.96e+01	
1,2,3,7,8-PECDD		391	2.38	1	3.91e+02	3.91e+02	
1,2,3,4,7,8-HXCDD		1360	10.4	0.1	1.36e+02	1.36e+02	
1,2,3,6,7,8-HXCDD		1380	10.4	0.1	1.38e+02	1.38e+02	
1,2,3,7,8,9-HXCDD		2170	10.4	0.1	2.17e+02	2.17e+02	
1,2,3,4,6,7,8-HPCDD		23200	19.1	0.01	2.32e+02	2.32e+02	
OCDD		115000	12.0	0.0003	3.45e+01	3.45e+01	
2,3,7,8-TCDF		501	4.63	0.1	5.01e+01	5.01e+01	
1,2,3,7,8-PECDF		171	7.77	0.03	5.13e+00	5.13e+00	
2,3,4,7,8-PECDF		320	7.77	0.3	9.60e+01	9.60e+01	
1,2,3,4,7,8-HXCDF		638	8.04	0.1	6.38e+01	6.38e+01	
1,2,3,6,7,8-HXCDF		412	8.04	0.1	4.12e+01	4.12e+01	
1,2,3,7,8,9-HXCDF		13.2	8.04	0.1	1.32e+00	1.32e+00	
2,3,4,6,7,8-HXCDF		269	8.04	0.1	2.69e+01	2.69e+01	
1,2,3,4,6,7,8-HPCDF		3350	6.48	0.01	3.35e+01	3.35e+01	
1,2,3,4,7,8,9-HPCDF		297	6.48	0.01	2.97e+00	2.97e+00	
OCDF		3890	4.88	0.0003	1.17e+00	1.17e+00	
			TOTAL TEQ		1530	1530	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-7_TEQ_SJ1166072.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-CB165B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-8 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	16-Jul-2010 **Time:** 01:44:40	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 36**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	J	36.4	4.33	0.73	1.002
1,2,3,7,8-PECDD [3]	J	167	4.46	0.61	1.001
1,2,3,4,7,8-HXCDD		775	9.75	1.27	1.000
1,2,3,6,7,8-HXCDD		760	9.75	1.17	1.000
1,2,3,7,8,9-HXCDD		2090	9.75	1.28	0.999
1,2,3,4,6,7,8-HPCDD		19100	18.6	1.05	1.000
OCDD	B	130000	40.5	0.89	1.000
2,3,7,8-TCDF		1580	3.60	0.74	1.001
1,2,3,7,8-PECDF		259	7.07	1.58	1.001
2,3,4,7,8-PECDF		694	7.07	1.46	1.001
1,2,3,4,7,8-HXCDF		614	5.31	1.18	1.000
1,2,3,6,7,8-HXCDF		287	5.31	1.20	1.001
1,2,3,7,8,9-HXCDF	J	12.5	5.31	1.22	1.000
2,3,4,6,7,8-HXCDF	J	243	5.31	1.13	1.000
1,2,3,4,6,7,8-HPCDF		1940	10.7	0.98	1.000
1,2,3,4,7,8,9-HPCDF	J	179	10.7	1.14	1.000
OCDF	B	3660	9.03	0.89	1.002
TOTAL TETRA-DIOXINS		345	4.33		
TOTAL PENTA-DIOXINS		2530	4.46		
TOTAL HEXA-DIOXINS		16800	9.75		
TOTAL HEPTA-DIOXINS		48200	18.6		
TOTAL TETRA-FURANS		7990	3.60		
TOTAL PENTA-FURANS		6350	7.07		
TOTAL HEXA-FURANS		5080	5.31		
TOTAL HEPTA-FURANS		6150	10.7		

(1) Where applicable, custom lab flags have been used on this report; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-8_Form1A_DX0M_090CS36_SJ1170509.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-CB165B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-8 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	16-Jul-2010 **Time:** 01:44:40	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 36**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1850	92.7	0.80	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1710	85.4	0.70	1.382
13C-1,2,3,4,7,8-HXCDD		2000	1820	91.1	1.07	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1910	95.5	1.07	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	2330	116	1.16	1.094
13C-OCDD		4000	4160	104	0.88	1.178
13C-2,3,7,8-TCDF		2000	1640	82.2	0.79	0.966
13C-1,2,3,7,8-PECDF		2000	1660	82.9	1.58	1.284
13C-2,3,4,7,8-PECDF		2000	1560	77.9	1.40	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1930	96.4	0.54	0.955
13C-1,2,3,6,7,8-HXCDF		2000	1900	94.8	0.54	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1750	87.4	0.49	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1820	91.2	0.55	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	2160	108	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	2060	103	0.44	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	163	81.7		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-8_Form2_DX0M_090CS36_SJ1170509.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-CB165B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-8
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	30-Jun-2010 **Time:** 05:43:57	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_080B S: 13**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_080B S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1050	10.6	0.75	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-8_Form1A_DB03_080BS13_SJ1166073.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-CB165B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-8
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_080B S: 13** **DX0M_090C S: 36**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		36.4	4.33	1	3.64e+01	3.64e+01	
1,2,3,7,8-PECDD		167	4.46	1	1.67e+02	1.67e+02	
1,2,3,4,7,8-HXCDD		775	9.75	0.1	7.75e+01	7.75e+01	
1,2,3,6,7,8-HXCDD		760	9.75	0.1	7.60e+01	7.60e+01	
1,2,3,7,8,9-HXCDD		2090	9.75	0.1	2.09e+02	2.09e+02	
1,2,3,4,6,7,8-HPCDD		19100	18.6	0.01	1.91e+02	1.91e+02	
OCDD		130000	40.5	0.0003	3.90e+01	3.90e+01	
2,3,7,8-TCDF		1050	10.6	0.1	1.05e+02	1.05e+02	
1,2,3,7,8-PECDF		259	7.07	0.03	7.77e+00	7.77e+00	
2,3,4,7,8-PECDF		694	7.07	0.3	2.08e+02	2.08e+02	
1,2,3,4,7,8-HXCDF		614	5.31	0.1	6.14e+01	6.14e+01	
1,2,3,6,7,8-HXCDF		287	5.31	0.1	2.87e+01	2.87e+01	
1,2,3,7,8,9-HXCDF		12.5	5.31	0.1	1.25e+00	1.25e+00	
2,3,4,6,7,8-HXCDF		243	5.31	0.1	2.43e+01	2.43e+01	
1,2,3,4,6,7,8-HPCDF		1940	10.7	0.01	1.94e+01	1.94e+01	
1,2,3,4,7,8,9-HPCDF		179	10.7	0.01	1.79e+00	1.79e+00	
OCDF		3660	9.03	0.0003	1.10e+00	1.10e+00	
			TOTAL TEQ		1250	1250	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-8_TEQ_SJ1166073.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH178B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-9 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	19-May-2010
Analysis Date:	09-Jul-2010 **Time:** 02:45:32	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_086 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_086 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	J	47.2	3.05	0.83	1.001
1,2,3,7,8-PECDD [3]	J	203	4.40	0.56	1.001
1,2,3,4,7,8-HXCDD	J	277	4.79	1.24	1.000
1,2,3,6,7,8-HXCDD		594	4.79	1.18	1.000
1,2,3,7,8,9-HXCDD		749	4.79	1.18	1.000
1,2,3,4,6,7,8-HPCDD		9820	10.7	0.99	1.000
OCDD	B	75900	4.03	0.87	1.000
2,3,7,8-TCDF		276	4.05	0.71	1.002
1,2,3,7,8-PECDF	J	67.1	3.76	1.49	1.001
2,3,4,7,8-PECDF	J	109	3.76	1.51	1.001
1,2,3,4,7,8-HXCDF	J	189	4.33	1.23	1.000
1,2,3,6,7,8-HXCDF	J	149	4.33	1.16	1.001
1,2,3,7,8,9-HXCDF	J	9.05	4.33	1.15	1.001
2,3,4,6,7,8-HXCDF	J	151	4.33	1.28	1.000
1,2,3,4,6,7,8-HPCDF		2090	10.8	1.10	1.000
1,2,3,4,7,8,9-HPCDF	J	133	10.8	1.19	1.000
OCDF	B	3980	3.58	0.86	1.002
TOTAL TETRA-DIOXINS		819	3.05		
TOTAL PENTA-DIOXINS		2150	4.40		
TOTAL HEXA-DIOXINS		6310	4.79		
TOTAL HEPTA-DIOXINS		19700	10.7		
TOTAL TETRA-FURANS		1970	4.05		
TOTAL PENTA-FURANS		2620	3.76		
TOTAL HEXA-FURANS		3380	4.33		
TOTAL HEPTA-FURANS		4670	10.8		

(1) Where applicable, custom lab flags have been used on this report; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-9_Form1A_DX0M_086S7_SJ1167973.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH178B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-9 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	19-May-2010
Analysis Date:	09-Jul-2010 **Time:** 02:45:32	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_086 S: 7**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_086 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	2130	106	0.83	1.013
13C-1,2,3,7,8-PECDD [4]		2000	2140	107	0.66	1.380
13C-1,2,3,4,7,8-HXCDD		2000	1950	97.5	1.22	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1840	91.9	1.20	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	2050	103	0.89	1.095
13C-OCDD		4000	4330	108	0.83	1.179
13C-2,3,7,8-TCDF		2000	1670	83.5	0.73	0.967
13C-1,2,3,7,8-PECDF		2000	2080	104	1.44	1.283
13C-2,3,4,7,8-PECDF		2000	1860	92.8	1.45	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1740	87.2	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1740	87.2	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1750	87.7	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1520	76.2	0.50	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1790	89.7	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1910	95.4	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	184	92.0		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-9_Form2_DX0M_086S7_SJ1167973.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH178B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-9
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	30-Jun-2010 **Time:** 06:20:34	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_080B S: 14**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_080B S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		132	15.0	0.84	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-9_Form1A_DB03_080BS14_SJ1166074.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH178B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-9
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_080B S: 14** **DX0M_086 S: 7**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		47.2	3.05	1	4.72e+01	4.72e+01	
1,2,3,7,8-PECDD		203	4.40	1	2.03e+02	2.03e+02	
1,2,3,4,7,8-HXCDD		277	4.79	0.1	2.77e+01	2.77e+01	
1,2,3,6,7,8-HXCDD		594	4.79	0.1	5.94e+01	5.94e+01	
1,2,3,7,8,9-HXCDD		749	4.79	0.1	7.49e+01	7.49e+01	
1,2,3,4,6,7,8-HPCDD		9820	10.7	0.01	9.82e+01	9.82e+01	
OCDD		75900	4.03	0.0003	2.28e+01	2.28e+01	
2,3,7,8-TCDF		132	15.0	0.1	1.32e+01	1.32e+01	
1,2,3,7,8-PECDF		67.1	3.76	0.03	2.01e+00	2.01e+00	
2,3,4,7,8-PECDF		109	3.76	0.3	3.27e+01	3.27e+01	
1,2,3,4,7,8-HXCDF		189	4.33	0.1	1.89e+01	1.89e+01	
1,2,3,6,7,8-HXCDF		149	4.33	0.1	1.49e+01	1.49e+01	
1,2,3,7,8,9-HXCDF		9.05	4.33	0.1	9.05e-01	9.05e-01	
2,3,4,6,7,8-HXCDF		151	4.33	0.1	1.51e+01	1.51e+01	
1,2,3,4,6,7,8-HPCDF		2090	10.8	0.01	2.09e+01	2.09e+01	
1,2,3,4,7,8,9-HPCDF		133	10.8	0.01	1.33e+00	1.33e+00	
OCDF		3980	3.58	0.0003	1.19e+00	1.19e+00	
			TOTAL TEQ		654	654	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-9_TEQ_SJ1166074.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-CB173B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-10 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	16-Jul-2010 **Time:** 08:45:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 42**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_090C S: 37

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	J	44.9	3.94	0.82	1.001
1,2,3,7,8-PECDD [3]	J	245	14.0	0.61	1.001
1,2,3,4,7,8-HXCDD		381	8.25	1.26	1.000
1,2,3,6,7,8-HXCDD		803	8.25	1.28	1.000
1,2,3,7,8,9-HXCDD		830	8.25	1.16	1.000
1,2,3,4,6,7,8-HPCDD		13300	11.1	1.03	1.000
OCDD	B	113000	10.9	0.88	1.000
2,3,7,8-TCDF		2340	3.56	0.76	1.001
1,2,3,7,8-PECDF		287	4.87	1.54	1.001
2,3,4,7,8-PECDF		972	4.87	1.51	1.001
1,2,3,4,7,8-HXCDF		2070	6.28	1.27	1.001
1,2,3,6,7,8-HXCDF		985	6.28	1.22	1.000
1,2,3,7,8,9-HXCDF	K J	42.8	6.28	0.86	1.000
2,3,4,6,7,8-HXCDF		360	6.28	1.18	1.000
1,2,3,4,6,7,8-HPCDF		3430	13.7	0.99	1.000
1,2,3,4,7,8,9-HPCDF		629	13.7	1.07	1.000
OCDF	B	7600	12.6	0.87	1.002
TOTAL TETRA-DIOXINS		1370	3.94		
TOTAL PENTA-DIOXINS		2420	14.0		
TOTAL HEXA-DIOXINS		7850	8.25		
TOTAL HEPTA-DIOXINS		28600	11.1		
TOTAL TETRA-FURANS		14400	3.56		
TOTAL PENTA-FURANS		10600	4.87		
TOTAL HEXA-FURANS		10900	6.28		
TOTAL HEPTA-FURANS		8930	13.7		

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-10_Form1A_DX0M_090CS42_SJ1170518.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-CB173B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-10 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	16-Jul-2010 **Time:** 08:45:24	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 42**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_090C S: 37

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1710	85.3	0.79	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1630	81.6	0.58	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1800	90.2	1.25	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1750	87.7	1.16	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1670	83.6	1.01	1.094
13C-OCDD		4000	2680	67.1	0.86	1.177
13C-2,3,7,8-TCDF		2000	1710	85.6	0.79	0.966
13C-1,2,3,7,8-PECDF		2000	1720	86.1	1.50	1.284
13C-2,3,4,7,8-PECDF		2000	1570	78.6	1.61	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1960	97.9	0.50	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1960	97.9	0.50	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1630	81.6	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1700	85.2	0.50	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1740	87.0	0.42	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	1600	80.1	0.43	1.103
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	151	75.6		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-10_Form2_DX0M_090CS42_SJ1170518.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-CB173B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-10
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	30-Jun-2010 **Time:** 06:57:09	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_080B S: 15**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_080B S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		1600	35.3	0.79	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-10_Form1A_DB03_080BS15_SJ1166075.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-CB173B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-10
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_080B S: 15** **DX0M_090C S: 42**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		44.9	3.94	1	4.49e+01	4.49e+01	
1,2,3,7,8-PECDD		245	14.0	1	2.45e+02	2.45e+02	
1,2,3,4,7,8-HXCDD		381	8.25	0.1	3.81e+01	3.81e+01	
1,2,3,6,7,8-HXCDD		803	8.25	0.1	8.03e+01	8.03e+01	
1,2,3,7,8,9-HXCDD		830	8.25	0.1	8.30e+01	8.30e+01	
1,2,3,4,6,7,8-HPCDD		13300	11.1	0.01	1.33e+02	1.33e+02	
OCDD		113000	10.9	0.0003	3.39e+01	3.39e+01	
2,3,7,8-TCDF		1600	35.3	0.1	1.60e+02	1.60e+02	
1,2,3,7,8-PECDF		287	4.87	0.03	8.61e+00	8.61e+00	
2,3,4,7,8-PECDF		972	4.87	0.3	2.92e+02	2.92e+02	
1,2,3,4,7,8-HXCDF		2070	6.28	0.1	2.07e+02	2.07e+02	
1,2,3,6,7,8-HXCDF		985	6.28	0.1	9.85e+01	9.85e+01	
1,2,3,7,8,9-HXCDF	U		6.28	0.1	0.00e+00	3.14e-01	
2,3,4,6,7,8-HXCDF		360	6.28	0.1	3.60e+01	3.60e+01	
1,2,3,4,6,7,8-HPCDF		3430	13.7	0.01	3.43e+01	3.43e+01	
1,2,3,4,7,8,9-HPCDF		629	13.7	0.01	6.29e+00	6.29e+00	
OCDF		7600	12.6	0.0003	2.28e+00	2.28e+00	
			TOTAL TEQ		1500	1500	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-10_TEQ_SJ1166075.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH133B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-11 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	16-Jul-2010 **Time:** 05:33:58	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 40**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_090C S: 37

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		52.2	8.54	0.75	1.001
1,2,3,7,8-PECDD [3]	J	240	3.67	0.61	1.000
1,2,3,4,7,8-HXCDD		386	9.23	1.16	1.000
1,2,3,6,7,8-HXCDD		730	9.23	1.21	1.000
1,2,3,7,8,9-HXCDD		767	9.23	1.29	1.000
1,2,3,4,6,7,8-HPCDD		10900	12.8	1.03	1.000
OCDD	B	97000	27.1	0.88	1.000
2,3,7,8-TCDF		947	5.46	0.80	1.001
1,2,3,7,8-PECDF	J	158	9.11	1.33	1.001
2,3,4,7,8-PECDF		318	9.11	1.48	1.001
1,2,3,4,7,8-HXCDF		306	12.1	1.27	1.001
1,2,3,6,7,8-HXCDF	J	233	12.1	1.42	1.000
1,2,3,7,8,9-HXCDF	K J	22.8	12.1	0.72	1.000
2,3,4,6,7,8-HXCDF		340	12.1	1.19	1.001
1,2,3,4,6,7,8-HPCDF		2390	10.9	1.03	1.000
1,2,3,4,7,8,9-HPCDF	J	186	10.9	1.16	1.000
OCDF	B	4900	8.61	0.88	1.002
TOTAL TETRA-DIOXINS		718	8.54		
TOTAL PENTA-DIOXINS		1130	3.67		
TOTAL HEXA-DIOXINS		8260	9.23		
TOTAL HEPTA-DIOXINS		28100	12.8		
TOTAL TETRA-FURANS		5810	5.46		
TOTAL PENTA-FURANS		4640	9.11		
TOTAL HEXA-FURANS		5070	12.1		
TOTAL HEPTA-FURANS		9020	10.9		

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-11_Form1A_DX0M_090CS40_SJ1170517.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH133B-052010-S
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	NBF-GTSP STORMWATER		
Contract No.:	4406	**Lab Sample I.D.:**	L14824-11 LW
Matrix:	SOLID	**Sample Size:**	1 sample
Sample Receipt Date:	08-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Extraction Date:	14-Jun-2010	**Instrument ID:**	HR GC/MS
Analysis Date:	16-Jul-2010 **Time:** 05:33:58	**GC Column ID:**	DB5
Extract Volume (uL):	50	**Sample Data Filename:**	**DX0M_090C S: 40**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX0M_086 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX0M_090C S: 37
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1650	82.3	0.76	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1540	77.0	0.61	1.382
13C-1,2,3,4,7,8-HXCDD		2000	2130	107	1.24	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1820	91.0	1.25	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	2570	129	0.97	1.094
13C-OCDD		4000	4470	112	0.88	1.178
13C-2,3,7,8-TCDF		2000	1660	82.8	0.76	0.966
13C-1,2,3,7,8-PECDF		2000	1480	73.9	1.42	1.285
13C-2,3,4,7,8-PECDF		2000	1490	74.7	1.50	1.351
13C-1,2,3,4,7,8-HXCDF		2000	2100	105	0.55	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1900	95.2	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1970	98.5	0.52	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1840	91.9	0.49	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	2300	115	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	2310	115	0.40	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	129	64.4		1.013

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-11_Form2_DX0M_090CS40_SJ1170517.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH133B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-11 Li
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	08-Jul-2010 **Time:** 00:36:51	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_081A S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_081A S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		685	7.94	0.79	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-11_Form1A_DB03_081AS6_SJ1167474.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH133B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-11 Li
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_081A S: 6** **DX0M_090C S: 40**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		52.2	8.54	1	5.22e+01	5.22e+01	
1,2,3,7,8-PECDD		240	3.67	1	2.40e+02	2.40e+02	
1,2,3,4,7,8-HXCDD		386	9.23	0.1	3.86e+01	3.86e+01	
1,2,3,6,7,8-HXCDD		730	9.23	0.1	7.30e+01	7.30e+01	
1,2,3,7,8,9-HXCDD		767	9.23	0.1	7.67e+01	7.67e+01	
1,2,3,4,6,7,8-HPCDD		10900	12.8	0.01	1.09e+02	1.09e+02	
OCDD		97000	27.1	0.0003	2.91e+01	2.91e+01	
2,3,7,8-TCDF		685	7.94	0.1	6.85e+01	6.85e+01	
1,2,3,7,8-PECDF		158	9.11	0.03	4.74e+00	4.74e+00	
2,3,4,7,8-PECDF		318	9.11	0.3	9.54e+01	9.54e+01	
1,2,3,4,7,8-HXCDF		306	12.1	0.1	3.06e+01	3.06e+01	
1,2,3,6,7,8-HXCDF		233	12.1	0.1	2.33e+01	2.33e+01	
1,2,3,7,8,9-HXCDF	U		12.1	0.1	0.00e+00	6.05e-01	
2,3,4,6,7,8-HXCDF		340	12.1	0.1	3.40e+01	3.40e+01	
1,2,3,4,6,7,8-HPCDF		2390	10.9	0.01	2.39e+01	2.39e+01	
1,2,3,4,7,8,9-HPCDF		186	10.9	0.01	1.86e+00	1.86e+00	
OCDF		4900	8.61	0.0003	1.47e+00	1.47e+00	
			TOTAL TEQ		902	903	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-11_TEQ_SJ1167474.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH138B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-12 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	19-May-2010
Analysis Date:	09-Jul-2010 **Time:** 01:50:30	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_086 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_086 S: 1

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	K J	9.13	3.26	0.91	1.000
1,2,3,7,8-PECDD [3]	K J	42.4	4.43	0.73	1.001
1,2,3,4,7,8-HXCDD	J	79.8	3.10	1.09	1.000
1,2,3,6,7,8-HXCDD	J	148	3.10	1.30	1.000
1,2,3,7,8,9-HXCDD	J	197	3.10	1.26	1.000
1,2,3,4,6,7,8-HPCDD		2770	6.56	0.99	1.000
OCDD	B	20200	7.30	0.87	1.000
2,3,7,8-TCDF		245	4.18	0.79	1.002
1,2,3,7,8-PECDF	K J	42.4	6.41	1.18	1.001
2,3,4,7,8-PECDF	J	135	6.41	1.48	1.001
1,2,3,4,7,8-HXCDF	J	223	3.44	1.25	1.000
1,2,3,6,7,8-HXCDF	J	107	3.44	1.15	1.000
1,2,3,7,8,9-HXCDF	K J	5.56	3.44	0.86	1.000
2,3,4,6,7,8-HXCDF	J	69.2	3.44	1.29	1.001
1,2,3,4,6,7,8-HPCDF		614	9.08	0.99	1.000
1,2,3,4,7,8,9-HPCDF	J	94.0	9.08	0.90	1.000
OCDF	B	1380	3.60	0.88	1.002
TOTAL TETRA-DIOXINS		202	3.26		
TOTAL PENTA-DIOXINS		354	4.43		
TOTAL HEXA-DIOXINS		1540	3.10		
TOTAL HEPTA-DIOXINS		5920	6.56		
TOTAL TETRA-FURANS		1440	4.18		
TOTAL PENTA-FURANS		1210	6.41		
TOTAL HEXA-FURANS		1380	3.44		
TOTAL HEPTA-FURANS		1450	9.08		

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-12_Form1A_DX0M_086S6_SJ1167972.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH138B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-12 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	19-May-2010
Analysis Date:	09-Jul-2010 **Time:** 01:50:30	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_086 S: 6**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_086 S: 1

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1670	83.4	0.76	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1750	87.6	0.58	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1590	79.7	1.16	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1610	80.5	1.17	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1490	74.5	0.89	1.095
13C-OCDD		4000	2690	67.1	0.88	1.179
13C-2,3,7,8-TCDF		2000	1460	72.8	0.68	0.967
13C-1,2,3,7,8-PECDF		2000	1640	82.0	1.47	1.284
13C-2,3,4,7,8-PECDF		2000	1540	77.2	1.41	1.351
13C-1,2,3,4,7,8-HXCDF		2000	1450	72.3	0.48	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1420	71.0	0.51	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1430	71.7	0.51	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1260	62.8	0.49	0.981
13C-1,2,3,4,6,7,8-HPCDF		2000	1360	68.1	0.43	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1430	71.5	0.42	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	159	79.3		1.015

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-12_Form2_DX0M_086S6_SJ1167972.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH138B-052010-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-12
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	30-Jun-2010 **Time:** 08:10:21	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_080B S: 17**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_080B S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		125	18.2	0.74	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-12_Form1A_DB03_080BS17_SJ1166077.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH138B-052010-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-12
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_080B S: 17** **DX0M_086 S: 6**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		3.26	1	0.00e+00	1.63e+00	
1,2,3,7,8-PECDD	U		4.43	1	0.00e+00	2.22e+00	
1,2,3,4,7,8-HXCDD		79.8	3.10	0.1	7.98e+00	7.98e+00	
1,2,3,6,7,8-HXCDD		148	3.10	0.1	1.48e+01	1.48e+01	
1,2,3,7,8,9-HXCDD		197	3.10	0.1	1.97e+01	1.97e+01	
1,2,3,4,6,7,8-HPCDD		2770	6.56	0.01	2.77e+01	2.77e+01	
OCDD		20200	7.30	0.0003	6.06e+00	6.06e+00	
2,3,7,8-TCDF		125	18.2	0.1	1.25e+01	1.25e+01	
1,2,3,7,8-PECDF	U		6.41	0.03	0.00e+00	9.62e-02	
2,3,4,7,8-PECDF		135	6.41	0.3	4.05e+01	4.05e+01	
1,2,3,4,7,8-HXCDF		223	3.44	0.1	2.23e+01	2.23e+01	
1,2,3,6,7,8-HXCDF		107	3.44	0.1	1.07e+01	1.07e+01	
1,2,3,7,8,9-HXCDF	U		3.44	0.1	0.00e+00	1.72e-01	
2,3,4,6,7,8-HXCDF		69.2	3.44	0.1	6.92e+00	6.92e+00	
1,2,3,4,6,7,8-HPCDF		614	9.08	0.01	6.14e+00	6.14e+00	
1,2,3,4,7,8,9-HPCDF		94.0	9.08	0.01	9.40e-01	9.40e-01	
OCDF		1380	3.60	0.0003	4.14e-01	4.14e-01	
			TOTAL TEQ		177	181	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-12_TEQ_SJ1166077.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH434B-052810-S
Sample Collection:
N/A

Form 1A

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-13 LW
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	15-Jul-2010 **Time:** 23:54:36	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	50	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**Sample Data Filename:**	**DX0M_090C S: 34**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DX0M_090C S: 26

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD		128	7.67	0.68	1.002
1,2,3,7,8-PECDD [3]		900	14.6	0.57	1.000
1,2,3,4,7,8-HXCDD		1740	13.1	1.26	1.000
1,2,3,6,7,8-HXCDD		3890	13.1	1.16	1.000
1,2,3,7,8,9-HXCDD		3840	13.1	1.26	1.000
1,2,3,4,6,7,8-HPCDD		75100	28.3	1.02	1.000
OCDD	B	583000	67.1	0.88	1.000
2,3,7,8-TCDF		1110	5.17	0.78	1.001
1,2,3,7,8-PECDF		326	16.0	1.34	1.001
2,3,4,7,8-PECDF		784	16.0	1.39	1.001
1,2,3,4,7,8-HXCDF		1070	10.9	1.27	1.000
1,2,3,6,7,8-HXCDF		1270	10.9	1.17	1.000
1,2,3,7,8,9-HXCDF	K J	33.9	10.9	0.98	1.000
2,3,4,6,7,8-HXCDF		1230	10.9	1.14	1.000
1,2,3,4,6,7,8-HPCDF		19500	27.2	1.01	1.000
1,2,3,4,7,8,9-HPCDF		892	27.2	1.04	1.000
OCDF	B	32200	11.9	0.86	1.002
TOTAL TETRA-DIOXINS		1010	7.67		
TOTAL PENTA-DIOXINS		6180	14.6		
TOTAL HEXA-DIOXINS		36900	13.1		
TOTAL HEPTA-DIOXINS		150000	28.3		
TOTAL TETRA-FURANS		11900	5.17		
TOTAL PENTA-FURANS		33100	16.0		
TOTAL HEXA-FURANS		37800	10.9		
TOTAL HEPTA-FURANS		43800	27.2		

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; B = analyte found in sample and the associated blank; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-13_Form1A_DX0M_090CS34_SJ1170507.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH434B-052810-S
Sample Collection:
N/A

Form 2

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	NBF-GTSP STORMWATER		
Contract No.:	4406	**Lab Sample I.D.:**	L14824-13 LW
Matrix:	SOLID	**Sample Size:**	1 sample
Sample Receipt Date:	08-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Extraction Date:	14-Jun-2010	**Instrument ID:**	HR GC/MS
Analysis Date:	15-Jul-2010 **Time:** 23:54:36	**GC Column ID:**	DB5
Extract Volume (uL):	50	**Sample Data Filename:**	**DX0M_090C S: 34**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX0M_086 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX0M_090C S: 26
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1780	89.2	0.74	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1610	80.3	0.70	1.382
13C-1,2,3,4,7,8-HXCDD		2000	2250	112	1.26	0.987
13C-1,2,3,6,7,8-HXCDD		2000	2050	102	1.06	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	2470	123	0.98	1.094
13C-OCDD		4000	4680	117	0.88	1.177
13C-2,3,7,8-TCDF		2000	1810	90.3	0.70	0.966
13C-1,2,3,7,8-PECDF		2000	1760	88.0	1.39	1.284
13C-2,3,4,7,8-PECDF		2000	1380	69.1	1.57	1.351
13C-1,2,3,4,7,8-HXCDF		2000	2460	123	0.47	0.954
13C-1,2,3,6,7,8-HXCDF		2000	2350	118	0.49	0.958
13C-1,2,3,7,8,9-HXCDF		2000	2260	113	0.47	1.005
13C-2,3,4,6,7,8-HXCDF		2000	2210	111	0.49	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	2280	114	0.43	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	2150	108	0.50	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	161	80.7		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_L14824-13_Form2_DX0M_090CS34_SJ1170507.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
NBF-MH434B-052810-S
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Project No.**	NBF-GTSP STORMWATER
Matrix:	SOLID	**Lab Sample I.D.:**	L14824-13
Sample Receipt Date:	08-Jun-2010	**Sample Size:**	1 sample
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	30-Jun-2010 **Time:** 08:46:54	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**Sample Data Filename:**	**DB03_080B S: 18**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/sample	**Cal. Ver. Data Filename:**	DB03_080B S: 2

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF		743	15.4	0.79	1.001

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_L14824-13_Form1A_DB03_080BS18_SJ1166078.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
NBF-MH434B-052810-S

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	NBF-GTSP STORMWATER
Sample Size:	1 sample	**Lab Sample I.D.:**	L14824-13
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_080B S: 18** **DX0M_090C S: 34**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		128	7.67	1	1.28e+02	1.28e+02	
1,2,3,7,8-PECDD		900	14.6	1	9.00e+02	9.00e+02	
1,2,3,4,7,8-HXCDD		1740	13.1	0.1	1.74e+02	1.74e+02	
1,2,3,6,7,8-HXCDD		3890	13.1	0.1	3.89e+02	3.89e+02	
1,2,3,7,8,9-HXCDD		3840	13.1	0.1	3.84e+02	3.84e+02	
1,2,3,4,6,7,8-HPCDD		75100	28.3	0.01	7.51e+02	7.51e+02	
OCDD		583000	67.1	0.0003	1.75e+02	1.75e+02	
2,3,7,8-TCDF		743	15.4	0.1	7.43e+01	7.43e+01	
1,2,3,7,8-PECDF		326	16.0	0.03	9.78e+00	9.78e+00	
2,3,4,7,8-PECDF		784	16.0	0.3	2.35e+02	2.35e+02	
1,2,3,4,7,8-HXCDF		1070	10.9	0.1	1.07e+02	1.07e+02	
1,2,3,6,7,8-HXCDF		1270	10.9	0.1	1.27e+02	1.27e+02	
1,2,3,7,8,9-HXCDF	U		10.9	0.1	0.00e+00	5.45e-01	
2,3,4,6,7,8-HXCDF		1230	10.9	0.1	1.23e+02	1.23e+02	
1,2,3,4,6,7,8-HPCDF		19500	27.2	0.01	1.95e+02	1.95e+02	
1,2,3,4,7,8,9-HPCDF		892	27.2	0.01	8.92e+00	8.92e+00	
OCDF		32200	11.9	0.0003	9.66e+00	9.66e+00	
			TOTAL TEQ		3790	3790	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_L14824-13_TEQ_SJ1166078.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

Form 1A

PCDD/PCDF ANALYSIS REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4406	**Lab Sample I.D.:**	WG33003-101 L
Matrix:	SOLID	**Sample Size:**	1 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	19-May-2010
Extraction Date:	14-Jun-2010	**Instrument ID:**	HR GC/MS
Analysis Date:	09-Jul-2010 **Time:** 00:55:27	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX0M_086 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX0M_086 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX0M_086 S: 1
Concentration Units:	pg/sample		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDD	U		0.824		
1,2,3,7,8-PECDD [3]	U		1.02		
1,2,3,4,7,8-HXCDD	U		0.712		
1,2,3,6,7,8-HXCDD	U		0.712		
1,2,3,7,8,9-HXCDD	U		0.712		
1,2,3,4,6,7,8-HPCDD	U		2.38		
OCDD	J	30.9	2.26	0.78	1.000
2,3,7,8-TCDF	U		0.565		
1,2,3,7,8-PECDF	U		0.500		
2,3,4,7,8-PECDF	U		0.500		
1,2,3,4,7,8-HXCDF	U		1.03		
1,2,3,6,7,8-HXCDF	U		1.03		
1,2,3,7,8,9-HXCDF	U		1.03		
2,3,4,6,7,8-HXCDF	U		1.03		
1,2,3,4,6,7,8-HPCDF	U		4.16		
1,2,3,4,7,8,9-HPCDF	U		4.16		
OCDF	J	3.44	2.78	1.00	1.002
TOTAL TETRA-DIOXINS	U		0.824		
TOTAL PENTA-DIOXINS	U		1.02		
TOTAL HEXA-DIOXINS	U		0.712		
TOTAL HEPTA-DIOXINS	U		2.38		
TOTAL TETRA-FURANS	U		0.565		
TOTAL PENTA-FURANS	U		0.500		
TOTAL HEXA-FURANS	U		1.03		
TOTAL HEPTA-FURANS	U		4.16		

(1) Where applicable, custom lab flags have been used on this report; U = not detected; J = concentration less than LMCL.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.
(3) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_WG33003-101_Form1A_DX0M_086S5_SJ1167970.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 2

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4406	**Lab Sample I.D.:**	WG33003-101 L
Matrix:	SOLID	**Sample Size:**	1 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	19-May-2010
Extraction Date:	14-Jun-2010	**Instrument ID:**	HR GC/MS
Analysis Date:	09-Jul-2010 **Time:** 00:55:27	**GC Column ID:**	DB5
Extract Volume (uL):	20	**Sample Data Filename:**	**DX0M_086 S: 5**
Injection Volume (uL):	1.0	**Blank Data Filename:**	DX0M_086 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DX0M_086 S: 1
Concentration Units:	pg absolute		

LABELED COMPOUND	LAB FLAG [1]	SPIKE CONC.	CONC. FOUND	R(%) [2]	ION ABUND. RATIO [3]	RRT [3]
13C-2,3,7,8-TCDD		2000	1030	51.4	0.77	1.013
13C-1,2,3,7,8-PECDD [4]		2000	1570	78.7	0.62	1.381
13C-1,2,3,4,7,8-HXCDD		2000	2020	101	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1990	99.4	1.18	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	1470	73.6	0.90	1.094
13C-OCDD		4000	1550	38.7	0.88	1.178
13C-2,3,7,8-TCDF		2000	999	49.9	0.70	0.966
13C-1,2,3,7,8-PECDF		2000	1390	69.7	1.48	1.283
13C-2,3,4,7,8-PECDF		2000	1220	61.1	1.44	1.350
13C-1,2,3,4,7,8-HXCDF		2000	1610	80.7	0.49	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1790	89.5	0.52	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1080	53.8	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1250	62.6	0.52	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1300	65.0	0.45	1.062
13C-1,2,3,4,7,8,9-HPCDF		2000	1220	61.0	0.43	1.104
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	99.5	49.8		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Contract-required limits for percent recovery (R) are specified in Section 9.3.3, Method 1613.
(3) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613. NOTE: There is no ion abundance ratio for 37Cl4-2,3,7,8-TCDD
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form2.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_WG33003-101_Form2_DX0M_086S5_SJ1167970.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 1A

PCDD/PCDF ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Project No.	N/A		
Contract No.:	4406	**Lab Sample I.D.:**	WG33003-101
Matrix:	SOLID	**Sample Size:**	1 sample
Sample Receipt Date:	N/A	**Initial Calibration Date:**	16-Mar-2010
Extraction Date:	14-Jun-2010	**Instrument ID:**	HR GC/MS
Analysis Date:	29-Jun-2010 **Time:** 15:17:57	**GC Column ID:**	DB225
Extract Volume (uL):	20	**Sample Data Filename:**	**DB03_079 S: 5**
Injection Volume (uL):	2.0	**Blank Data Filename:**	DB03_079 S: 5
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB03_079 S: 2
Concentration Units:	pg/sample		

COMPOUND	LAB FLAG [1]	CONCENTRATION FOUND	DETECTION LIMIT	ION ABUND. RATIO [2]	RRT [2]
2,3,7,8-TCDF	U		1.24		

(1) Where applicable, custom lab flags have been used on this report; U = not detected.
(2) Contract-required limits for RRTs and ion abundance ratios are specified in Tables 2 and 9, respectively, Method 1613.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_WG33003-101_Form1A_DB03_079S5_SJ1166058.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
Lab Blank

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Sample Collection:**	N/A
Matrix:	SOLID	**Project No.**	N/A
Sample Size:	1 sample	**Lab Sample I.D.:**	WG33003-101
Concentration Units:	pg/sample	**GC Column ID(s):**	DB225 DB5
		Sample Data Filenames:	**DB03_079 S: 5** **DX0M_086 S: 5**

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD	U		0.824	1	0.00e+00	4.12e-01	
1,2,3,7,8-PECDD	U		1.02	1	0.00e+00	5.10e-01	
1,2,3,4,7,8-HXCDD	U		0.712	0.1	0.00e+00	3.56e-02	
1,2,3,6,7,8-HXCDD	U		0.712	0.1	0.00e+00	3.56e-02	
1,2,3,7,8,9-HXCDD	U		0.712	0.1	0.00e+00	3.56e-02	
1,2,3,4,6,7,8-HPCDD	U		2.38	0.01	0.00e+00	1.19e-02	
OCDD		30.9	2.26	0.0003	9.27e-03	9.27e-03	
2,3,7,8-TCDF	U		1.24	0.1	0.00e+00	6.20e-02	
1,2,3,7,8-PECDF	U		0.500	0.03	0.00e+00	7.50e-03	
2,3,4,7,8-PECDF	U		0.500	0.3	0.00e+00	7.50e-02	
1,2,3,4,7,8-HXCDF	U		1.03	0.1	0.00e+00	5.15e-02	
1,2,3,6,7,8-HXCDF	U		1.03	0.1	0.00e+00	5.15e-02	
1,2,3,7,8,9-HXCDF	U		1.03	0.1	0.00e+00	5.15e-02	
2,3,4,6,7,8-HXCDF	U		1.03	0.1	0.00e+00	5.15e-02	
1,2,3,4,6,7,8-HPCDF	U		4.16	0.01	0.00e+00	2.08e-02	
1,2,3,4,7,8,9-HPCDF	U		4.16	0.01	0.00e+00	2.08e-02	
OCDF		3.44	2.78	0.0003	1.03e-03	1.03e-03	
			TOTAL TEQ		0.0103	1.44	

(1) Where applicable, custom lab flags have been used on this report; U = not detected.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_WG33003-101_TEQ_SJ1166058.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4406 **OPR Data Filename:** **DX0M_082A S: 2**

Matrix: SOLID **Lab Sample I.D.:** WG33003-102

Extraction Date: 14-Jun-2010 **Analysis Date:** 30-Jun-2010 **Time:** 12:00:29

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD	X					
1,2,3,7,8-PECDD [4]	X					
1,2,3,4,7,8-HXCDD	X					
1,2,3,6,7,8-HXCDD	X					
1,2,3,7,8,9-HXCDD	X					
1,2,3,4,6,7,8-HPCDD		0.98	47.5	43.6	33.3 - 66.5	91.8
OCDD	X					
2,3,7,8-TCDF	X					
1,2,3,7,8-PECDF	X					
2,3,4,7,8-PECDF	X					
1,2,3,4,7,8-HXCDF	X					
1,2,3,6,7,8-HXCDF	X					
1,2,3,7,8,9-HXCDF	X					
2,3,4,6,7,8-HXCDF	X					
1,2,3,4,6,7,8-HPCDF	X					
1,2,3,4,7,8,9-HPCDF	X					
OCDF	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under OPR.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_WG33003-102_Form8A_SJ1166046.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4406 **OPR Data Filename:** **DX0M_082A S: 2**

Matrix: SOLID **Lab Sample I.D.:** WG33003-102

Extraction Date: 14-Jun-2010 **Analysis Date:** 30-Jun-2010 **Time:** 12:00:29

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD	X					
13C-1,2,3,7,8-PECDD [4]	X					
13C-1,2,3,4,7,8-HXCDD	X					
13C-1,2,3,6,7,8-HXCDD	X					
13C-1,2,3,4,6,7,8-HPCDD		0.91	100	41.6	26.0-166	41.6
13C-OCDD	X					
13C-2,3,7,8-TCDF	X					
13C-1,2,3,7,8-PECDF	X					
13C-2,3,4,7,8-PECDF	X					
13C-1,2,3,4,7,8-HXCDF	X					
13C-1,2,3,6,7,8-HXCDF	X					
13C-1,2,3,7,8,9-HXCDF	X					
13C-2,3,4,6,7,8-HXCDF	X					
13C-1,2,3,4,6,7,8-HPCDF	X					
13C-1,2,3,4,7,8,9-HPCDF	X					
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD	X					

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_WG33003-102_Form8B_SJ1166046.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 8A

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**OPR Data Filename:**	**DX0M_086 S: 2**
Matrix:	SOLID	**Lab Sample I.D.:**	WG33003-102 L
Extraction Date:	14-Jun-2010	**Analysis Date:**	08-Jul-2010 **Time:** 22:13:12

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
2,3,7,8-TCDD		0.72	10.0	8.92	6.70 - 15.8	89.2
1,2,3,7,8-PECDD [4]		0.61	52.0	49.0	36.4 - 73.8	94.2
1,2,3,4,7,8-HXCDD		1.16	56.5	51.4	39.6 - 92.7	91.1
1,2,3,6,7,8-HXCDD		1.18	55.5	52.3	42.2 - 74.4	94.1
1,2,3,7,8,9-HXCDD		1.19	54.0	49.4	34.6 - 87.5	91.6
1,2,3,4,6,7,8-HPCDD	X					
OCDD		0.88	100	95.4	78.0 - 144	95.4
2,3,7,8-TCDF		0.79	10.7	11.3	8.03 - 16.9	105
1,2,3,7,8-PECDF		1.55	46.0	40.8	36.8 - 61.6	88.6
2,3,4,7,8-PECDF		1.56	47.0	41.5	32.0 - 75.2	88.4
1,2,3,4,7,8-HXCDF		1.22	50.0	44.7	36.0 - 67.0	89.4
1,2,3,6,7,8-HXCDF		1.20	47.5	43.4	39.9 - 61.8	91.3
1,2,3,7,8,9-HXCDF		1.21	52.5	46.0	41.0 - 68.3	87.7
2,3,4,6,7,8-HXCDF		1.22	53.0	48.1	37.1 - 82.7	90.8
1,2,3,4,6,7,8-HPCDF		1.03	50.0	54.7	41.0 - 61.0	109
1,2,3,4,7,8,9-HPCDF		1.05	50.0	46.8	39.0 - 69.0	93.6
OCDF		0.87	104	104	65.5 - 177	100

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration range as determined from the percent of the test concentration in Table 6, Method 1613, under OPR.
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form8A.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_WG33003-102_Form8A_SJ1167966.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4406 **OPR Data Filename:** **DX0M_086 S: 2**

Matrix: SOLID **Lab Sample I.D.:** WG33003-102 L

Extraction Date: 14-Jun-2010 **Analysis Date:** 08-Jul-2010 **Time:** 22:13:12

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	LAB FLAG [1]	ION ABUND. RATIO [2]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS [3] (ng/mL)	% RECOVERY
13C-2,3,7,8-TCDD		0.79	100	33.2	20.0-175	33.2
13C-1,2,3,7,8-PECDD [4]		0.63	100	36.9	21.0-227	36.9
13C-1,2,3,4,7,8-HXCDD		1.13	100	39.3	21.0-193	39.3
13C-1,2,3,6,7,8-HXCDD		1.16	100	37.5	25.0-163	37.5
13C-1,2,3,4,6,7,8-HPCDD	X					
13C-OCDD		0.89	200	43.3	26.0-397	21.6
13C-2,3,7,8-TCDF		0.68	100	28.3	22.0-152	28.3
13C-1,2,3,7,8-PECDF		1.43	100	34.9	21.0-192	34.9
13C-2,3,4,7,8-PECDF		1.43	100	31.5	13.0-328	31.5
13C-1,2,3,4,7,8-HXCDF		0.49	100	33.5	19.0-202	33.5
13C-1,2,3,6,7,8-HXCDF		0.52	100	34.8	21.0-159	34.8
13C-1,2,3,7,8,9-HXCDF		0.49	100	29.3	17.0-205	29.3
13C-2,3,4,6,7,8-HXCDF		0.49	100	29.6	22.0-176	29.6
13C-1,2,3,4,6,7,8-HPCDF		0.43	100	30.6	21.0-158	30.6
13C-1,2,3,4,7,8,9-HPCDF		0.45	100	29.3	20.0-186	29.3
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD			10.0	6.52	3.10-19.1	65.2

(1) Where applicable, custom lab flags have been used on this report; X = result reported separately.
(2) Contract-required Ion Abundance Ratios are specified in Table 9, Method 1613.
(3) Contract-required concentration limits for OPR as specified in Table 6, Method 1613. Labeled compound concentrations limits are based on required percent recovery (Section 15.5, Method 1613).
(4) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form8B.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_WG33003-102_Form8B_SJ1167966.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 8G

PCDD/PCDF CERTIFIED REFERENCE MATERIAL (CRM) REPORT FOR NIST SRM 1944

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Lab Sample I.D.:**	WG33003-103 L
Matrix:	SOLID	**Sample Size:**	3.20 g
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	16-Jul-2010 **Time:** 09:40:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**CRM Data Filename:**	**DX0M_090C S: 43**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DX0M_090C S: 37

COMPOUND	LAB FLAG [1]	DETERMINED	CERTIFIED / REFERENCE
2,3,7,8-TCDD		120	133 +/- 9
1,2,3,7,8-PECDD [2]		16.2	19 +/- 2
1,2,3,4,7,8-HXCDD		28.3	26 +/- 3
1,2,3,6,7,8-HXCDD		56.8	56 +/- 6
1,2,3,7,8,9-HXCDD		54.5	53 +/- 7
1,2,3,4,6,7,8-HPCDD		699	800 +/- 70
OCDD		6280	5800 +/- 700
2,3,7,8-TCDF		176	39 +/- 15
1,2,3,7,8-PECDF		42.5	45 +/- 7
2,3,4,7,8-PECDF		41.0	45 +/- 4
1,2,3,4,7,8-HXCDF		180	220 +/- 30
1,2,3,6,7,8-HXCDF		83.8	90 +/- 10
1,2,3,7,8,9-HXCDF		4.46	19 +/- 18
2,3,4,6,7,8-HXCDF		46.4	54 +/- 6
1,2,3,4,6,7,8-HPCDF		872	1000 +/- 100
1,2,3,4,7,8,9-HPCDF	K	45.7	40 +/- 6
OCDF		1160	1000 +/- 100

(1) Where applicable, custom lab flags have been used on this report; K = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.
(2) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form8G.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_WG33003-103_Form8G_SJ1170519.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 8H

PCDD/PCDF CERTIFIED REFERENCE MATERIAL (CRM) REPORT FOR NIST SRM 1944

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Lab Sample I.D.:**	WG33003-103 L
Matrix:	SOLID	**Sample Size:**	3.20 g
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	14-Jul-2010
Analysis Date:	16-Jul-2010 **Time:** 09:40:31	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB5
Injection Volume (uL):	1.0	**CRM Data Filename:**	**DX0M_090C S: 43**
Dilution Factor:	N/A	**Blank Data Filename:**	DX0M_086 S: 5
Concentration Units:	pg absolute	**Cal. Ver. Data Filename:**	DX0M_090C S: 37

LABELED COMPOUND	LAB FLAG[1]	SPIKE CONC.	CONC. FOUND	% RECOVERY	ION ABUND. RATIO	RRT
13C-2,3,7,8-TCDD		2000	1570	78.6	0.80	1.013
13C-1,2,3,7,8-PECDD [2]		2000	1630	81.3	0.64	1.381
13C-1,2,3,4,7,8-HXCDD		2000	1900	95.0	1.23	0.987
13C-1,2,3,6,7,8-HXCDD		2000	1950	97.5	1.16	0.990
13C-1,2,3,4,6,7,8-HPCDD		2000	2000	100	1.01	1.094
13C-OCDD		4000	2490	62.2	0.78	1.177
13C-2,3,7,8-TCDF		2000	1580	79.2	0.73	0.965
13C-1,2,3,7,8-PECDF		2000	1580	78.9	1.60	1.284
13C-2,3,4,7,8-PECDF		2000	1520	75.9	1.52	1.351
13C-1,2,3,4,7,8-HXCDF		2000	2070	103	0.51	0.954
13C-1,2,3,6,7,8-HXCDF		2000	1960	98.0	0.46	0.958
13C-1,2,3,7,8,9-HXCDF		2000	1640	82.1	0.50	1.005
13C-2,3,4,6,7,8-HXCDF		2000	1770	88.6	0.47	0.980
13C-1,2,3,4,6,7,8-HPCDF		2000	1850	92.7	0.44	1.061
13C-1,2,3,4,7,8,9-HPCDF		2000	1890	94.4	0.38	1.103
CLEANUP STANDARD						
37CL-2,3,7,8-TCDD		200	137	68.4		1.014

(1) Where applicable, custom lab flags have been used on this report.
(2) Alternate confirmation and quantitation ions used for native and labeled PECDD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form8H.xsl; Created: 20-Jul-2010 11:24:31; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB5_WG33003-103_Form8H_SJ1170519.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

Form 8G

PCDD/PCDF CERTIFIED REFERENCE MATERIAL (CRM) REPORT FOR NIST SRM 1944

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	4406	**Lab Sample I.D.:**	WG33003-103
Matrix:	SOLID	**Sample Size:**	3.20 g
Extraction Date:	14-Jun-2010	**Initial Calibration Date:**	16-Mar-2010
Analysis Date:	29-Jun-2010 **Time:** 19:34:05	**Instrument ID:**	HR GC/MS
Extract Volume (uL):	20	**GC Column ID:**	DB225
Injection Volume (uL):	2.0	**CRM Data Filename:**	**DB03_079 S: 12**
Dilution Factor:	N/A	**Blank Data Filename:**	DB03_079 S: 5
Concentration Units:	pg/g	**Cal. Ver. Data Filename:**	DB03_079 S: 2

COMPOUND	LAB FLAG [1]	DETERMINED	CERTIFIED / REFERENCE
2,3,7,8-TCDF		36.5	39 +/- 15

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: Form8G.xsl; Created: 20-Jul-2010 11:25:27; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613DB225_WG33003-103_Form8G_SJ1166066.html; Workgroup: WG33003; Design ID: 1204]

AXYS METHOD MLA-017 Rev 17

CLIENT SAMPLE NO.
Certified Reference Material

PCDD/PCDF ANALYSIS TEQ DATA REPORT

AXYS ANALYTICAL SERVICES
2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 4406

Sample Collection: N/A

Matrix: SOLID

Lab Sample I.D.: WG33003-103

Sample Size: 3.20 g

GC Column ID(s): DB225
DB5

Concentration Units: pg/g

Sample Data Filenames: **DB03_079 S: 12**
DX0M_090C S: 43

COMPOUND	LAB FLAG [1]	CONC. FOUND	DETECTION LIMIT	WHO 2005 TEF	TEQ ND=0	TEQ ND=1/2 DL	TEQ ND=DL
2,3,7,8-TCDD		120	0.586	1	1.20e+02	1.20e+02	
1,2,3,7,8-PECDD		16.2	1.16	1	1.62e+01	1.62e+01	
1,2,3,4,7,8-HXCDD		28.3	1.04	0.1	2.83e+00	2.83e+00	
1,2,3,6,7,8-HXCDD		56.8	1.05	0.1	5.68e+00	5.68e+00	
1,2,3,7,8,9-HXCDD		54.5	1.01	0.1	5.45e+00	5.45e+00	
1,2,3,4,6,7,8-HPCDD		699	0.978	0.01	6.99e+00	6.99e+00	
OCDD		6280	3.55	0.0003	1.88e+00	1.88e+00	
2,3,7,8-TCDF		36.5	3.06	0.1	3.65e+00	3.65e+00	
1,2,3,7,8-PECDF		42.5	1.58	0.03	1.28e+00	1.28e+00	
2,3,4,7,8-PECDF		41.0	1.45	0.3	1.23e+01	1.23e+01	
1,2,3,4,7,8-HXCDF		180	1.13	0.1	1.80e+01	1.80e+01	
1,2,3,6,7,8-HXCDF		83.8	1.17	0.1	8.38e+00	8.38e+00	
1,2,3,7,8,9-HXCDF		4.46	1.78	0.1	4.46e-01	4.46e-01	
2,3,4,6,7,8-HXCDF		46.4	1.53	0.1	4.64e+00	4.64e+00	
1,2,3,4,6,7,8-HPCDF		872	1.81	0.01	8.72e+00	8.72e+00	
1,2,3,4,7,8,9-HPCDF	U		2.27	0.01	0.00e+00	1.14e-02	
OCDF		1160	1.41	0.0003	3.48e-01	3.48e-01	
			TOTAL TEQ		217	217	

(1) Where applicable, custom lab flags have been used on this report.
(2) Concentrations that do not meet quantification criteria are not included in the TEQ calculations.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.
Signed: _____Shelley Facchin_____

For Axys Internal Use Only [XSL Template: TEQ.xsl; Created: 20-Jul-2010 11:25:52; Application: XMLTransformer-1.10.25;
Report Filename: 1613_DIOXINS_1613-TEQ_WG33003-103_TEQ_SJ1166066.html; Workgroup: WG33003; Design ID: 1204]

Appendix D

Data Validation Report

EcoChem, INC.
Environmental Data Quality

DATA VALIDATION REPORT

AMENDED DECEMBER 29, 2010

WASHINGTON DOE TOXICS CLEANUP PROGRAM
NORTH BOEING FIELD/GEORGETOWN STEAM PLANT SITE RIFS
STORMWATER SAMPLING

Prepared for:

SAIC
18912 North Creek Parkway, Suite 101
Bothell, Washington 98011

Prepared by:

EcoChem, Inc.
710 Second Avenue, Suite 660
Seattle, Washington 98104

EcoChem Project: C4140-1

December 29, 2010

Approved for Release

Christine Ransom
Project Manager
EcoChem, INC.

PROJECT NARRATIVE

Basis for Data Validation

This report summarizes the results of the full (QA2) data validation performed on stormwater samples, filter bag sediment samples, and quality control (QC) sample data for the North Boeing Field/Georgetown Steam Plant Site RIFS, Seattle, Washington. A complete list of samples is provided in the **Sample Index**.

Dioxin analyses were performed by Axys Analytical, Sydney, British Columbia. Fremont Analytical, Seattle, Washington analyzed some stormwater samples for total and dissolved metals. All other analyses were performed by Analytical Resources, Inc., Tukwila, Washington. The analytical methods and EcoChem project chemists are listed below.

Analysis	Method of Analysis	Primary Review	Secondary Review
Volatile Organic Compounds	SW8260B	Lucy Pantaleeff Megan Kilner Melissa Swanson Mark Brindle Dorothy Kerlin	Melissa Swanson Christine Ransom
Semivolatile Organic Compounds	SW8270D and 8270D-SIM	Lucy Pantaleeff Megan Kilner Melissa Swanson Mark Brindle Dorothy Kerlin	Melissa Swanson Christine Ransom
PCB Aroclors	SW8082	Lucy Panteleeff Megan Kilner Melissa Swanson Mark Brindle	Melissa Swanson Christine Ransom
Dioxin and Furan Compounds	Axys MLA-017 (EPA 1613B)	Christina Mott Melissa Swanson	Eric Strout, Christine Ransom
Metals and Mercury	SW6010B, 200.8, 7470A	Lea Beard Dorothy Kerlin Megan Kilner Tomas Urgai Jim Hall Jeremy Maute	Christine Ransom
Conventionals	300.0, 353.2, 2320, 150.1, 160.2, 415.1, PSEP	Lea Beard Dorothy Kerlin Megan Kilner Tomas Urgai Jim Hall Jeremy Maute	Christine Ransom

The data were reviewed using guidance and quality control criteria documented in the analytical methods; The *North Boeing Field/Georgetown Steam Plant Site Remedial Investigation/Feasibility Study; Sampling and Analysis Plan and Quality Assurance Project Plan for the Preliminary Stormwater and Filtered Suspended Solids Sampling, Seattle, Washington* (SAIC, August 5, 2009); *USEPA National Functional Guidelines for Organic Data Review* (EPA, 1999); *USEPA National Functional Guidelines for Chlorinated Dioxin/Furan Data Review* (EPA, 2002); and *USEPA National Functional Guidelines for Inorganic Data Review* (EPA, 1994, 2004).

EcoChem's goal in assigning data validation qualifiers is to assist in proper data interpretation. If values are estimated (assigned a J), data may be used for site evaluation purposes but reasons for data qualification should be taken into consideration when interpreting sample concentrations. Data that have been rejected (R) should not be used for any purpose. Values with no data qualifier meet all data quality goals as outlined in the EPA Functional Guidelines.

Data qualifier definitions, reason codes, and validation criteria are included as **Appendix A**. **Appendix B** contains the Qualified Data Summary Table. Data validation worksheets are kept on file at EcoChem. A qualified laboratory electronic data deliverable (EDD) is also submitted with this report.

SAMPLE INDEX
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample_ID	Lab ID	Dioxins	VOC	SVOC	SIM	PCB	Total Metals	Diss. Metals	Total Mercury	Diss. Mercury	TOC	DOC	Grain Size	Conv
QJ67	NBF-MH108A-021110-S	QJ67A					✓								
	NBF-LS431A-021110-S	QJ67C					✓								
	NBF-MH108-021110-W	QJ67E		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-LS431-021110-W	QJ67F		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-MH108-021110-W	QJ67I											✓		
	NBF-LS431-021110-W	QJ67J											✓		
	NBF-MH108A-021110-S	QJ67K						✓		✓				✓	
	NBF-LS431A-021110-S	QJ67L						✓		✓				✓	
QJ68	NBF-MH108-021110-W	QJ68A							✓		✓				
	NBF-LS431-021110-W	QJ68B							✓		✓				
QL13	NBF-MH108-022310-W	QL13A		✓	✓	✓	✓				✓	✓			✓
	NBF-LS431-022310-W	QL13B		✓	✓	✓	✓				✓	✓			✓
	NBF-MH108-022310-W	QL13C											✓		
	NBF-LS431-022310-W	QL13D											✓		
	NBF-MH108A-022310-S	QL13E					✓								
	NBF-MH108A-022310-S	QL13F						✓		✓				✓	
QL14	NBF-MH108-022310-W	QL14A									✓				
	NBF-LS431-022310-W	QL14B									✓				
QP21	NBF-LS431A-032010-S	QP21A					✓								
	NBF-LS431A-032010-S	QP21B						✓		✓				✓	
QQ37	NBF-LS431-032910-W	QQ37A		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-MH108-032910-W	QQ37B		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-LS431-032910-W	QQ37C							✓				✓		
	NBF-MH108-032910-W	QQ37D							✓				✓		
	NBF-LS431A-032910-S	QQ37E					✓								
	NBF-LS431A-032910-S	QQ37F						✓		✓				✓	
	NBF-MH108A-032910-S	QQ37G					✓								
	NBF-MH108A-032910-S	QQ37H						✓		✓				✓	
QQ41	NBF-LS431-032910-W	QQ41A									✓				
	NBF-MH108-032910-W	QQ41B									✓				
QR70	NBF-LS431-S-<63	QR70A					✓	✓		✓					
	NBF-LS431-S-63-250	QR70B					✓	✓		✓					
	NBF-LS431-S-250-500	QR70C					✓	✓		✓					
	NBF-LS431-S->500	QR70D					✓	✓		✓					
QU49	NBF-MH108-042710-W	QU49A		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-LS431-042710-W	QU49B		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-MH108-042710-W	QU49C							✓				✓		
QU49	NBF-LS431-042710-W	QU49D							✓				✓		
	NBF-MH108A-042710-S	QU49E					✓								
	NBF-MH434A-042710-S	QU49F					✓								
	NBF-LS431A-042710-S	QU49G					✓								
	NBF-CB423A-042710-S	QU49H					✓								
	NBF-MH356A-042710-S	QU49I					✓								
	NBF-MH369A-042710-S	QU49J					✓								
	NBF-MH226A-042710-S	QU49K					✓								
	NBF-MH152A-042710-S	QU49L					✓								
	NBF-CB165A-042710-S	QU49M					✓								
	NBF-MH178A-042710-S	QU49N					✓								
	NBF-CB173A-042710-S	QU49O					✓								
QU59	NBF-MH108-042710-W	QU59A									✓				
	NBF-LS431-042710-W	QU59B									✓				

SAMPLE INDEX
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample_ID	Lab ID	Dioxins	VOC	SVOC	SIM	PCB	Total Metals	Diss. Metals	Total Mercury	Diss. Mercury	TOC	DOC	Grain Size	Conv
QU60	NBF-MH108A-042710-S	QU60A						✓		✓				✓	
	NBF-MH434A-042710-S	QU60B						✓		✓					
	NBF-LS431A-042710-S	QU60C						✓		✓				✓	
	NBF-MH356A-042710-S	QU60E						✓		✓					
	NBF-MH369A-042710-S	QU60F						✓		✓					
	NBF-MH226A-042710-S	QU60G						✓		✓					
	NBF-MH152A-042710-S	QU60H						✓		✓				✓	
	NBF-CB165A-042710-S	QU60I						✓		✓				✓	
	NBF-MH178A-042710-S	QU60J						✓		✓				✓	
	NBF-CB173A-042710-S	QU60K						✓		✓				✓	
QU97	NBF-MH369B-042710-S	QU97A			✓										
	NBF-MH226B-042710-S	QU97B			✓										
	NBF-MH152B-042710-S	QU97C			✓										
	NBF-CB165B-042710-S	QU97D			✓										
	NBF-MH178B-042710-S	QU97E			✓										
	NBF-CB173B-042710-S	QU97F			✓										
	NBF-MH108B-042710-S	QU97G			✓										
	NBF-MH434B-042710-S	QU97H			✓										
QU97	NBF-LS431B-042710-S	QU97I			✓										
	NBF-CB423B-042710-S	QU97J			✓										
	NBF-MH356B-042710-S	QU97K			✓										
QX25	NBF-MH108-052010-W	QX25A		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-LS431-052010-W	QX25B		✓	✓	✓	✓		✓		✓	✓			✓
QX25	NBF-MH108-052010-W	QX25C							✓				✓		
	NBF-LS431-052010-W	QX25D							✓				✓		
	NBF-MH108A-052010-S	QX25E					✓								
	NBF-MH108A-052010-S	QX25F						✓		✓				✓	
	NBF-LS431A-052010-S	QX25G					✓								
	NBF-LS431A-052010-S	QX25H						✓		✓				✓	
	NBF-CB423A-052010-S	QX25I					✓								
	NBF-CB423A-052010-S	QX25J						✓		✓				✓	
	NBF-MH356A-052010-S	QX25K					✓								
	NBF-MH356A-052010-S	QX25L						✓		✓					
	NBF-MH369A-052010-S	QX25M					✓								
	NBF-MH369A-052010-S	QX25N						✓		✓					
	NBF-MH226A-052010-S	QX25O					✓								
	NBF-MH226A-052010-S	QX25P						✓		✓					
	NBF-MH152A-052010-S	QX25Q					✓								
	NBF-MH152A-052010-S	QX25R						✓		✓				✓	
	NBF-CB165A-052010-S	QX25S					✓								
	NBF-CB165A-052010-S	QX25T						✓		✓					
	NBF-MH178A-052010-S	QX25U					✓								
	NBF-MH178A-052010-S	QX25V						✓		✓				✓	
	NBF-CB173A-052010-S	QX25W					✓								
	NBF-CB173A-052010-S	QX25X						✓		✓					
	NBF-MH133A-052010-S	QX25Y					✓								
	NBF-MH133A-052010-S	QX25Z						✓		✓					
	NBF-MH138A-052010-S	QX25AA					✓								
	NBF-MH138A-052010-S	QX25AB						✓		✓					
QX26	NBF-MH108-052010-W	QX26A									✓				
	NBF-LS431-052010-W	QX26B									✓				

SAMPLE INDEX
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample_ID	Lab ID	Dioxins	VOC	SVOC	SIM	PCB	Total Metals	Diss. Metals	Total Mercury	Diss. Mercury	TOC	DOC	Grain Size	Conv
QX99	NBF-LS431-S-<63	QX99A										✓			
	NBF-LS431-S-63-250	QX99B										✓			
	NBF-LS431-S-250-500	QX99C										✓			
	NBF-LS431-S->500	QX99D										✓			
QY41	NBF-LS431V-Composite3>500	QY41A				✓	✓					✓			
	NBF-LS431V-Composite3 500-250	QY41B				✓	✓					✓			
	NBF-LS431V-Composite3 250-63	QY41C				✓	✓					✓			
	NBF-LS431V-Composite3 <63	QY41D				✓	✓					✓			
	NBF-LS431V-Composite4 >500	QY41E				✓	✓					✓			
QY41	NBF-LS431V-Composite4 500-250	QY41F				✓	✓					✓			
	NBF-LS431V-Composite4 250-63	QY41G				✓	✓					✓			
	NBF-LS431V-Composite4 <63	QY41H				✓	✓					✓			
QY59	NBF-MH434A-052810-S	QY59A					✓								
	NBF-MH434A-052810-S	QY59B						✓		✓				✓	
	NBF-MH423A-052810-S	QY59C					✓								
	NBF-MH423A-052810-S	QY59D						✓		✓					
	NBF-LS431A-052810-S	QY59E					✓								
	NBF-LS431A-052810-S	QY59F						✓		✓					
QZ03	NBF-MH108B-021110-S	QZ03A			✓										
	NBF-LS431B-021110-S	QZ03B			✓										
	NBF-LS431B-032910-S	QZ03C			✓										
	NBF-MH108B-032910-S	QZ03D			✓										
QZ07	NBF-MH108-060210-W	QZ07A		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-LS431-060210-W	QZ07B		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-MH108-060210-W	QZ07C							✓				✓		
	NBF-LS431-060210-W	QZ07D							✓				✓		
QZ08	NBF-MH108-060210-W	QZ08A									✓				
	NBF-LS431-060210-W	QZ08B									✓				
QZ31	NBF-MH434A-060210-S	QZ31A					✓								
	NBF-MH434A-060210-S	QZ31B						✓		✓					
	NBF-MH356A-060210-S	QZ31C					✓								
	NBF-MH356A-060210-S	QZ31D						✓		✓					
	NBF-LS431A-060210-S	QZ31E					✓								
	NBF-LS431A-060210-S	QZ31F						✓		✓					
	NBF-MH423A-060210-S	QZ31G					✓								
	NBF-MH423A-060210-S	QZ31H						✓		✓					
	NBF-MH369A-060210-S	QZ31I					✓								
	NBF-MH369A-060210-S	QZ31J						✓		✓					
	NBF-MH108A-060210-S	QZ31K					✓								
	NBF-MH108A-060210-S	QZ31L						✓		✓					
	NBF-MH226A-060210-S	QZ31M					✓								
	NBF-MH226A-060210-S	QZ31N						✓		✓					
	NBF-MH133A-060210-S	QZ31O					✓								
	NBF-MH133A-060210-S	QZ31P						✓		✓					
	NBF-MH138A-060210-S	QZ31Q					✓								
	NBF-MH138A-060210-S	QZ31R						✓		✓					

SAMPLE INDEX
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample_ID	Lab ID	Dioxins	VOC	SVOC	SIM	PCB	Total Metals	Diss. Metals	Total Mercury	Diss. Mercury	TOC	DOC	Grain Size	Conv
QZ31	NBF-MH152A-060210-S	QZ31S					✓								
	NBF-MH152A-060210-S	QZ31T						✓		✓					
	NBF-CB165A-060210-S	QZ31U					✓								
	NBF-CB165A-060210-S	QZ31V						✓		✓					
	NBF-CB173A-060210-S	QZ31W					✓								
	NBF-CB173A-060210-S	QZ31X						✓		✓					
	NBF-MH178A-060210-S	QZ31Y					✓								
	NBF-MH178A-060210-S	QZ31Z						✓		✓				✓	
	NBF-MH434B-060210-S	QZ31AA			✓										
	NBF-MH356B-060210-S	QZ31AB			✓										
	NBF-LS431B-060210-S	QZ31AC			✓										
	NBF-MH423B-060210-S	QZ31AD			✓										
	NBF-MH369B-060210-S	QZ31AE			✓										
	NBF-MH108B-060210-S	QZ31AF			✓										
	NBF-MH226B-060210-S	QZ31AG			✓										
	NBF-MH133B-060210-S	QZ31AH			✓										
	NBF-MH138B-060210-S	QZ31AI			✓										
	NBF-MH152B-060210-S	QZ31AJ			✓										
	NBF-CB165B-060210-S	QZ31AK			✓										
	NBF-CB173B-060210-S	QZ31AL			✓										
	NBF-MH178B-060210-S	QZ31AM			✓										
RC27	NBF-MH108-062910-W	RC27A		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-MH108-062910-W	RC27B							✓				✓		
RC29	NBF-MH108-062910-W	RC29A									✓				
RC46	NBF-LS431-063010-W	RC46A		✓	✓	✓	✓		✓		✓	✓			✓
	NBF-LS431-063010-W	RC46B							✓						
RC63	NBF-LS431-063010-W	RC63A									✓				
RC75	NBF-MH108A-063010-S	RC75A					✓								
	NBF-MH108A-063010-S	RC75B						✓		✓				✓	
	NBF-CB173A-063010-S	RC75D					✓								
	NBF-CB173A-063010-S	RC75E						✓		✓					
	NBF-LS431A-063010-S	RC75G					✓								
	NBF-LS431A-063010-S	RC75H						✓		✓				✓	
RD45	NBF-ER-070810-W	RD45A			✓		✓		✓		✓				
RD97	NBF-D435BS-071310-S	RD97A				✓	✓	✓		✓		✓		✓	
	NBF-D435BN-071310-S	RD97B				✓	✓	✓		✓		✓		✓	
	NBF-D434AS-071310-S	RD97C				✓	✓	✓		✓		✓		✓	
	NBF-D434AN-071310-S	RD97D				✓	✓	✓		✓		✓		✓	
	NBF-D283A-071310-S	RD97E				✓	✓	✓		✓		✓		✓	
	NBF-D436A-071310-S	RD97F				✓	✓	✓		✓		✓		✓	

SAMPLE INDEX
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample_ID	Lab ID	Dioxins	VOC	SVOC	SIM	PCB	Total Metals	Diss. Metals	Total Mercury	Diss. Mercury	TOC	DOC	Grain Size	Conv
WG32291	NBF-MH108B-022310-S	L14460-1	✓												
WG33003	NBF-MH108B-052010-S	L14824-1 LW	✓												
	NBF-LS431B-052010-S	L14824-2 LW	✓												
	NBF-CB423B-052010-S and NBF-MH423B-052810-S	L14824-3 LW	✓												
	NBF-MH356B-052010-S	L14824-4 LW	✓												
	NBF-MH369B-052010-S	L14824-5 LW	✓												
	NBF-MH226B-052010-S	L14824-6 LW	✓												
	NBF-MH152B-052010-S	L14824-7 LW	✓												
	NBF-CB165B-052010-S	L14824-8 LW	✓												
	NBF-MH178B-052010-S	L14824-9 LW	✓												
	NBF-CB173B-052010-S	L14824-10 LW	✓												
	NBF-MH133B-052010-S	L14824-11 LW	✓												
	NBF-MH138B-052010-S	L14824-12 LW	✓												
	NBF-MH434B-052810-S	L14824-13 LW	✓												
WG33328	NBF-MH108B-063010-S	L14969-1 W	✓												
	NBF-CB173B-063010-S	L14969-2 W	✓												
	NBF-LS431B-063010-S	L14969-3 i	✓												

DATA VALIDATION REPORT
North Boeing Field RIFS - Stormwater Sampling
Dioxin & Furan Compounds by Axys Method MLA-017 (EPA 1613B)

This report documents the review of analytical data from the analyses of filter bag samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Axys Analytical Services, Ltd. of Sidney, British Columbia, Canada. See the Sample Index for a list of samples that were reviewed.

SDG	Number of Samples	DV Level
WG33003	13 Filter Bag Sediment	Full (QA-2)
WG33328	3 Filter Bag Sediment	Full (QA-2)
WG32291	1 Filter Bag Sediment	Full (QA-2)

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%). No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements reviewed are summarized in the following table:

1	Sample Preservation and Holding Times	1	Standard Reference Materials (SRM)
	System Performance and Resolution Checks		Ongoing Precision and Recovery (OPR)
	Initial Calibration (ICAL)		Target Analyte List
	Calibration Verification (CVER)	2	Reported Results
1	Method Blanks	2	Compound Identification
1	Labeled Compounds	1	Calculation Verification
1	Matrix Spike/Matrix Spike Duplicates (MS/MSD)		

[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

SDG WG32291: The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The temperature of the sample upon receipt at

the laboratory was 1°C. This temperature outlier did not impact data quality and no action was taken.

SDG WG33328: The temperature of the samples upon receipt at the laboratory was 20°C. This temperature outlier did not impact data quality and no action was taken.

Method Blanks

In order to assess the impact of blank contamination on the reported sample results, action levels at five times the blank concentrations are established. If the concentrations in the associated field samples are less than the action levels, the results are qualified as not detected (U-7).

The laboratory assigned K-flags to results when a peak was detected but did not meet identification criteria. These values cannot be considered as positive identifications, but are "estimated maximum possible concentrations". When these occurred in the method blank the results were considered as false positives. No action levels were established for these analytes.

SDG WG32291: The compound OCDD was detected in the method blank. All sample results were greater than five times the blank concentrations; no qualification of data was necessary.

SDG WG33003: The compounds OCDD and OCDF were detected in the method blank. All sample results were greater than five times the blank concentrations; no qualification of data was necessary.

SDG WG33328: The compounds 1,2,3,4,6,7,8-HpCDF and OCDF were detected in the method blank. All sample results were greater than five times the blank concentrations; no qualification of data was necessary.

Labeled Compounds

SDG WG33328: The labeled compounds $^{13}C_{12}$-2,3,7,8-TCDD and $^{37}C_{12}$-2,3,7,8-TCDD were not recovered in the ongoing precision and recovery (OPR) sample and the method blank. There were no reported results for 2,3,7,8-TCDD in the method blank or OPR.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicates (MS/MSD) or laboratory duplicates were not analyzed due to insufficient sample volume. Accuracy was assessed using the labeled compound, standard reference material, and OPR results. Precision for the analytical batch could not be assessed; however OPR results within the laboratory control limits indicate acceptable laboratory precision from batch to batch.

Standard Reference Materials

SDG WG33003: The standard reference material (SRM) NIST 1944 was analyzed. All results were within the control limits of ±20% of the 95% confidence interval.

SDG WG32291, WG33328: No SRM results were submitted with these data packages.

Reported Results

Several samples were diluted and analyzed a second time because certain dioxin results exceeded the calibration range of the instrument. In each case the laboratory reported only the most appropriate positive result for each compound, from either the original or diluted analysis.

SDG WG33003: Samples NBF-CB423B-052010-S and NBF-MH423B-0528510-S were combined and reported as one sample at the request of SAIC.

SDG WG33328: The labeled compound $^{13}C_{12}$-2,3,7,8-TCDD was not recovered in the method blank or OPR samples. Because of this, there are no reported results for 2,3,7,8-TCDD for these samples. All results for 2,3,7,8-TCDD in the field samples have been estimated (J/UJ-14) due to the lack of method blank or OPR information for this compound.

Compound Identification

All results for 2,3,7,8-TCDF were confirmed on a DB-225 column as required by the method. Although the 2,3,7,8-TCDF results from both columns were reported in the raw data, only the results from the DB-225 column were reported in the EDD. No action was necessary.

The laboratory assigned K-flags to numerous values to indicate that the criterion for ion abundance ratio was not met. Since the ion abundance ratio is the primary identification criterion for high resolution mass spectroscopy (HRMS), an outlier indicates that the reported value may be a false positive or estimated maximum possible concentration (EMPC). All laboratory K-flagged results were qualified as not detected (U-22) at the reported value.

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable, as demonstrated by the labeled compound, SRM, and OPR recovery values. Precision could not be assessed.

Data were qualified as not detected due to ion ratio criteria outliers. Data were estimated based on the lack of method blank or OPR data for one compound.

All data, as reported, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS – Stormwater Sampling
Volatile Organic Compounds by SW846 Method 8260C

This report documents the review of analytical data from the analyses of stormwater samples and the associated laboratory quality control (QC) samples. Analytical Resources, Inc., Tukwila, Washington, analyzed the samples. See the **Sample Index** for a list of samples that were reviewed.

SDG	Number of Samples	Validation Level
QQ37	2 Stormwater	Full (QA2)
QU49	2 Stormwater	Full (QA2)
QX25	2 Stormwater	Full (QA2)
RC27	1 Stormwater	Full (QA2)
RC46	1 Stormwater	Full (QA2)

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%). No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

	Sample Preservation and Holding Times		Internal Standards
1	Initial Calibration (ICAL)		Target Analyte list
2	Continuing Calibration (CCAL)		Reporting Limits
	Laboratory Blanks		Compound Identification
	Surrogate Compounds		Reported Results
1	Laboratory Control Samples (LCS/LCSD)	1	Calculation Verification
1	Matrix Spikes/Matrix Spike Duplicate (MS/MSD)		

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[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside control limits, the highest at 16.1°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within 6 hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Initial Calibration

SDG QJ67: The average response factors (RF) for acrolein and 2-butanone were less than the control limit of 0.05. No action was taken as the responses for these compounds are historically low and were stable as indicated by the acceptable percent relative standard deviations (%RSD).

SDG QL13: The RRF values for acetone, acrolein, 2-butanone, 4-methyl-2-penanone, and 1,2-dibromo-3-chloropropane were less than the control limit. These RRF outliers are historically low, however the response was stable and no action was taken.

SDG QZ07: The RRF value for 2-butanone was less than the control limit. No action was taken as the response for this compound is historically low and was stable as indicated by the %RSD value.

SDG RC46: The RRF value for 2-butanone was less than the control limit. No action was taken as the response for this compound is historically low and was stable as indicated by the %RSD value.

Continuing Calibration

SDG QJ67: The continuing calibration (CCAL) percent difference (%D) value for acrolein was outside of the control limits of ±25% and represented a decrease in response. Acrolein was not detected in the associated samples; reporting limits were estimated (UJ-5B) to indicate a potential low bias. The %D value for bromomethane was outside of the control limits and indicative of a high bias. This compound was not detected in the associated samples; no qualification of data was necessary.

SDG QL13: The RRF values for acetone, acrolein, 2-butanone, 4-methyl-2-penanone, and 1,2-dibromo-3-chloropropane were less than the control limit in the CCAL. These RRF outliers are historically low and the response was stable as indicated by the acceptable %D values. No action was taken.

SDGs QU49 & QZ07: The RRF value for 2-butanone was less than the control limit. No action was taken as the response for this compound is historically low and was stable as indicated by the %D value.

Laboratory Control Samples

SDG QJ67: The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries for acrolein were greater than the upper control limit. This analyte was not detected in the associated samples. No action was necessary based on the potential high bias.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed due to insufficient sample volume. Precision and accuracy were evaluated using LCS/LCSD results.

Calculation Verification

Several results in each SDG were verified by recalculation from the raw data. No calculation or transcription errors were noted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate and LCS/LCSD percent recovery (%R) values. Precision was also acceptable as demonstrated by the LCS/LCSD relative percent difference (RPD) values.

Data were estimated based on a CCAL %D outlier.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS Stormwater Sampling
Semivolatile Organic Compounds by SW846 Method 8270D

This report documents the review of analytical data from the analysis of stormwater samples and the associated laboratory and field quality control (QC) samples. Analytical Resources, Inc., Tukwila, Washington, analyzed the samples. See the **Sample Index** for a list of samples that were reviewed.

SDG	Number of Samples	Validation Level
QJ67	2 Stormwater	Full (QA2)
QL13	2 Stormwater	Full (QA2)
QQ37	2 Stormwater	Full (QA2)
QU49	2 Stormwater	Full (QA2)
QX25	2 Stormwater	Full (QA2)
QZ07	2 Stormwater	Full (QA2)
RC27	1 Stormwater	Full (QA2)
RC46	1 Stormwater	Full (QA2)
RD45	1 Equipment Blank	Screening

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%). No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times	1	Matrix Spike/Matrix Spike Duplicate (MS/MSD)
	Initial Calibration (ICAL)		Internal Standards
2	Continuing Calibration (CCAL)		Target Analyte list
1	Laboratory Blanks		Reporting Limits
2	Field Blank		Compound Identification
2	Surrogate Compounds		Reported Results
2	Laboratory Control Samples (LCS)	1	Calculation Verification

[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside control limits, ranging from 1.8° to 17.4°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within 6 hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Continuing Calibration

All values for the relative response factor (RRF) values were greater than the 0.05 minimum control limit. The values for percent difference (%D) were within the ±25% control limit, with the exceptions noted below.

SDG QJ67: The %D values for pentachlorophenol, indeno(1,2,3-cd)pyrene and dibenzo(a,h)anthracene in the CCAL analyzed 2/17/10 on instrument NT4 were outside control limits and indicated a potential high bias. These analytes were not detected in the associated samples; no qualifiers were necessary.

The %D values for benzyl alcohol and benzo(b)fluoranthene in the CCAL analyzed 2/18/10 on instrument NT4 were outside control limits and indicated a potential low bias. The reporting limits were estimated (UJ-5B) in the associated samples.

SDG QL13: The %D value for pentachlorophenol in the CCAL analyzed 3/10/10 on instrument NT6 was outside control limits and indicated a potential low bias. The reporting limits were estimated (UJ-5B) in the associated samples.

SDG RC46: The %D value for nitrobenzene in the CCAL was outside of the control limits and indicated a potential low bias. This analyte was not detected in the associated sample; the reporting limit was estimated (UJ-5B).

Laboratory Blanks

SDG RC46: Bis-(2-ethylhexyl) phthalate was detected in the method blank. No action was required as the associated sample results were greater than the action level.

Field Blanks

SDG RD45: One equipment rinsate, NBF-ER-070810-W, was submitted. There was a positive result for bis(2-ethylhexyl)phthalate in this sample. All positive results for this compound in the associated samples were less than the action level of 10x the blank concentration and were qualified as not-detected (U-6).

Surrogate Compounds

SDG QJ67: The % R values for phenol-d5 was greater than the upper control limit in the laboratory control sample duplicate (LCSD). No qualifiers are applied to QC samples. No further action was taken.

SDG RC46: The %R value for 2-fluorophenol in the LCSD was greater than the upper control limit. No qualifiers are applied to QC samples. No further action was taken.

Laboratory Control Samples

SDG QQ37: The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) relative percent difference (RPD) value for bis(2-ethylhexyl)phthalate was greater than the control limit of 35%. After qualification based on field blank contamination, there were no positive results for this compound in the associated samples. No qualifiers were required.

SDG QU49: The LCS/LCSD percent recovery (%R) values for pentachlorophenol were less than the lower control limit. This analyte was not detected in the associated samples; reporting limits were estimated (UJ-10) to indicate a potential low bias.

SDG QX25: The LCS/LCSD %R values for benzyl alcohol were greater than the upper control limit. This analyte was not detected in the associated samples; no qualifiers were applied. The LCSD %R value for 4-methylphenol was greater than the upper control limit. The LCS was within control limits; no qualifiers were required.

SDG RC46: The LCS/LCSD recovery values for benzyl alcohol, 2,6-dinitrotoluene and 1-methylnaphthalene were greater than the upper control limit. There were no positive results for these compounds in the associated sample; no action was necessary based on the potential high bias.

SDG RD45: The LCSD %R value for benzo(b)fluoranthene was greater than the upper control limit. LCS was within control limits; therefore no qualifiers were assigned.

The LCS/LCSD RPD value for 2,4-dimethylphenol was greater than 35%. This analyte was not detected in the associated sample; no qualification of data was necessary.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed due to insufficient sample volume. Precision and accuracy were evaluated using the LCS/LCSD analyses.

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate and LCS/LCSD %R values, with the exceptions previously noted. Precision was also acceptable as demonstrated by the LCS/LCSD RPD values, with the exception noted above.

Data were estimated based on CCAL %D and LCS/LCSD %R outliers. Data were qualified as not-detected based on equipment rinsate contamination.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS - Sediment Sampling
Semivolatile Organic Compounds by SW846 Method 8270D

This report documents the review of analytical data from the analyses of filter bag sediment samples and the associated laboratory quality control (QC) samples. Analytical Resources, Inc., Tukwila, Washington, analyzed the samples. See the **Sample Index** for a list of samples that were reviewed.

SDG	Number of Samples	Validation Level
QU97	11 Filter Bag Sediment	Full (QA2)
QZ03	4 Filter Bag Sediment	Full (QA2)
QZ31	13 Filter Bag Sediment	Full (QA2)

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%). No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times	2	Internal Standards
	Initial Calibration (ICAL)		Target Analyte list
	Continuing Calibration (CCAL)	1	Reporting Limits
	Laboratory Blanks	2	Compound Identification
2	Surrogate Compounds	1	Reported Results
	Laboratory Control Samples (LCS/LCSD)	1	Calculation Verification
1	Matrix Spike/Matrix Spike Duplicate (MS/MSD)		

[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside control limits, ranging from 1.8° to 17.4°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within 6 hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Surrogate Compounds

SDG QU97: The percent recovery (%R) value of d14-p-terphenyl was greater than the upper control limit in Sample NBF-MH356B-S. As only two surrogates were analyzed, all positive results were estimated (J-13) to indicate a potential high bias.

SDG QZ31: The %R value for 2-fluorophenol was greater than the upper control limit in the 15x dilution of Sample NBF-MH356B-060210-S. Only fluoranthene was reported from this dilution. The fluoranthene result was estimated (J-13) top indicate a potential high bias.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed due to insufficient sample. Precision and accuracy were evaluated using the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses.

Internal Standards

SDG QU97: The recoveries for the internal standard (IS) perylene-d12 were greater than the 200% upper control limit in samples NBF-MH369B-042710-S, NBF-LSF431B-042710-S, and NBF-CB423-B-42710-S. These samples were re-analyzed at dilution (3x) with acceptable internal standard recoveries. The results from the re-analyses support the original analyses. Only the results for the original analyses were included in the EDD. The positive results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene were estimated (J-19) in these samples.

The recoveries for the IS chrysene-d12 were greater than the upper control limit in samples NBF-LS431B-042710-S and NBF-CB423B-042710-S. The samples were re-analyzed at dilution (3x) with acceptable internal standard recoveries. The positive results for benzo(a)anthracene, chrysene, and pyrene in these samples estimated (J-19).

Sample NBF-MH152B-042710 was re-analyzed at a 5x dilution for chrysene and pyrene. The recovery of the IS chrysene-d12 was greater than the 200% upper control limit in the 5x dilution. The results for chrysene and pyrene were estimated (J-19).

Reporting Limits

SDG QZ31: Several samples were diluted due to matrix interferences resulting in saturation of the detector in the undiluted analyses. Reporting limits were elevated accordingly.

Compound Identification

At the retention times for benzo(b)fluoranthene and benzo(k)fluoranthene, a single peak was present. The laboratory used half of the peak area to calculate a concentration for benzo(b)fluoranthene, and the other half to calculate benzo(k)fluoranthene. Since it is not possible to determine whether only

one or both analytes were present, the positive results for these analytes were tentatively identified and estimated (NJ-14).

Reported Results

Several samples required dilution due to analytes that exceeded the linear range of the instrument in the original, un-diluted analyses. The laboratory only reported the most appropriate result from both analyses in the EDDs; therefore no qualification of data was necessary. Sample requiring dilution are noted below:

SDG QU97: NBF-MH152B-042710 (5x) – chrysene and pyrene

SDG QZ03: NBF-MH108B-032910-S (10x) – fluoranthene

SDG QZ31: NBF-MH356B-060210-S (15x) – fluoranthene

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate and LCS/LCSD recoveries, except as noted above. Precision was also acceptable as demonstrated by the LCS/LCSD relative percent difference values.

Data were qualified as estimated and tentatively identified based on peak co-elutions. Data were also estimated based on surrogate and internal standard outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS - Stormwater Sampling
Semivolatile Organic Compounds by SW846 Method 8270D-SIM

This report documents the review of analytical data from the analyses of stormwater samples and the associated laboratory quality control (QC) samples. Analytical Resources, Inc., Tukwila, Washington, analyzed the samples. See the **Sample Index** for a list of samples that were reviewed.

SDG	Number of Samples	Validation Level
QJ67	2 Stormwater	Full (QA2)
QL13	2 Stormwater	Full (QA2)
QU49	2 Stormwater	Full (QA2)
QX25	2 Stormwater	Full (QA2)
QZ07	2 Stormwater	Full (QA2)
RC27	1 Stormwater	Full (QA2)
RC46	1 Stormwater	Full (QA2)

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%). No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times		Field Duplicates
	Initial Calibration (ICAL)		Internal Standards
1	Continuing Calibration (CCAL)		Target Analyte list
	Laboratory Blanks		Reporting Limits
	Field Blanks	2	Compound Identification
	Surrogate Compounds	1	Reported Results
2	Laboratory Control Samples (LCS/LCSD)	1	Calculation Verification
1	Matrix Spike/Matrix Spike Duplicate (MS/MSD)		

[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside control limits, ranging from 1.8° to 17.4°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within 6 hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Continuing Calibration

All values for the relative response factor (RRF) values were greater than the 0.05 minimum control limit. The values for percent difference (%D) were within the ±25% control limit, with the exceptions noted below.

SDG RC27: The %D value for benzo(a)anthracene in the CCAL was outside the control limit and indicated a potential high bias. This analyte was not detected in the associated sample; no qualification was necessary.

SDG RC46: The %D value for benzo(a)anthracene in the CCAL was outside the control limit and indicated a potential high bias. This analyte was not detected in the associated samples; no qualifier was necessary.

Laboratory Control Samples

SDG QZ07: The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries for benzo(a)anthracene and benzo(a)pyrene were greater than the upper control limits. Positive results for these analytes in the associated samples were estimated (J-10) to indicate a potential high bias.

SDG RC27: The LCS/LCSD recoveries for benzo(a)anthracene were greater than the upper control limit. This analytes was not detected in the associated sample; no qualification of data was necessary. The LCS recovery for benzo(a)pyrene was also greater than the upper control limit. The LCSD recovery was acceptable; therefore no action was taken.

SDG RC46: The LCS/LCSD recoveries for benzo(a)anthracene and benzo(a)pyrene were greater than the upper control limits. These analytes were not detected in the associated sample; therefore no qualification of data was necessary. The LCS recovery for anthracene was also greater than the upper control limit. The LCSD recovery was acceptable; therefore no action was taken.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed due to insufficient sample volume. Precision and accuracy were evaluated using the LCS/LCSD results.

Compound Identification

At the retention times for benzo(b)fluoranthene and benzo(k)fluoranthene, a single peak was present. The laboratory used half of the peak area to calculate a concentration for benzo(b)fluoranthene, and the other half to calculate benzo(k)fluoranthene. Since it is not possible to determine whether only one or both analytes were present, the positive results for these analytes were tentatively identified and estimated (NJ-14).

Reported Results

SDG QX25: The phenanthrene result in sample NBF-LS431-05210-W exceeded the linear range. The sample was re-analyzed at a 2X dilution. The lab reported only the most appropriate result from each analysis; therefore no qualifiers were necessary.

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate and LCS/LCSD recovery values, with the exceptions noted above. Precision was also acceptable as demonstrated by the LCS/LCSD relative percent difference values.

Data were estimated based on LCS/LCSD recovery outliers. Data were qualified as estimated and tentatively identified based on peak co-elutions.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing RIFS - Soil Sampling
Semivolatile Organic Compounds by SW846 Method 8270D-SIM

This report documents the review of analytical data from the analyses of soil samples and the associated laboratory quality control (QC) samples. Analytical Resources, Inc., Tukwila, Washington, analyzed the samples. See the **Sample Index** for a list of samples that were reviewed.

SDG	Number of Samples	Validation Level
QY41	8 Soil	Full (QA2)
RD97	6 Soil	Full (QA2)

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%). No errors were found.

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times		Field Duplicates
	Initial Calibration (ICAL)	2	Internal Standards
	Continuing Calibration (CCAL)		Target Analyte list
	Laboratory Blanks	1	Reporting Limits
	Field Blanks	2	Compound Identification
2	Surrogate Compounds	1	Reported Results
	Laboratory Control Samples (LCS/LCSD)	1	Calculation Verification
1	Matrix Spike/Matrix Spike Duplicate (MS/MSD)		

[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received a sample cooler with a temperature outside of these control limits, at 20.4°C. The sample cooler was received within one hour of the last sample's collection and there was insufficient time for the samples temperature to equilibrate with the ice used as a preservative. This temperature outlier did not impact data quality and no qualifiers were assigned.

Surrogate Compounds

SDG QY41: The percent recovery (%R) values for d14-dibenz(a,h)anthracene were greater than the upper control limit in Sample NBF-LS431V-Composite3>500 and the original analysis of Sample NBF-LS431V-Composite4>500. As only two surrogates were analyzed per sample, all positive results in these samples were estimated (J-13) to indicate a potential high bias.

Matrix Spike/Matrix Spike Duplicates

SDG QY41: For QC sample NBF-LS431V-Composite4 500-250, the matrix spike/matrix spike duplicate (MS/MSD) recoveries for phenanthrene, fluoranthrene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthrene, benzo(k)fluoranthrene, and benzo(a)pyrene were less than the lower control limits. All results for these compounds in the parent sample were estimated (J-8) to indicate a potential low bias.

Internal Standards

SDG QY41: The recoveries for the internal standard perylene-d12 were greater than the 200% upper control limit in samples: NBF-L431V-Composite3 250-63, NBF-L431V-Composite3 <63, and NBF-LSF431V-Composite4 <63. These samples were re-analyzed at dilution 3x and 10x. The results form the dilution supported the original analyses. Only the original analyses were reported in the EDD. The positive results for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene and benzo(g,h,i)perylene were estimated (J-19) in these three samples.

Compound Identification

At the retention times for benzo(b)fluoranthene and benzo(k)fluoranthene, a single peak was present. The laboratory used half of the peak area to calculate a concentration for benzo(b)fluoranthene, and the other half to calculate benzo(k)fluoranthene. Since it is not possible to determine whether only one or both analytes were present, the positive results for these analytes were tentatively identified and estimated (NJ-14).

Reported Results

SDG QY41: Several samples required dilution due to analytes that exceeded the linear range of the instrument in the original analyses. The laboratory only reported the most appropriate result from both analyses in the EDDs; therefore no qualification of data was necessary.

Reporting Limits

SDG RD97: All samples were analyzed at dilution (5x) due to matrix interference. Reporting limits were elevated accordingly.

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical method. Accuracy was acceptable as demonstrated by the surrogate MS/MSD and LCS/LCSD recovery values with the exceptions noted above. Precision was also acceptable as demonstrated by the MS/MSD and LCS/LCSD relative percent difference values.

Data were estimated based on MS/MSD, surrogate, and internal standard recovery outliers. Data were qualified as estimated and tentatively identified based on peak co-elutions.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS - Stormwater Sampling
PCB Aroclors by SW846 Method 8082

This report documents the review of analytical data from the analysis of stormwater samples and the associated laboratory and field quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc., Tukwila, Washington. See the **Sample Index** for a list of samples that were reviewed.

SDG	Number of Samples	Validation Level
QJ67	2 Stormwater	Full (QA2)
QL13	2 Stormwater	Full (QA2)
QQ37	2 Stormwater	Full (QA2)
QU49	2 Stormwater	Full (QA2)
QX25	2 Stormwater	Full (QA2)
QZ07	2 Stormwater	Full (QA2)
RC27	1 Stormwater	Full (QA2)
RC46	1 Stormwater	Full (QA2)
RD45	1 Equipment Blank	Screening

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%).

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times		Field Duplicate
	Initial Calibration (ICAL)		Reference Material
	Continuing Calibration (CCAL)	2	Internal Standards
	Laboratory Blanks		Target Analyte list
1	Field Blanks	1	Reporting Limits
	Surrogate Compounds		Compound Identification
	Laboratory Control Samples (LCS)	2	Reported Results
1	Matrix Spikes/Matrix Spike Duplicate (MS/MSD)	1	Calculation Verification

[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside control limits, ranging to 20.4°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within six hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Field Blanks

SDG RD45: One equipment rinsate, NBF-ER-070810-W, was submitted in this SDG. No target analytes were detected in this blank.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Precision and accuracy were evaluated using the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses.

Reporting Limits

Several chromatograms indicated non-target background interference. The reporting limits (RL) for these analytes were flagged "Y" by the laboratory. These "Y" flagged results were qualified (U-22) to indicate that they were not-detected at an elevated RL. The following results were qualified:

SDG QQ37: Aroclor 1248 – both samples

SDG QU49: Aroclor 1248 – both samples

SDG QX25: Aroclor 1248 – both samples

SDG QZ07: Aroclor 1248 – both samples

SDG RC27: Aroclor 1260 - Sample NBF-MH108-062910-W

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory performed the specified analytical method. Accuracy was acceptable, as demonstrated by the surrogate and LCS/LCSD recoveries. Precision was acceptable as demonstrated by the relative percent difference values for the LCS/LCSD analyses.

Reporting limits were elevated based on non-target background interference.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS - Sediment Sampling
PCB Aroclors by SW846 Method 8082

This report documents the review of analytical data from the analyses of soil and sediment samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc., Tukwila, Washington. See the **Sample Index** for a list of samples that were reviewed.

SDG	Number of Samples	Validation Level
QR70	4 Sediment	Full (QA2)
QY41	8 Soil	Full (QA2)
RD97	6 Soil	Full (QA2)

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%).

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times		Reference Material
	Initial Calibration (ICAL)		Internal Standards
	Continuing Calibration (CCAL)		Target Analyte list
	Laboratory Blanks	1	Reporting Limits
	Surrogate Compounds		Compound Identification
	Laboratory Control Samples (LCS)	2	Reported Results
1	Matrix Spikes/Matrix Spike Duplicate (MS/MSD)	1	Calculation Verification

[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside

control limits, ranging to 20.4°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within 6 hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Matrix Spike/Matrix Spike Duplicates

SDG QR70: Matrix spike/matrix spike duplicate (MS/MSD) analyses were performed using Sample LS431-S-250-500. The MS/MSD percent recovery (%R) for Aroclor 1016 was greater than the upper control limit. This Aroclor was not detected in the associated samples; no qualifiers were necessary.

Reporting Limits

Several chromatograms indicated non-target background interference. The reporting limits (RL) for these analytes were flagged "Y" by the laboratory. These "Y" flagged results were qualified (U-22) to indicate that they were not-detected at an elevated RL. The following results were qualified:

SDG QR70: Aroclor 1248 – all samples

SDG QY41: Aroclor 1248 – all samples

SDG RD97: Aroclor 1248 - samples NBF-D283A-071310-S and NBF-D436A-071310-S

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory performed the specified analytical method. Accuracy was acceptable, as demonstrated by the surrogate, MS/MSD, laboratory control sample, with the exception noted above. Precision was acceptable as demonstrated by the relative percent difference values for the MS/MSD analyses.

Data were also qualified as not detected to indicate that the laboratory "Y" flags represent elevated reporting limits due to matrix interferences.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS - Sediment Sampling
PCB Aroclors by SW846 Method 8082

This report documents the review of analytical data from the analyses of filter bag sediment sample and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc., Tukwila, Washington. See the **Sample Index** for a list of samples that were reviewed.

SDG	Number of Samples	Validation Level
QJ67	2 Filter Bag Sediment	Full (QA2)
QL13	1 Filter Bag Sediment	Full (QA2)
QP21	1 Filter Bag Sediment	Full (QA2)
QQ37	2 Filter Bag Sediment	Full (QA2)
QU49	11 Filter Bag Sediment	Full (QA2)
QX25	12 Filter Bag Sediment	Full (QA2)
QY59	3 Filter Bag Sediment	Full (QA2)
QZ31	13 Filter Bag Sediment	Full (QA2)
RC75	3 Filter Bag Sediment	Full (QA2)

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%).

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1 Sample Preservation and Holding Times
Initial Calibration (ICAL)
Continuing Calibration (CCAL)
Laboratory Blanks
Field Blanks
1 Surrogate Compounds
Laboratory Control Samples (LCS)
1 Matrix Spikes/Matrix Spike Duplicate (MS/MSD)
Reference Material
2 Internal Standards
Target Analyte list
2 Reporting Limits
Compound Identification
Reported Results
1 Calculation Verification

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[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside control limits, ranging to 20.4°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within 6 hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Surrogate Compounds

SDG QQ37: The percent recovery (%R) value for tetrachlorometaxylene was greater than the upper control limit in Sample NBF-MH108A-032910-S. No qualifiers were applied for this single outlier.

SDG QZ31: Both surrogate compounds were diluted out (500x) in the analysis of Sample NBF-CB173A-060210-S. No action was required.

SDG RC75: Both surrogate compounds were diluted out (500x) in the analyses of Samples NBF-CB173A-063010-S and NBF-MH108A-063010-S. No action was required.

Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicate (MS/MSD) analyses were not performed. Precision and accuracy were evaluated using the laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses.

Internal Standards

SDG QY59: The areas for the internal standard (IS) hexabromobiphenyl in Samples NBF-MH434A-052810-S and NBF-MH723A-052810-S were less than the lower control limit. The positive results for Aroclor 1254 and Aroclor 1260 were estimated (J-19) in these samples.

Reporting Limits

Most samples were analyzed at dilution due to matrix interference. Reporting limits were elevated accordingly.

Several chromatograms indicated non-target background interference. The reporting limits (RL) for these analytes were flagged "Y" by the laboratory. These "Y" flagged results were qualified (U-22) to indicate that they were not-detected at an elevated RL. The following results were qualified:

SDG QL13: Aroclor 1248 - Sample NBF-MH108A-022310-S

SDG QQ37: Aroclor 1248 - both samples

SDG QU49: Aroclor 1248 - 7 samples; Aroclor 1260 - Sample NBF-CB173A-042710-S

SDG QX25: Aroclor 1248 - all samples; Aroclor 1260 –Sample NBF-CB173A-052010-S

SDG QY59: Aroclor 1248 - all samples

SDG QZ07: Aroclor 1248 - all samples

SDG QZ31: Aroclor 1248 - all samples

SDG RC27: The reporting limit for Aroclor 1260 was flagged as "Y" by the laboratory for Sample NBF-MH108-062910-W; this result was qualified as not-detected (U-22).

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory performed the specified analytical method. Accuracy was acceptable, as demonstrated by the surrogate and LCS/LCSD recoveries. Precision was acceptable as demonstrated by the relative percent difference values for the LCS/LCSD analyses.

Reporting limits were elevated based on non-target background interference. Data were estimated based on internal standard outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS – Stormwater Sampling
Total and Dissolved Metals by Methods 6010B, 200.8, and 7470A

This report documents the review of analytical data from the analyses of stormwater samples and the associated laboratory and field quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc., Tukwila, Washington and Fremont Analytical, Seattle, Washington. See the **Sample Index** for a complete list of samples for which data were reviewed.

SDG	Number of Samples	Validation Level
QJ67	2 Stormwater	Full (QA2)
QJ68	2 Stormwater (Hg only)	Full (QA2)
QL13	2 Stormwater	Full (QA2)
QL14	2 Stormwater (Hg only)	Full (QA2)
QQ37	2 Stormwater	Full (QA2)
QQ41	2 Stormwater (Hg only)	Full (QA2)
QU49	2 Stormwater	Full (QA2)
QU59	2 Stormwater (Hg only)	Full (QA2)
QX25	2 Stormwater	Full (QA2)
QX26	2 Stormwater (Hg only)	Full (QA2)
QZ07	2 Stormwater	Full (QA2)
QZ08	2 Stormwater (Hg only)	Full (QA2)
RC27	1 Stormwater	Full (QA2)
RC29	1 Stormwater	Full (QA2)
RC46	1 Stormwater	Full (QA2)
RC63	1 Stormwater (Hg only)	Full (QA2)
RD45	1 Equipment Rinsate	Full (QA2)

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative, with the exceptions listed below.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%).

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times	2	Laboratory Duplicates
2	Initial Calibration	2	Field Duplicates
2	Calibration Verification		Interference Check Samples
	Reporting Limit Standards		Serial Dilutions
2	Laboratory Blanks		ICP-MS Internal Standards
1	Laboratory Control Samples (LCS)		Reporting Limits
2	Matrix Spike/Matrix Spike Duplicate (MS/MSD)	2	Reported Results
1	Field Blanks	1	Calculation Verification

[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside control limits, ranging to 20.4°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within 6 hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Initial Calibration

SDGs QJ67, QL13: The independent calibration verification standard (ICV) recovery for selenium was greater than the upper control limit of 110%. Positive results in the associated samples were estimated (J-5A) to indicate a potential high bias.

Calibration Verification

SDG QJ67: The recovery for nickel in one continuing calibration verification (CCV) sample was less than the lower control limit of 90%. The nickel results in the associated samples were estimated (J-5B) to indicate a potential low bias.

SDG QL13: The nickel recovery for two CCV and the copper recovery for one CCV were less than the lower control limit. Associated results were estimated (J-5B) to indicate a potential low bias.

Laboratory Blanks

Various analytes were detected in the method and instrument blanks at levels greater than the method detection limits (MDL). To evaluate the effect on the sample data, action levels of five times (5x) the blank concentrations were established. Positive results less than the action levels in the associated samples were qualified as not detected (U) at the reported concentration. No action was taken for non-detects.

The results for some instrument blanks were less than the negative MDL. Action levels of 5x the absolute value of the blank concentration were established. Positive results less than the action levels and non-detects in the associated samples were estimated (J/UJ-7) to indicate a potential low bias.

Results for the following analytes were qualified in one or more samples based on laboratory blank results:

SDG QJ67: dissolved lead, dissolved selenium, total silver, dissolved silver – (UJ) low bias

SDG QL13: total and dissolved lead, total and dissolved selenium, total and dissolved silver – (J/UJ) low bias

SDG QZ07: dissolved copper - (U) not-detected

Laboratory Control Samples

SDG QX25: The copper and nickel recoveries of the laboratory control sample (LCS) associated with the total sample fraction were greater than the upper control limit. An LCS for the dissolved fraction was prepared and analyzed in the same batch. The copper and nickel recoveries for this LCS were within the control limits. It was determined that the outliers did not impact data quality; therefore no qualifiers were assigned.

Matrix Spikes

SDG QJ67: The matrix spike (MS) recovery for total zinc was less than the lower control limit of 75%. All total zinc results in the associated samples were estimated (J-8) to indicate a potential low bias.

SDG RC46: The MS recovery for dissolved silver was less than the lower control limit. The dissolved silver result in the associated sample was estimated (UJ-8).

Field Blanks

SDG RD45: One equipment rinsate, NBF-ER-070810-W, was submitted. Copper was detected in this blank. In order to establish the effect on the sample data, an action level of 5x the blank concentration was established. All total copper results in the stormwater samples that were less than the action level were qualified as not-detected (U-6).

Laboratory Duplicates

SDG QJ67: The relative percent difference (RPD) value for total zinc was greater than the control limit of 20%. The total zinc results in the associated samples were estimated (J-9).

SDG QL13: The RPD value for total zinc was greater than the control limit of 20%. The total zinc results in the associated samples were estimated (J-9).

Reported Results

There were several instances where the dissolved result was greater than the total. These results fell within in the normal analytical precision requirement of 20%, with the following exceptions:

SDG QL13: The dissolved copper results were significantly greater than the total copper results for both samples. All copper results were estimated (J-14).

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the LCS and MS recoveries, except as noted. Precision was also acceptable as demonstrated by the RPD values for the laboratory duplicate analyses, except as noted above.

Detection limits were elevated and/or results were estimated based on laboratory and field blank results. Data were estimated based on ICV %R, CCV %R, laboratory duplicate RPD, and MS %R outliers and when the dissolved metals result was significantly greater than the total result.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS – Sediment Sampling
Metals by SW846 Methods 6010B, 200.8 and 7471A

This report documents the review of analytical data from the analyses of sediment samples and the associated laboratory quality control (QC) samples. Samples were analyzed by Analytical Resources, Inc., Tukwila, Washington and Fremont Analytical, Seattle, Washington. See the **Sample Index** for a complete list of samples for which data were reviewed.

SDG	Number of Samples	Validation Level
QJ67	2 Filter Bag Sediment	Full (QA2)
QL13	2 Filter Bag Sediment	Full (QA2)
QP21	2 Filter Bag Sediment	Full (QA2)
QQ37	2 Filter Bag Sediment	Full (QA2)
QR70	4 Sediment	Full (QA2)
QU60	11 Filter Bag Sediment	Full (QA2)
QX25	12 Filter Bag Sediment	Full (QA2)
QY59	3 Filter Bag Sediment	Full (QA2)
QZ31	13 Filter Bag Sediment	Full (QA2
RC75	3 Filter Bag Sediment	Full (QA2)
RD97	6 Filter Bag Sediment	Full (QA2)

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all required deliverables. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

SDG QU60: There was insufficient sample available to analyze Sample NBF-CB423A-042710-S.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%).

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times	2	Laboratory Duplicates
	Initial Calibration		Interference Check Samples
	Calibration Verification		Serial Dilutions
2	Reporting Limit Standards		ICP-MS Internal Standards
1	Laboratory Blanks	1	Reporting Limits
1	Laboratory Control Samples (LCS)		Reported Results
2	Matrix Spike/Matrix Spike Duplicate (MS/MSD)	1	Calculation Verification
1	Field Blanks		

[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside control limits, ranging to 20.4°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within 6 hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Reporting Limit Standard

SDG RC75: The reporting limit standard recovery for mercury was greater than the upper control limit. The associated mercury result was estimated (J-14) to indicate a potential high bias.

Matrix Spikes

SDG QP21: The matrix spike (MS) percent recovery (%R) values for copper, lead, and zinc were greater than the upper control limit of 125%. All associated results were estimated (J-8) to indicate a potential high bias.

SDGs QQ37, QU60: The MS %R for mercury was less than the lower control limit of 75%. Associated results were estimated (J-8) to indicate a potential low bias

SDG QX25: The MS %R for copper was less than the lower control limit. All associated copper results were estimated (J-8).

Laboratory Duplicates

SDG QP21: The RPD values for chromium, copper, lead, and zinc were greater than the control limit of 20%. All associated results were estimated (J-9).

SDG QQ37: RPD exceeded the control limit of 20% for mercury (69.1%). All associated sample results were estimated (J-9).

SDG QU60: The RPD values for chromium, mercury, and zinc exceeded the control limit. All associated sample results were estimated (J-9).

SDG QX25: The RPD value for mercury was greater than the control limit. All associated sample results were estimated (J-9).

SDG QY59: The RPD value for chromium was greater than the control limit. All associated sample results were estimated (J-9).

SDG QZ31: The RPD value for mercury was greater than the control limit. All associated sample results were estimated (J/UJ-9).

Reporting Limits

SDG QY59: Sample NBF-MH431A-052810-S was re-analyzed at 5x dilution due to high concentration of the interfering element iron. Reporting limits were elevated accordingly.

SDG QZ31: Samples NBF-LS431A-060210-S, NBF-MH369A-060210-S, NBF-MH133A-060210-S, and NBF-MH138A-060210-S were re-analyzed at 5x and 10x dilutions due to high concentration of the interfering element iron. Reporting limits were elevated accordingly.

SDG RD97: Samples NBF-D435BS-071310-S, NBF-D435BN-071310-S, NBF-434AN-071310-S, and NBF-D436A-071310-S were re-analyzed at 5x dilution due to high concentration of the interfering element iron. Reporting limits were elevated accordingly.

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were noted.

III. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the LCS and MS recoveries, except as noted. Precision was acceptable as demonstrated by the RPD values for the laboratory duplicate analyses, except as noted above.

Data were qualified for reporting limit standard %R, laboratory duplicate RPD, and MS %R outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS – Stormwater Sampling
Conventional Analyses

This report documents the review of analytical data from the analysis of stormwater samples and the associated laboratory and field quality control (QC) samples. Analytical Resources, Incorporated, Tukwila, Washington, analyzed the samples. Refer to the **Sample Index** for a list of the individual samples.

SDG	Number of Samples	Validation Level
QJ67	2 Stormwater	Full (QA2)
QL13	2 Stormwater	Full (QA2)
QQ37	2 Stormwater	Full (QA2)
QU49	2 Stormwater	Full (QA2)
QX25	2 Stormwater	Full (QA2)
QZ07	2 Stormwater	Full (QA2)
RC27	1 Stormwater	Full (QA2)
RC29	1 Stormwater	Full (QA2)
RC46	1 Stormwater	Full (QA2)
RC63	1 Stormwater	Full (QA2)

The analytical tests that were performed are summarized below:

Parameter	Method
Anions (Cl, NO_3, SO_4)	EPA 300.0
Alkalinity	SM 2320
Hardness	SM 2340B
pH	EPA 150.1
Nitrate	EPA 353.2
Total Suspended Solids (TSS)	EPA 160.2
Total Organic Carbon (TOC)	EPA 415.1
Dissolved Organic Carbon	EPA 415.1

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all necessary deliverables for a summary validation. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%).

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times		Matrix Spikes (MS)
	Initial Calibration	2	Laboratory Replicates
	Calibration Verification		Reporting Limits
	Laboratory Blanks		Reported Results
	Laboratory Control Samples	1	Calculation Verification

[1] ***Quality control results are discussed below, but no data were qualified.***
[2] ***Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.***

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside control limits, ranging to 20.4°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within 6 hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Laboratory Replicates

SDG QJ67: The relative percent difference (RPD) value for total suspended solids (TSS) was greater than the control limit of 20%. The results for TSS in the associated samples were estimated (J-9).

SDG QQ37: The RPD value for TSS was greater than the control limit. Associated results were estimated (J-9).

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were found.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the laboratory control sample and matrix spike recoveries. Precision was also acceptable as demonstrated by the laboratory duplicate RPD values, except as noted.

Data were estimated based on laboratory duplicate RPD outliers.

All data, as qualified, are acceptable for use.

DATA VALIDATION REPORT
North Boeing Field RIFS – Sediment Sampling
Conventional Analyses

This report documents the review of analytical data from the analysis of sediment samples and the associated laboratory quality control (QC) samples. Analytical Resources, Incorporated, Tukwila, Washington, analyzed the samples. Refer to the **Sample Index** for a list of the individual samples.

SDG	Number of Samples	Validation Level
QJ67	2 Filter Bag Sediment	Full (QA2)
QL13	1 Filter Bag Sediment	Full (QA2)
QP21	1 Filter Bag Sediment	Full (QA2)
QQ37	2 Filter Bag Sediment	Full (QA2)
QU60	11 Filter Bag Sediment	Full (QA2)
QX99	4 Filter Bag Sediment	Full (QA2)
QX25	12 Filter Bag Sediment	Full (QA2)
QY41	3 Filter Bag Sediment	Full (QA2)
QY59	1 Filter Bag Sediment	Full (QA2)
QZ31	13 Filter Bag Sediment	Full (QA2)
RC75	3 Filter Bag Sediment	Full (QA2)
RD97	6 Filter Bag Sediment	Full (QA2)

The analytical tests that were performed are summarized below:

Parameter	Method
Grain Size	PSEP, 1986/ Laser SediGraph
Total Organic Carbon	Plumb, 1981
Total Solids	EPA 160.3

I. DATA PACKAGE COMPLETENESS

The laboratory submitted all necessary deliverables for a summary validation. The laboratory followed adequate corrective action processes and all anomalies were discussed in the case narrative.

SDG QU60: There was insufficient sample quantity to analyze Sample NBF-CB423A-042710-S.

II. EDD TO HARDCOPY VERIFICATION

A complete (100%) verification of the electronic data deliverable (EDD) results was performed by comparison to the hardcopy laboratory data package. Laboratory QC results were also verified (10%).

III. TECHNICAL DATA VALIDATION

The QC requirements that were reviewed are listed below.

1	Sample Preservation and Holding Times	1	Matrix Spike/Matrix Spike Duplicate (MS/MSD)
	Initial Calibration		Laboratory Replicates
	Calibration Verification		Reported Results
	Laboratory Blanks	1	Calculation Verification
	Laboratory Control Samples		

[1] Quality control results are discussed below, but no data were qualified.
[2] Quality control outliers that impact the reported data were noted. Data qualifiers were issued as discussed below.

Sample Preservation and Holding Times

The validation guidance documents state that the cooler temperatures should be within an advisory temperature range of 2° to 6°C. The laboratory received sample coolers with temperatures outside control limits, ranging to 20.4°C. Where temperatures greater than the upper control limit occurred, there was insufficient time for the samples and coolers to achieve a lower temperature as the laboratory received the samples within six hours of collection. These temperature outliers did not impact data quality and no qualifiers were assigned.

Calculation Verification

Several results were verified by recalculation from the raw data. No calculation or transcription errors were found.

IV. OVERALL ASSESSMENT

As was determined by this evaluation, the laboratory followed the specified analytical methods. Accuracy was acceptable, as demonstrated by the laboratory control sample and matrix spike/matrix spike duplicate recovery values, except as noted. Precision was also acceptable as demonstrated by the laboratory replicate relative percent difference and percent relative standard deviation values.

No data were qualified for any reason.

All data, as reported, are acceptable for use.

EcoChem, INC.
Environmental Data Quality

APPENDIX A

DATA QUALIFIER DEFINITIONS REASON CODES AND CRITERIA TABLES

DATA VALIDATION QUALIFIER CODES
National Functional Guidelines

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification".
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents the approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

The following is an EcoChem qualifier that may also be assigned during the data review process:

DNR	Do not report; a more appropriate result is reported from another analysis or dilution.

DATA QUALIFIER REASON CODES

1	Holding Time/Sample Preservation
2	Chromatographic pattern in sample does not match pattern of calibration standard.
3	Compound Confirmation
4	Tentatively Identified Compound (TIC) (associated with NJ only)
5A	Calibration (initial)
5B	Calibration (continuing)
6	Field Blank Contamination
7	Lab Blank Contamination (e.g., method blank, instrument, etc.)
8	Matrix Spike(MS & MSD) Recoveries
9	Precision (all replicates)
10	Laboratory Control Sample Recoveries
11	A more appropriate result is reported (associated with “R” and “DNR” only)
12	Reference Material
13	Surrogate Spike Recoveries (a.k.a., labeled compounds & recovery standards)
14	Other (define in validation report)
15	GFAA Post Digestion Spike Recoveries
16	ICP Serial Dilution % Difference
17	ICP Interference Check Standard Recovery
18	Trip Blank Contamination
19	Internal Standard Performance (e.g., area, retention time, recovery)
20	Linear Range Exceeded
21	Potential False Positives
22	Elevated Detection Limit Due to Interference (i.e., laboratory, chemical and/or matrix)

EcoChem Validation Guidelines for Dioxin/Furan Analysis by HRMS
(Based on EPA Reg. 10 SOP, Rev. 2, 1996 & EPA SW-846, Methods 1613b and 8290)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Cooler/Storage Temperature	Waters/Solids < 4°C Tissues <-10°C	EcoChem PJ, see TM-05	1
Holding Time	Extraction - Water: 30 days from collection *Note:* Under CWA, SDWA, and RCRA the HT for H2O is 7 days* Extraction - Soil: 30 days from collection Analysis: 40 days from extraction	J(+)/UJ(-) if ext > 30 days J(+)/UJ(-) if analysis > 40 Days EcoChem PJ, see TM-05	1
Mass Resolution	>=10,000 resolving power at m/z 304.9824 Exact mass of m/z 380.9760 w/in 5 ppm of theoretical value (380.97410 to 380.97790) . Analyzed prior to ICAL and at the start and end of each 12 hr. shift	R(+/-) if not met	14
Window Defining Mix and Column Performance Mix	Window defining mixture/Isomer specificity std run before ICAL and CCAL Valley < 25% (valley = (x/y)*100%) x = ht. of TCDD y = baseline to bottom of valley For all isomers eluting near 2378-TCDD/TCDF isomers (TCDD only for 8290)	J(+) if valley > 25%	5A (ICAL) 5B (CCAL
Initial Calibration	Minimum of five standards %RSD < 20% for native compounds %RSD <30% for labeled compounds (%RSD <35% for labeled compounds under 1613b)	J(+) natives if %RSD > 20%	5A
	Abs. RT of $^{13}C_{12}$-1234-TCDD >25 min on DB5 >15 min on DB-225	EcoChem PJ, see TM-05	
	Ion Abundance ratios within QC limits (Table 8 of method 8290) (Table 9 of method 1613B)	EcoChem PJ, see TM-05	
	S/N ratio > 10 for all native and labeled compounds in CS1 std.	If <10, elevate Det. Limit or R(-)	

EcoChem Validation Guidelines for Dioxin/Furan Analysis by HRMS
(Based on EPA Reg. 10 SOP, Rev. 2, 1996 & EPA SW-846, Methods 1613b and 8290)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Continuing Calibration	Analyzed at the start and end of each 12 hour shift. %D+/-20% for native compounds %D +/-30% for labeled compounds (Must meet limits in Table 6, Method 1613B) (If %Ds in the closing CCAL are w/in 25%/35% the avg RF from the two CCAL may be used to calculate samples per Method 8290, Section 8.3.2.4)	Do not qualify labeled compounds. Narrate in report for labeled compound %D outliers. For native compound %D outliers: 8290: J(+)/UJ(-) if %D = 20% - 75% J(+)/R(-) if %D > 75% 1613: J(+)/UJ(-) if %D is outside Table 6 limits J(+)/R(-) if %D is +/- 75% of Table 6 limit	5B
	Abs. RT of $^{13}C_{12}$-1234-TCDD and $^{13}C12$-123789-HxCDD +/- 15 sec of ICAL.	EcoChem PJ, see ICAL section of TM-05	
	RRT of all other compounds must meet Table 2 of 1613B.	EcoChem PJ, see TM-05	
	Ion Abundance ratios within QC limits (Table 8 of method 8290) (Table 9 of method 1613B)	EcoChem PJ, see TM-05	
	S/N ratio > 10	If <10, elevate Det. Limit or R(-)	
Method Blank	One per matrix per batch No positive results	If sample result <5X action level, qualify U at reported value.	7
Field Blanks (Not Required)	No positive results	If sample result <5X action level, qualify U at reported value.	6
LCS / OPR	Concentrations must meet limits in Table 6, Method 1613B or lab limits.	J(+) if %R > UCL J(+)/UJ(-) if %R < LCL J(+)/R(-) using PJ if %R <<LCL (< 10%)	10
MS/MSD (recovery)	May not analyze MS/MSD %R should meet lab limits.	Qualify parent only unless other QC indicates systematic problems: J(+) if both %R > UCL J(+)/UJ(-) if both %R < LCL J(+)/R(-) if both %R < 10% PJ if only one %R outlier	8
MS/MSD (RPD)	May not analyze MS/MSD RPD < 20%	J(+) in parent sample if RPD > CL	9

EcoChem Validation Guidelines for Dioxin/Furan Analysis by HRMS
(Based on EPA Reg. 10 SOP, Rev. 2, 1996 & EPA SW-846, Methods 1613b and 8290)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Lab Duplicate	RPD <25% if present.	J(+)/UJ(-) if outside limts	9
Labeled Compounds / Internal Standards	*Method 8290:* %R = 40% - 135% in all samples *Method 1613B:* %R must meet limits specified in Table 7, Method 1613	J(+)/UJ(-) if %R = 10% to LCL J(+) if %R > UCL J(+)/R(-) if %R < 10%	13
Quantitation/ Identification	Ions for analyte, IS, and rec. std. must max w/in 2 sec. S/N >2.5 IA ratios meet limits in Table 9 of 1613B or Table 8 of 8290 RRTs w/in limits in Table 2 of 1613B	If RT criteria not met, use PJ (see TM-05) If S/N criteria not met, J(+). if unlabelled ion abundance not met, change to EMPC If labelled ion abundance not met, J(+).	21
EMPC (estimated maximum possible concentration)	If quantitation idenfication criteria are not met, laboratory should report an EMPC value.	If laboratory correctly reported an EMPC value, qualify with U to indicate that the value is a detection limit.	14
Interferences	PCDF interferences from PCDPE	If both detected, change PCDF result to EMPC	14
Second Column Confirmation	All 2378-TCDF hits must be confirmed on a DB-225 (or equiv) column. All QC specs in this table must be met for the confirmation analysis.	Report lower of the two values. If not performed use PJ (see TM-05).	3
Field Duplicates	Use QAPP limits. If no QAPP: Solids: RPD <50% OR absolute diff. < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR absolute diff. < 1X RL (for results < 5X RL)	Narrate and qualify if required by project (EcoChem PJ)	9
Two analyses for one sample	Report only one result per analyte	"DNR" results that should not be used	11

EcoChem Validation Guidelines for Volatile Analysis by GC/MS (Based on Organic NFG 1999)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Cooler Temperature	4°C±2°C Water: HCl to pH < 2	J(+)/UJ(-) if greater than 6 deg. C (EcoChem PJ)	1
Hold Time	Waters: 14 days preserved 7 Days: unpreserved (for aromatics) Solids: 14 Days	J(+)/UJ(-) if hold times exceeded If exceeded by > 3X HT: J(+)/R(-) (EcoChem PJ)	1
Tuning	BFB Beginning of each 12 hour period Method acceptance criteria	R(+/-) all analytes in all samples associated with the tune	5A
Initial Calibration (Minimum 5 stds.)	RRF > 0.05	(EcoChem PJ, see TM-06) If MDL= reporting limit: J(+)/R(-) if RRF < 0.05 If reporting limit > MDL: note in worksheet if RRF <0.05	5A
	%RSD < 30%	(EcoChem PJ, see TM-06) J(+) if %RSD > 30%	5A
Continuing Calibration (Prior to each 12 hr. shift)	RRF > 0.05	(EcoChem PJ, see TM-06) If MDL= reporting limit: J(+)/R(-) if RRF < 0.05 If reporting limit > MDL: note in worksheet if RRF <0.05	5B
	%D <25%	(EcoChem PJ, see TM-06) If > +/-90%: J+/R- If -90% to -26%: J+ (high bias) If 26% to 90%: J+/UJ- (low bias)	5B
Method Blank	One per matrix per batch No results > CRQL	U(+) if sample (+) result is less than CRQL and less than appropriate 5X or 10X rule (raise sample value to CRQL)	7
		U(+) if sample (+) result is greater than or equal to CRQL and less than appropriate 5X and 10X rule (at reported sample value)	7
	No TICs present	R(+) TICs using 10X rule	7
Storage Blank	One per SDG <CRQL	U(+) the specific analyte(s) results in all assoc.samples using the 5x or 10x rule	7
Trip Blank	Frequency as per project QAPP	Same as method blank for positive results remaining in trip blank after method blank qualifiers are assigned	18
Field Blanks (if required in QAPP)	No results > CRQL	Apply 5X/10X rule; U(+) < action level	6

EcoChem Validation Guidelines for Volatile Analysis by GC/MS (Based on Organic NFG 1999)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
MS/MSD (recovery)	One per matrix per batch Use method acceptance criteria	Qualify parent only unless other QC indicates systematic problems: J(+) if both %R > UCL J(+)/UJ(-) if both %R < LCL J(+)/R(-) if both %R < 10% PJ if only one %R outlier	8
MS/MSD (RPD)	One per matrix per batch Use method acceptance criteria	J(+) in parent sample if RPD > CL	9
LCS *low conc. H2O VOA*	One per lab batch Within method control limits	J(+) assoc. cmpd if > UCL J(+)/R(-) assoc. cmpd if < LCL J(+)/R(-) all cmpds if half are < LCL	10
LCS *regular VOA (H2O & solid)*	One per lab batch Lab or method control limits	J(+) if %R > UCL J(+)/UJ(-) if %R <LCL J(+)/R(-) if %R < 10% (EcoChem PJ)	10
LCS/LCSD *(if required)*	One set per matrix and batch of 20 samples RPD < 35%	J(+)/UJ(-) assoc. cmpd. in all samples	9
Surrogates	Added to all samples Within method control limits	J(+) if %R >UCL J(+)/UJ(-) if %R <LCL but >10% (see PJ[1]) J(+)/R(-) if <10%	13
Internal Standard (IS)	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	J(+) if > 200% J(+)/UJ(-) if < 50% J(+)/R(-) if < 25% RT>30 seconds, narrate and Notify PM	19
Field Duplicates	Use QAPP limits. If no QAPP: Solids: RPD <50% OR absolute diff. < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR absolute diff. < 1X RL (for results < 5X RL)	Narrate and qualify if required by project (EcoChem PJ)	9
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NJ the TIC unless: R(+) common laboratory contaminants See Technical Director for ID issues	4
Quantitation/ Identification	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	See Technical Director if outliers	14 21 (false +)

PJ[1] No action if there are 4+ surrogates and only 1 outlier.

EcoChem Validation Guidelines for Semivolatile Analysis by GC/MS (Based on Organic NFG 1999)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Cooler Temperature	4°C ±2°	J(+)/UJ(-) if greater than 6 deg. C (EcoChem PJ)	1
Holding Time	Water: 7 days from collection Soil: 14 days from collection Analysis: 40 days from extraction	Water: J(+)/UJ(-) if ext. > 7 and < 21 days J(+)/R(-) if ext > 21 days (EcoChem PJ) Solids/Wastes: J(+)/UJ(-) if ext. > 14 and < 42 days J(+)/R(-) if ext. > 42 days (EcoChem PJ) J(+)/UJ(-) if analysis >40 days	1
Tuning	DFTPP Beginning of each 12 hour period Method acceptance criteria	R(+/-) all analytes in all samples associated with the tune	5A
Initial Calibration (Minimum 5 stds.)	RRF > 0.05	(EcoChem PJ, see TM-06) If MDL= reporting limit: J(+)/R(-) if RRF < 0.05 If reporting limit > MDL: note in worksheet if RRF <0.05	5A
	%RSD < 30%	(EcoChem PJ, see TM-06) J(+) if %RSD > 30%	5A
Continuing Calibration (Prior to each 12 hr. shift)	RRF > 0.05	(EcoChem PJ, see TM-06) If MDL= reporting limit: J(+)/R(-) if RRF < 0.05 If reporting limit > MDL: note in worksheet if RRF <0.05	5B
	%D <25%	(EcoChem PJ, see TM-06) If > +/-90%: J+/R- If -90% to -26%: J+ (high bias) If 26% to 90%: J+/UJ- (low bias)	5B
Method Blank	One per matrix per batch No results > CRQL	U(+) if sample (+) result is less than CRQL and less than appropriate 5X or 10X rule (raise sample value to CRQL)	7
		U(+) if sample (+) result is greater than or equal to CRQL and less than appropriate 5X and 10X rule (at reported sample value)	7
	No TICs present	R(+) TICs using 10X rule	7
Field Blanks (Not Required)	No results > CRQL	Apply 5X/10X rule; U(+) < action level	6

EcoChem Validation Guidelines for Semivolatile Analysis by GC/MS (Based on Organic NFG 1999)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
MS/MSD (recovery)	One per matrix per batch Use method acceptance criteria	Qualify parent only unless other QC indicates systematic problems: J(+) if both %R > UCL J(+)/UJ(-) if both %R < LCL J(+)/R(-) if both %R < 10% PJ if only one %R outlier	8
MS/MSD (RPD)	One per matrix per batch Use method acceptance criteria	J(+) in parent sample if RPD > CL	9
LCS low conc. H2O SVOA	One per lab batch Within method control limits	J(+) assoc. cmpd if > UCL J(+)/R(-) assoc. cmpd if < LCL J(+)/R(-) all cmpds if half are < LCL	10
LCS regular SVOA (H2O & solid)	One per lab batch Lab or method control limits	J(+) if %R > UCL J(+)/UJ(-) if %R <LCL J(+)/R(-) if %R < 10% (EcoChem PJ)	10
LCS/LCSD *(if required)*	One set per matrix and batch of 20 samples RPD < 35%	J(+)/UJ(-) assoc. cmpd. in all samples	9
Surrogates	Minimum of 3 acid and 3 base/neutral compounds Use method acceptance criteria	Do not qualify if only 1 acid and/or 1 B/N surrogate is out unless <10% J(+) if %R > UCL J(+)/UJ(-) if %R < LCL J(+)/R(-) if %R < 10%	13
Internal Standards	Added to all samples Acceptable Range: IS area 50% to 200% of CCAL area RT within 30 seconds of CC RT	J(+) if > 200% J(+)/UJ(-) if < 50% J(+)/R(-) if < 25% RT>30 seconds, narrate and Notify PM	19
Field Duplicates	Use QAPP limits. If no QAPP: Solids: RPD <50% OR absolute diff. < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR absolute diff. < 1X RL (for results < 5X RL)	Narrate and qualify if required by project (EcoChem PJ)	9
TICs	Major ions (>10%) in reference must be present in sample; intensities agree within 20%; check identification	NJ the TIC unless: R(+) common laboratory contaminants See Technical Director for ID issues	4
Quantitation/ Identification	RRT within 0.06 of standard RRT Ion relative intensity within 20% of standard All ions in std. at > 10% intensity must be present in sample	See Technical Director if outliers	14 21 (false +)

EcoChem Validation Guidelines for Pesticides/PCBs by GC/ECD (Based on Organic NFG 1999 & EPA SW-846 Method 8081/8082)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Cooler Temperature	4°C ±2°	J(+)/UJ(-) if greater than 6 deg. C (EcoChem PJ)	1
Holding Time	Water: 7 days from collection Soil: 14 days from collection Analysis: 40 days from extraction	J(+)/UJ(-) if ext/analyzed > HT J(+)/R(-) if ext/analyzed > 3X HT (EcoChem PJ)	1
Resolution Check	Beginning of ICAL Sequence Within RTW Resolution >90%	Narrate (Use Professional Judgement to qualify)	14
Instrument Performance (Breakdown)	DDT Breakdown: < 20% Endrin Breakdown: <20% Combined Breakdown: <30% Compounds within RTW	J(+) DDT NJ(+) DDD and/or DDE R(-) DDT - If (+) for either DDE or DDD J(+) Endrin NJ(+) EK and/or EA R(-) Endrin - If (+) for either EK or EA	5A
Retention Times	Surrogates: TCX (+/- 0.05); DCB (+/- 0.10) Target compounds: elute before heptachlor epoxide (+/- 0.05) elute after heptachlor epoxide (+/- 0.07)	NJ(+)/R(-) results for analytes with RT shifts For full DV, use PJ based on examination of raw data	5B
Initial Calibration	Pesticides: Low=CRQL, Mid=4X, High=16X Multiresponse - one point Calibration %RSD<20% %RSD<30% for surr; two comp. may exceed if <30% Resolution in Mix A and Mix B >90%	J(+)/UJ(-)	5A
Continuing Calibration	Alternating PEM standard and INDA/INDB standards every 12 hours (each preceeded by an inst. Blank) %D < 25% Resolution >90% in IND mixes; 100% for PEM	J(+)/UJ(-) J(+)R(-) if %D > 90% PJ for resolution	5B
Method Blank	One per matrix per batch No results > CRQL	U(+) if sample result is < CRQL and < 5X rule (raise sample value to CRQL) U(+) if sample result is > or equal to CRQL and < 5X rule (at reported sample value)	7
Instrument Blanks	Analyzed at the beginning of every 12 hour sequence No analyte > 1/2 CRQL	Same as Method Blank	7
Field Blanks	Not addressed by NFG No results > CRQL	Apply 5X rule; U(+) < action level	6

EcoChem Validation Guidelines for Pesticides/PCBs by GC/ECD (Based on Organic NFG 1999 & EPA SW-846 Method 8081/8082)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
MS/MSD (recovery)	One set per matrix per batch Method Acceptance Criteria	Qualify parent only unless other QC indicates systematic problems: J(+) if both %R > UCL J(+)/UJ(-) if both %R < LCL J(+)/R(-) if both %R < 10% PJ if only one %R outlier	8
MS/MSD (RPD)	One set per matrix per batch Method Acceptance Criteria	J(+) in parent sample if RPD > CL	9
LCS	One per SDG Method Acceptance Criteria	J(+) if %R > UCL J(+)/UJ(-) if %R < LCL J(+)/R(-) using PJ if %R <<LCL (< 10%)	10
LCS/LCSD *(if required)*	One set per matrix and batch of 20 samples RPD < 35%	J(+)/UJ(-) assoc. cmpd. in all samples	9
Surrogates	TCX and DCB added to every sample %R = 30-150%	J(+)/UJ(-) if both %R = 10 - 60% J(+) if both >150% J(+)/R(-) if any %R <10%	13
Quantitation/ Identification	Quantitated using ICAL calibration factor (CF) RPD between columns <40%	J(+) if RPD = 40 - 60% NJ(+) if RPD >60% EcoChem PJ - See TM-08	3
Two analyses for one sample	Report only one result per analyte	"DNR" results that should not be used to avoid reporting two results for one sample	11
Sample Clean-up	GPC required for soil samples Florisil required for all samples Sulfur is optional Clean-up standard check %R within CLP limits	J(+)/UJ(-) if %R < LCL J(+) if %R > UCL	14
Field Duplicates	Use QAPP limits. If no QAPP: Solids: RPD <50% OR absolute diff. < 2X RL (for results < 5X RL) Aqueous: RPD <35% OR absolute diff. < 1X RL (for results < 5X RL)	Narrate (Qualifiy if required by project QAPP)	9

EcoChem Validation Guidelines for Metals Analysis by ICP (Based on Inorganic NFG 1994 & 2004)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Cooler Temperature and Preservation	Cooler temperature: 4°C ±2° Waters: Nitric Acid to pH < 2 For Dissolved Metals: 0.45um filter & preserve after filtration Tissues: Frozen	EcoChem Professional Judgment - no qualification based on cooler temperature outliers J(+)/UJ(-) if pH preservation requirements are not met	1
Holding Time	180 days from date sampled Frozen tissues - HT extended to 2 years	J(+)/UJ(-) if holding time exceeded	1
Initial Calibration	Blank + minimum 1 standard If more than 1 standard, r > 0.995	J(+)/UJ(-) if r < 0.995 (multi point cal)	5A
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R within ±10% of true value	J(+)/UJ(-) if %R 75-89% J(+) if %R = 111-125% R(+) if %R > 125% R(+/-) if %R < 75%	5A
Continuing Calibration Verification (CCV)	Every ten samples, immediately following ICV/ICB and at end of run %R within ±10% of true value	J(+)/UJ(-) if %R = 75-89% J(+) if %R 111-125% R(+) if %R > 125% R(+/-) if %R < 75%	5B

Initial and Continuing Calibration Blank (ICB/CCB)	After each ICV and CCV
	every ten samples and end of run
	| blank | < IDL (MDL)
		Action level is 5x absolute value of blank conc.
		For (+) blanks, U(+) results < action level
		For (-) blanks, J(+)/UJ(-) results < action level
		(Refer to TM-02 for additional information)
			7

Reporting Limit Standard	2x RL analyzed beginning of run Not required for Al, Ba, Ca, Fe, Mg, Na, K %R = 70%-130% (50%-150% Sb, Pb, Tl)	R(-)/J(+) < 2x RL if %R <50% (< 30% Sb, Pb, Tl) J(+) < 2x RL, UJ(-) if %R 50-69% (30-49% Sb, Pb,Tl) J(+) < 2x RL if %R 130-180% (150-200% Sb, Pb, Tl) R(+) < 2x RL if %R > 180% (200% Sb, Pb, Tl)	14
Interference Check Samples (ICSA/ICSAB)	ICSAB %R 80 - 120% for all spiked elements | ICSA | < MDL for all unspiked elements except: K, Na	For samples with Al, Ca, Fe, or Mg > ICS levels R(+/-) if %R < 50% J(+) if %R >120% J(+)/UJ(-) if %R= 50 to 79% Use Professional Judgment for ICSA to determine if bias is present see TM-09 for additional details	17
Method Blank	One per matrix per batch (batch not to exceed 20 samples) blank < MDL	Action level is 5x blank concentration U(+) results < action level	7
Laboratory Control Sample (LCS)	One per matrix per batch Blank Spike: %R within 80-120%	R(+/-) if %R < 50% J(+)/UJ(-) if %R = 50-79% J(+) if %R >120%	10
	CRM: Result within manufacturer's certified acceptance range or project guidelines	J(+)/UJ(-) if < LCL, J(+) if > UCL	

EcoChem Validation Guidelines for Metals Analysis by ICP
(Based on Inorganic NFG 1994 & 2004)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Matrix Spikes	One per matrix per batch 75-125% for samples less than 4x spike level	J(+) if %R > 125% J(+)/UJ(-) if %R < 75% J(+)/R(-) if %R < 30% or J(+)/UJ(-) if Post Spike %R 75-125% Qualify all samples in batch	8
Post-digestion Spike	If Matrix Spike is outside 75-125%, spike at twice the sample conc.	No qualifiers assigned based on this element	
Laboratory Duplicate (or MS/MSD)	One per matrix per batch RPD < 20% for samples > 5x RL Diff < RL for samples >RL and < 5x RL (Diff < 2x RL for solids)	J(+)/UJ(-) if RPD > 20% or diff > RL (2x RL for solids) qualify all samples in batch	9
Serial Dilution	5x dilution one per matrix %D < 10% for original sample conc. > 50x MDL	J(+)/UJ(-) if %D >10% qualify all samples in batch	16
Field Blank	Blank < MDL	Action level is 5x blank conc. U(+) sample values < action level in associated field samples only	6
Field Duplicate	For results > 5x RL: Water: RPD < 35% Solid: RPD < 50% For results < 5 x RL: Water: Diff < RL Solid: Diff < 2x RL	J(+)/UJ(-) in parent samples only	9
Linear Range	Sample concentrations must fall within range	J values over range	20

EcoChem Validation Guidelines for Metals Analysis by ICP-MS (Based on Inorganic NFG 1994 & 2004)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Cooler Temperature and Preservation	Cooler temperature: 4°C ±2° Waters: Nitric Acid to pH < 2 For Dissolved Metals: 0.45um filter & preserve after filtration	EcoChem Professional Judgment - no qualification based on cooler temperature outliers J(+)/UJ(-) if pH preservation requirements are not met	1
Holding Time	180 days from date sampled Frozen tissues - HT extended to 2 years	J(+)/UJ(-) if holding time exceeded	1
Tune	Prior to ICAL monitoring compounds analyzed 5 times wih Std Dev. ≤ 5% mass calibration <0.1 amu from True Value Resolution < 0.9 AMU @ 10% peak height or <0.75 amu @ 5% peak height	Use Professional Judgment to evaluate tune J(+)/UJ(-) if tune criteria not met	5A
Initial Calibration	Blank + minimum 1 standard If more than 1 standard, r>0.995	J(+)/UJ(-) if r<0.995 (for multi point cal)	5A
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R within ±10% of true value	J(+)/UJ(-) if %R 75-89% J(+) if %R = 111-125% R(+) if %R > 125% R(+/-) if %R < 75%	5A
Continuing Calibration Verification (CCV)	Every ten samples, immediately following ICV/ICB and at end of run ±10% of true value	J(+)/UJ(-) if %R = 75-89% J(+) if %R 111-125% R(+) if %R > 125% R(+/-) if %R < 75%	5B

Initial and Continuing Calibration Blanks (ICB/CCB)	After each ICV and CCV
	every ten samples and end of run
	| blank | < IDL (MDL)
		Action level is 5x absolute value of blank conc.
		For (+) blanks, U(+) results < action level
		For (-) blanks, J(+)/UJ(-) results < action level
		refer to TM-02 for additional details
			7

Reporting Limit Standard (CRI)	2x RL analyzed beginning of run Not required for Al, Ba, Ca, Fe, Mg, Na, K %R = 70%-130% (50%-150% Co,Mn, Zn)	R(-),(+) < 2x RL if %R < 50% (< 30% Co,Mn, Zn) J(+) < 2x RL, UJ(-) if %R 50-69% (30%-49% Co,Mn, Zn) J(+) < 2x RL if %R 130%-180% (150%-200% Co,Mn, Zn) R(+) < 2x RL if %R > 180% (200% Co, Mn, Zn)	14
Interference Check Samples (ICSA/ICSAB)	Required by SW 6020, but not 200.8 ICSAB %R 80% - 120% for all spiked elements | ICSA | < IDL (MDL) for all unspiked elements	For samples with Al, Ca, Fe, or Mg > ICS levels R(+/-) if %R < 50% J(+) if %R >120% J(+)/UJ(-) if %R = 50% to 79% Use Professional Judgment for ICSA to determine if bias is present see TM-09 for additional details	17
Method Blank	One per matrix per batch (batch not to exceed 20 samples) blank < MDL	Action level is 5x blank concentration U(+) results < action level	7

EcoChem Validation Guidelines for Metals Analysis by ICP-MS
(Based on Inorganic NFG 1994 & 2004)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Laboratory Control Sample (LCS)	One per matrix per batch Blank Spike: %R within 80%-120%	R(+/-) if %R < 50% J(+)/UJ(-) if %R = 50-79% J(+) if %R >120%	10
	CRM: Result within manufacturer's certified acceptance range or project guidelines	J(+)/UJ(-) if < LCL, J(+) if > UCL	
Matrix Spike/ Matrix Spike Duplicate (MS/MSD)	One per matrix per batch 75-125% for samples where results do not exceed 4x spike level	J(+) if %R>125% J(+)/UJ(-) if %R <75% J(+)/R(-) if %R<30% or J(+)/UJ(-) if Post Spike %R 75%-125% Qualify all samples in batch	8
Post-digestion Spike	If Matrix Spike is outside 75-125%, Spike parent sample at 2x the sample conc.	No qualifiers assigned based on this element	
Laboratory Duplicate (or MS/MSD)	One per matrix per batch RPD < 20% for samples > 5x RL Diff < RL for samples > RL and < 5 x RL (Diff < 2x RL for solids)	J(+)/UJ(-) if RPD > 20% or diff > RL all samples in batch	9
Serial Dilution	5x dilution one per matrix %D < 10% for original sample values > 50x MDL	J(+)/UJ(-) if %D >10% All samples in batch	16
Internal Standards	Every sample SW6020: 60%-125% of cal blank IS 200.8: 30%-120% of cal blank IS	J (+)/UJ (-) all analytes associated with IS outlier	19
Field Blank	Blank < MDL	Action level is 5x blank conc. U(+) sample values < AL in associated field samples only	6
Field Duplicate	For results > 5x RL: Water: RPD < 35% Solid: RPD < 50% For results < 5 x RL: Water: Diff < RL Solid: Diff < 2x RL	J(+)/UJ(-) in parent samples only	9
Linear Range	Sample concentrations must fall within range	J values over range	20

EcoChem Validation Guidelines for Mercury Analysis by CVAA (Based on Inorganic NFG 1994 & 2004)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Cooler Temperature and Preservation	Cooler temperature: 4°C ±2° Waters: Nitric Acid to pH < 2 For Dissolved Metals: 0.45um filter & preserve after filtration	EcoChem Professional Judgment - no qualification based on cooler temperature outliers J(+)/UJ(-) if pH preservation requirements are not met	1
Holding Time	28 days from date sampled Frozen tissues: HT extended to 6 months	J(+)/UJ(-) if holding time exceeded	1
Initial Calibration	Blank + 4 standards, one at RL r > 0.995	J(+)/UJ(-) if r<0.995	5A
Initial Calibration Verification (ICV)	Independent source analyzed immediately after calibration %R within ±20% of true value	J(+)/UJ(-) if %R = 65%-79% J(+) if %R = 121-135% R(+/-) if %R < 65% R(+) if %R > 135%	5A
Continuing Calibration Verification (CCV)	Every ten samples, immediately following ICV/ICB and at end of run %R within ±20% of true value	J(+)/UJ(-) if %R = 65%-79% J(+) if %R = 121-135% R(+/-) if %R < 65% R(+) if %R > 135%	5B

Initial and Continuing Calibration Blanks (ICB/CCB)	after each ICV and CCV
	every ten samples and end of run
	| blank | < IDL (MDL)
		Action level is 5x absolute value of blank conc.
		For (+) blanks, U(+) results < action level
		For (-) blanks, J(+)/UJ(-) results < action level
		refer to TM-02 for additional details
			7

Reporting Limit Standard (CRA)	conc at RL - analyzed beginning of run %R = 70-130%	R(-),(+)<2xRL if %R <50% J(+)<2x RL, UJ(-) if %R 50-69% J(+) <2x RL if %R 130-180% R(+)<2x RL if %R>180%	14
Method Blank	One per matrix per batch (batch not to exceed 20 samples) blank < MDL	Action level is 5x blank concentration U(+) results < action level	7
Laboratory Control Sample (LCS)	One per matrix per batch		10
	Blank Spike: %R within 80-120%	R(+/-) if %R < 50% J(+)/UJ(-) if %R = 50-79% J(+) if %R >120%	
	CRM: Result within manufacturer's certified acceptance range or project guidelines	J(+)/UJ(-) if < LCL, J(+) if > UCL	
Matrix Spike/Matrix Spike Duplicate (MS/MSD)	One per matrix per batch 5% frequency 75-125% for samples less than 4x spike level	J(+) if %R>125% J(+)/UJ(-) if %R <75% J(+)/R(-) if %R<30% all samples in batch	8
Laboratory Duplicate (or MS/MSD)	One per matrix per batch RPD < 20% for samples > 5x RL Diff < RL for samples > RL and < 5x RL (Diff < 2x RL for solids)	J(+)/UJ(-) if RPD > 20% or diff > RL all samples in batch	9

EcoChem Validation Guidelines for Mercury Analysis by CVAA (Based on Inorganic NFG 1994 & 2004)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Field Blank	Blank < MDL	Action level is 5x blank conc. U(+) sample values < action level in associated field samples only	6
Field Duplicate	For results > 5x RL: Water: RPD < 35% Solid: RPD < 50% For results < 5x RL: Water: Diff<RL Solid: Diff < 2x RL	J(+)/UJ(-) in parent samples only	9
Linear Range	Sample concentrations must be less than 110% of high standard	J values over range	20

EcoChem Validation Guidelines for Conventional Chemistry Analysis (Based on EPA Standard Methods)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Cooler Temperature and Preservation	Cooler Temperature 4°C ±2°C Preservation: Method Specific	Use Professional Judgment to qualify based to qualify for coole temp outliers J(+)/UJ(-) if preservation requirements not met	1
Holding Time	Method Specific	Professional Judgment J(+)/UJ(-) if holding time exceeded J(+)/R(-) if HT exceeded by > 3X	1
Initial Calibration	Method specific r>0.995	Use professional judgment J(+)/UJ(-) for r < 0.995	5A
Initial Calibration Verification (ICV)	Where applicable to method Independent source analyzed immediately after calibration %R method specific, usually 90% - 110%	R(+/-) if %R significantly < LCL J(+)/UJ(-) if %R < LCL J(+) if %R > UCL R(+) if %R significantly > UCL	5A
Continuing Cal Verification (CCV)	Where applicable to method Every ten samples, immed. following ICV/ICB and end of run %R method specific, usually 90% - 110%	R(+/-) if %R significantly < LCL J(+)/UJ(-) if %R < LCL J(+) if %R > UCL R(+) if %R significantly > UCL	5B

Initial and Continuing Cal Blanks (ICB/CCB)	Where applicable to method
	After each ICV and CCV every ten samples and end of run
	| blank| < MDL
		Action level is 5x absolute value of blank conc.
		For (+) blanks, U(+) results < action level
		For (-) blanks, J(+)/UJ(-) results < action level
		refer to TM-02 for additional details
			7

Method Blank	One per matrix per batch
	(not to exceed 20 samples)
	blank < MDL
		Action level is 5x absolute value of blank conc.
		For (+) blk value, U(+) results < action level
		For (-) blk value, J(+)/UJ(-) results < action level
			7

Laboratory Control Sample	Waters: One per matrix per batch %R (80-120%)	R(+/-) if %R < 50% J(+)/UJ(-) if %R = 50-79% J(+) if %R >120%	10
	Soils: One per matrix per batch Result within manufacturer's certified acceptance range	J(+)/UJ(-) if < LCL, J(+) if > UCL	10
Matrix Spike	One per matrix per batch; 5% frequency 75-125% for samples less than 4 x spike level	J(+) if %R > 125% or < 75% UJ(-) if %R = 30-74% R(+/-) results < IDL if %R < 30%	8
Laboratory Duplicate	One per matrix per batch RPD <20% for samples > 5x RL Diff <RL for samples >RL and <5 x RL (may use RPD < 35%, Diff < 2X RL for solids)	J(+)/UJ(-) if RPD > 20% or diff > RL all samples in batch	9

EcoChem Validation Guidelines for Conventional Chemistry Analysis (Based on EPA Standard Methods)

VALIDATION QC ELEMENT	ACCEPTANCE CRITERIA	ACTION	REASON CODE
Field Blank	blank < MDL	Action level is 5x blank conc. U(+) sample values < action level in associated field samples only	6
Field Duplicate	For results > 5X RL: Water: RPD < 35% Solid: RPD < 50% For results < 5 x RL: Water: Diff<RL Solid: Diff < 2X RL	J(+)/UJ(-) in parent samples only	9

EcoChem, INC.
Environmental Data Quality

APPENDIX B
QUALIFIED DATA SUMMARY TABLE

QUALIFIED DATA SUMMARY TABLE
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Qual	DV Qual	Val Reason
QJ67	NBF-MH108-021110-W	QJ67E	EPA160.2	Total Suspended Solids	16.8	mg/L		J	9
QJ67	NBF-LS431-021110-W	QJ67F	EPA160.2	Total Suspended Solids	22	mg/L		J	9
QJ67	NBF-MH108-021110-W	QJ67E	EPA200.8	Selenium	5.1	ug/L		J	5A
QJ67	NBF-MH108-021110-W	QJ67E	EPA200.8	Nickel	2.1	ug/L		J	5B
QJ67	NBF-LS431-021110-W	QJ67F	EPA200.8	Copper	2.5	ug/L		U	6
QJ67	NBF-LS431-021110-W	QJ67F	EPA200.8	Zinc	12.5	ug/L		J	9
QJ67	NBF-LS431-021110-W	QJ67F	EPA200.8	Zinc	38.1	ug/L		J	9
QJ67	NBF-LS431-021110-W	QJ67F	EPA200.8	Selenium	3.85	ug/L		J	5A
QJ67	NBF-LS431-021110-W	QJ67F	EPA200.8	Nickel	1.1	ug/L		J	5B
QJ67	NBF-MH108-021110-W	QJ67E	SW8260C	Acrolein	5	ug/l	U	UJ	5B
QJ67	NBF-LS431-021110-W	QJ67F	SW8260C	Acrolein	5	ug/l	U	UJ	5B
QJ67	NBF-MH108-021110-W	QJ67E	SW8270D	bis(2-Ethylhexyl)phthalate	2.1	ug/l		U	6
QJ67	NBF-MH108-021110-W	QJ67E	SW8270D	Benzyl Alcohol	5	ug/l	U	UJ	5B
QJ67	NBF-MH108-021110-W	QJ67E	SW8270D	Benzo(b)fluoranthene	1	ug/l	U	UJ	5B
QJ67	NBF-LS431-021110-W	QJ67F	SW8270D	Benzyl Alcohol	5	ug/l	U	UJ	5B
QJ67	NBF-LS431-021110-W	QJ67F	SW8270D	Benzo(b)fluoranthene	1	ug/l	U	UJ	5B
QJ67	NBF-LS431-021110-W	QJ67F	SW8270DSIM	Benzo(k)fluoranthene	0.042	ug/l		NJ	14
QJ67	NBF-LS431-021110-W	QJ67F	SW8270DSIM	Benzo(b)fluoranthene	0.042	ug/l		NJ	14
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Selenium	1	ug/L	U	UJ	7
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Lead	1.85	ug/L		J	7
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Nickel	2.15	ug/L		J	5B
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Selenium	4.8	ug/L		J	5A,7
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Zinc	13.1	ug/L		J	9
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Copper	8.9	ug/L		J	14
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Lead	0.2	ug/L	U	UJ	7
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Copper	2.55	ug/L		UJ	5B,6,14
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Nickel	2	ug/L		J	5B
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Silver	0.04	ug/L	U	UJ	7
QL13	NBF-MH108-022310-W	QL13A	EPA200.8	Silver	0.04	ug/L	U	UJ	7
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Selenium	5.8	ug/L		J	5A,7
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Lead	0.2	ug/L	U	UJ	7
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Nickel	1.5	ug/L		J	5B
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Selenium	1	ug/L	U	UJ	7
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Copper	11.3	ug/L		J	14
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Silver	0.04	ug/L	U	UJ	7
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Silver	0.04	ug/L	U	UJ	7
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Nickel	1.4	ug/L		J	5B
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Lead	3.05	ug/L		J	7
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Copper	0.85	ug/L		UJ	5B,6,14
QL13	NBF-LS431-022310W	QL13B	EPA200.8	Zinc	16.5	ug/L		J	9
QL13	NBF-MH108A-022310-S	QL13E	SW8082	Aroclor 1260	50	ug	Y	U	22
QL13	NBF-MH108-022310-W	QL13A	SW8270D	Pentachlorophenol	5	ug/l	U	UJ	5B
QL13	NBF-LS431-022310-W	QL13B	SW8270D	Pentachlorophenol	5	ug/l	U	UJ	5B
QL13	NBF-LS431-022310-W	QL13B	SW8270DSIM	Benzo(b)fluoranthene	0.025	ug/l		NJ	14
QL13	NBF-LS431-022310-W	QL13B	SW8270DSIM	Benzo(k)fluoranthene	0.026	ug/l		NJ	14
QP21	NBF-LS431A-032010-S	QP21B	SW6010B	Zinc	245	mg/kg		J	8,9
QP21	NBF-LS431A-032010-S	QP21B	SW6010B	Chromium	61	mg/kg		J	9
QP21	NBF-LS431A-032010-S	QP21B	SW6010B	Copper	50.9	mg/kg		J	8,9

QUALIFIED DATA SUMMARY TABLE
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Qual	DV Qual	Val Reason
QP21	NBF-LS431A-032010-S	QP21B	SW6010B	Lead	293	mg/kg		J	8,9
QQ37	NBF-LS431-032910-W	QQ37A	EPA160.2	Total Suspended Solids	62.3	mg/L		J	9
QQ37	NBF-MH108-032910-W	QQ37B	EPA160.2	Total Suspended Solids	75.9	mg/L		J	9
QQ37	NBF-LS431A-032910-S	QQ37F	SW7471A	Mercury	0.37	mg/kg		J	8,9
QQ37	NBF-MH108A-032910-S	QQ37H	SW7471A	Mercury	0.75	mg/kg		J	8,9
QQ37	NBF-LS431-032910-W	QQ37A	SW8082	Aroclor 1248	0.025	ug/l	Y	U	22
QQ37	NBF-MH108-032910-W	QQ37B	SW8082	Aroclor 1248	0.1	ug/l	Y	U	22
QQ37	NBF-LS431A-032910-S	QQ37E	SW8082	Aroclor 1248	25	ug	Y	U	22
QQ37	NBF-MH108A-032910-S	QQ37G	SW8082	Aroclor 1248	62	ug	Y	U	22
QQ37	NBF-LS431-032910-W	QQ37A	SW8270D	bis(2-Ethylhexyl)phthalate	1.4	ug/l		U	6
QQ37	NBF-MH108-032910-W	QQ37B	SW8270D	bis(2-Ethylhexyl)phthalate	4.4	ug/l		U	6
QQ37	NBF-LS431-032910-W	QQ37A	SW8270DSIM	Benzo(b)fluoranthene	0.14	ug/l		NJ	14
QQ37	NBF-LS431-032910-W	QQ37A	SW8270DSIM	Benzo(k)fluoranthene	0.14	ug/l		NJ	14
QQ37	NBF-MH108-032910-W	QQ37B	SW8270DSIM	Benzo(b)fluoranthene	0.22	ug/l		NJ	14
QQ37	NBF-MH108-032910-W	QQ37B	SW8270DSIM	Benzo(k)fluoranthene	0.22	ug/l		NJ	14
QR70	NBF-LS431-S-<63	QR70A	SW8082	Aroclor 1248	330	ug/kg	Y	U	22
QR70	NBF-LS431-S-63-250	QR70B	SW8082	Aroclor 1248	160	ug/kg	Y	U	22
QR70	NBF-LS431-S-250-500	QR70C	SW8082	Aroclor 1248	97	ug/kg	Y	U	22
QR70	NBF-LS431-S->500	QR70D	SW8082	Aroclor 1248	160	ug/kg	Y	U	22
QU49	NBF-MH108-042710-W	QU49A	SW8082	Aroclor 1248	0.038	ug/l	Y	U	22
QU49	NBF-LS431-042710-W	QU49B	SW8082	Aroclor 1248	0.024	ug/l	Y	U	22
QU49	NBF-MH108A-042710-S	QU49E	SW8082	Aroclor 1248	18	ug	Y	U	22
QU49	NBF-MH434A-042710-S	QU49F	SW8082	Aroclor 1248	3.8	ug	Y	U	22
QU49	NBF-LS431A-042710-S	QU49G	SW8082	Aroclor 1248	7.5	ug	Y	U	22
QU49	NBF-MH356A-042710-S	QU49I	SW8082	Aroclor 1248	6.2	ug	Y	U	22
QU49	NBF-MH226A-042710-S	QU49K	SW8082	Aroclor 1248	1.5	ug	Y	U	22
QU49	NBF-MH152A-042710-S	QU49L	SW8082	Aroclor 1248	25	ug	Y	U	22
QU49	NBF-MH178A-042710-S	QU49N	SW8082	Aroclor 1248	2.5	ug	Y	U	22
QU49	NBF-CB173A-042710-S	QU49O	SW8082	Aroclor 1260	30	ug	Y	U	22
QU49	NBF-MH108-042710-W	QU49A	SW8270D	Pentachlorophenol	5	ug/l	U	UJ	10
QU49	NBF-LS431-042710-W	QU49B	SW8270D	bis(2-Ethylhexyl)phthalate	1.8	ug/l		U	6
QU49	NBF-LS431-042710-W	QU49B	SW8270D	Pentachlorophenol	5	ug/l	U	UJ	10
QU49	NBF-LS431-042710-W	QU49B	SW8270DSIM	Benzo(b)fluoranthene	0.042	ug/l		NJ	14
QU49	NBF-LS431-042710-W	QU49B	SW8270DSIM	Benzo(k)fluoranthene	0.042	ug/l		NJ	14
QU60	NBF-MH108A-042710-S	QU60A	SW6010B	Zinc	950	mg/kg		J	9
QU60	NBF-MH108A-042710-S	QU60A	SW6010B	Chromium	53	mg/kg		J	9
QU60	NBF-MH434A-042710-S	QU60B	SW6010B	Chromium	76	mg/kg		J	9
QU60	NBF-MH434A-042710-S	QU60B	SW6010B	Zinc	923	mg/kg		J	9
QU60	NBF-LS431A-042710-S	QU60C	SW6010B	Zinc	610	mg/kg		J	9
QU60	NBF-LS431A-042710-S	QU60C	SW6010B	Chromium	44	mg/kg		J	9
QU60	NBF-MH356A-042710-S	QU60E	SW6010B	Chromium	94	mg/kg		J	9
QU60	NBF-MH356A-042710-S	QU60E	SW6010B	Zinc	1420	mg/kg		J	9
QU60	NBF-MH369A-042710-S	QU60F	SW6010B	Chromium	108	mg/kg		J	9
QU60	NBF-MH369A-042710-S	QU60F	SW6010B	Zinc	820	mg/kg		J	9
QU60	NBF-MH226A-042710-S	QU60G	SW6010B	Zinc	1170	mg/kg		J	9
QU60	NBF-MH226A-042710-S	QU60G	SW6010B	Chromium	56	mg/kg		J	9

QUALIFIED DATA SUMMARY TABLE
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Qual	DV Qual	Val Reason
QU60	NBF-MH152A-042710-S	QU60H	SW6010B	Zinc	869	mg/kg		J	9
QU60	NBF-MH152A-042710-S	QU60H	SW6010B	Chromium	59	mg/kg		J	9
QU60	NBF-CB165A-042710-S	QU60I	SW6010B	Zinc	4770	mg/kg		J	9
QU60	NBF-CB165A-042710-S	QU60I	SW6010B	Chromium	133	mg/kg		J	9
QU60	NBF-MH178A-042710-S	QU60J	SW6010B	Zinc	652	mg/kg		J	9
QU60	NBF-MH178A-042710-S	QU60J	SW6010B	Chromium	57	mg/kg		J	9
QU60	NBF-CB173A-042710-S	QU60K	SW6010B	Chromium	67	mg/kg		J	9
QU60	NBF-CB173A-042710-S	QU60K	SW6010B	Zinc	2040	mg/kg		J	9
QU60	NBF-MH108A-042710-S	QU60A	SW7471A	Mercury	1.4	mg/kg		J	8,9
QU60	NBF-MH434A-042710-S	QU60B	SW7471A	Mercury	0.1	mg/kg		J	8,9
QU60	NBF-LS431A-042710-S	QU60C	SW7471A	Mercury	0.16	mg/kg		J	8,9
QU60	NBF-MH356A-042710-S	QU60E	SW7471A	Mercury	0.3	mg/kg		J	8,9
QU60	NBF-MH369A-042710-S	QU60F	SW7471A	Mercury	0.2	mg/kg		J	8,9
QU60	NBF-MH226A-042710-S	QU60G	SW7471A	Mercury	0.4	mg/kg		J	8,9
QU60	NBF-MH152A-042710-S	QU60H	SW7471A	Mercury	1.3	mg/kg		J	8,9
QU60	NBF-CB165A-042710-S	QU60I	SW7471A	Mercury	12.4	mg/kg		J	8,9
QU60	NBF-MH178A-042710-S	QU60J	SW7471A	Mercury	0.36	mg/kg		J	8,9
QU60	NBF-CB173A-042710-S	QU60K	SW7471A	Mercury	0.57	mg/kg		J	8,9
QU97	NBF-MH369B-042710-S	QU97A	SW8270D	Dibenz(a,h)anthracene	2	ug		J	19
QU97	NBF-MH369B-042710-S	QU97A	SW8270D	Benzo(g,h,i)perylene	6.5	ug		J	19
QU97	NBF-MH369B-042710-S	QU97A	SW8270D	Indeno(1,2,3-cd)pyrene	5.1	ug		J	19
QU97	NBF-MH369B-042710-S	QU97A	SW8270D	Benzo(a)pyrene	7.4	ug		J	19
QU97	NBF-MH369B-042710-S	QU97A	SW8270D	Benzo(k)fluoranthene	7	ug		NJ	14,19
QU97	NBF-MH369B-042710-S	QU97A	SW8270D	1-Methylnaphthalene	2.5	ug	Y	U	22
QU97	NBF-MH369B-042710-S	QU97A	SW8270D	Benzo(b)fluoranthene	7	ug		NJ	14,19
QU97	NBF-MH226B-042710-S	QU97B	SW8270D	1-Methylnaphthalene	2	ug	Y	U	22
QU97	NBF-MH226B-042710-S	QU97B	SW8270D	Benzo(k)fluoranthene	29	ug		NJ	14
QU97	NBF-MH226B-042710-S	QU97B	SW8270D	Benzo(b)fluoranthene	29	ug		NJ	14
QU97	NBF-MH152B-042710-S	QU97C	SW8270D	Benzo(k)fluoranthene	24	ug		NJ	14
QU97	NBF-MH152B-042710-S	QU97C	SW8270D	1-Methylnaphthalene	2.6	ug	Y	U	22
QU97	NBF-MH152B-042710-S	QU97C	SW8270D	Pyrene	32	ug		J	19
QU97	NBF-MH152B-042710-S	QU97C	SW8270D	Chrysene	56	ug		J	19
QU97	NBF-MH152B-042710-S	QU97C	SW8270D	Benzo(b)fluoranthene	24	ug		NJ	14
QU97	NBF-CB165B-042710-S	QU97D	SW8270D	Benzo(b)fluoranthene	13	ug		NJ	14
QU97	NBF-CB165B-042710-S	QU97D	SW8270D	1-Methylnaphthalene	3.8	ug	Y	U	22
QU97	NBF-CB165B-042710-S	QU97D	SW8270D	Benzo(k)fluoranthene	13	ug		NJ	14
QU97	NBF-MH178B-042710-S	QU97E	SW8270D	1-Methylnaphthalene	3.7	ug	Y	U	22
QU97	NBF-MH178B-042710-S	QU97E	SW8270D	Benzo(b)fluoranthene	40	ug		NJ	14
QU97	NBF-MH178B-042710-S	QU97E	SW8270D	Benzo(k)fluoranthene	40	ug		NJ	14
QU97	NBF-CB173B-042710-S	QU97F	SW8270D	1-Methylnaphthalene	4.6	ug	Y	U	22
QU97	NBF-CB173B-042710-S	QU97F	SW8270D	Benzo(b)fluoranthene	12	ug		NJ	14
QU97	NBF-CB173B-042710-S	QU97F	SW8270D	Benzo(k)fluoranthene	12	ug		NJ	14
QU97	NBF-MH108B-042710-S	QU97G	SW8270D	1-Methylnaphthalene	2.9	ug	Y	U	22
QU97	NBF-MH108B-042710-S	QU97G	SW8270D	Benzo(b)fluoranthene	7.4	ug		NJ	14
QU97	NBF-MH108B-042710-S	QU97G	SW8270D	Benzo(k)fluoranthene	7.4	ug		NJ	14
QU97	NBF-MH434B-042710-S	QU97H	SW8270D	Benzo(b)fluoranthene	18	ug		NJ	14
QU97	NBF-MH434B-042710-S	QU97H	SW8270D	1-Methylnaphthalene	4.6	ug	Y	U	22
QU97	NBF-MH434B-042710-S	QU97H	SW8270D	Benzo(k)fluoranthene	18	ug		NJ	14
QU97	NBF-LS431B-042710-S	QU97I	SW8270D	Indeno(1,2,3-cd)pyrene	8.4	ug		J	19

QUALIFIED DATA SUMMARY TABLE
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Qual	DV Qual	Val Reason
QU97	NBF-LS431B-042710-S	QU97I	SW8270D	1-Methylnaphthalene	3.1	ug	Y	U	22
QU97	NBF-LS431B-042710-S	QU97I	SW8270D	Benzo(k)fluoranthene	10	ug		NJ	14,19
QU97	NBF-LS431B-042710-S	QU97I	SW8270D	Benzo(g,h,i)perylene	8.4	ug		J	19
QU97	NBF-LS431B-042710-S	QU97I	SW8270D	Dibenz(a,h)anthracene	3	ug		J	19
QU97	NBF-LS431B-042710-S	QU97I	SW8270D	Benzo(a)pyrene	5.2	ug		J	19
QU97	NBF-LS431B-042710-S	QU97I	SW8270D	Benzo(b)fluoranthene	10	ug		NJ	14,19
QU97	NBF-LS431B-042710-S	QU97I	SW8270D	Chrysene	15	ug		J	19
QU97	NBF-LS431B-042710-S	QU97I	SW8270D	Benzo(a)anthracene	3.4	ug		J	19
QU97	NBF-LS431B-042710-S	QU97I	SW8270D	Pyrene	16	ug		J	19
QU97	NBF-CB423B-042710-S	QU97J	SW8270D	1-Methylnaphthalene	3	ug	Y	U	22
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Dibenz(a,h)anthracene	18	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Pyrene	89	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Benzo(g,h,i)perylene	26	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Indeno(1,2,3-cd)pyrene	34	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Benzo(a)pyrene	30	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Benzo(k)fluoranthene	140	ug		J	13,14
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Benzo(b)fluoranthene	140	ug		J	13,14
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Chrysene	200	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Benzo(a)anthracene	25	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	2-Methylnaphthalene	3.6	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Fluoranthene	380	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Dibenzofuran	5.3	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	1-Methylnaphthalene	3.7	ug	Y	U	22
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Acenaphthylene	0.7	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Acenaphthene	2.6	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Fluorene	3.9	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Phenanthrene	34	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Anthracene	33	ug		J	13
QU97	NBF-MH356B-042710-S	QU97K	SW8270D	Naphthalene	3.6	ug		J	13
QX25	NBF-MH138A-052010-S	QX25AB	SW6010B	Copper	126	mg/kg		J	8
QX25	NBF-MH108A-052010-S	QX25F	SW6010B	Copper	386	mg/kg		J	8
QX25	NBF-LS431A-052010-S	QX25H	SW6010B	Copper	137	mg/kg		J	8
QX25	NBF-CB423A-052010-S	QX25J	SW6010B	Copper	264	mg/kg		J	8
QX25	NBF-MH356A-052010-S	QX25L	SW6010B	Copper	254	mg/kg		J	8
QX25	NBF-MH369A-052010-S	QX25N	SW6010B	Copper	111	mg/kg		J	8
QX25	NBF-MH226A-052010-S	QX25P	SW6010B	Copper	291	mg/kg		J	8
QX25	NBF-MH152A-052010-S	QX25R	SW6010B	Copper	328	mg/kg		J	8
QX25	NBF-CB165A-052010-S	QX25T	SW6010B	Copper	87.4	mg/kg		J	8
QX25	NBF-MH178A-052010-S	QX25V	SW6010B	Copper	397	mg/kg		J	8
QX25	NBF-CB173A-052010-S	QX25X	SW6010B	Copper	278	mg/kg		J	8
QX25	NBF-MH133A-052010-S	QX25Z	SW6010B	Copper	125	mg/kg		J	8
QX25	NBF-MH138A-052010-S	QX25AB	SW7471A	Mercury	0.4	mg/kg		J	9
QX25	NBF-MH108A-052010-S	QX25F	SW7471A	Mercury	0.55	mg/kg		J	9
QX25	NBF-LS431A-052010-S	QX25H	SW7471A	Mercury	0.38	mg/kg		J	9
QX25	NBF-CB423A-052010-S	QX25J	SW7471A	Mercury	0.2	mg/kg		J	9
QX25	NBF-MH356A-052010-S	QX25L	SW7471A	Mercury	0.3	mg/kg		J	9
QX25	NBF-MH369A-052010-S	QX25N	SW7471A	Mercury	0.2	mg/kg		J	9
QX25	NBF-MH226A-052010-S	QX25P	SW7471A	Mercury	0.3	mg/kg		J	9
QX25	NBF-MH152A-052010-S	QX25R	SW7471A	Mercury	0.52	mg/kg		J	9

QUALIFIED DATA SUMMARY TABLE
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Qual	DV Qual	Val Reason
QX25	NBF-CB165A-052010-S	QX25T	SW7471A	Mercury	2.08	mg/kg		J	9
QX25	NBF-MH178A-052010-S	QX25V	SW7471A	Mercury	0.25	mg/kg		J	9
QX25	NBF-CB173A-052010-S	QX25X	SW7471A	Mercury	12.9	mg/kg		J	9
QX25	NBF-MH133A-052010-S	QX25Z	SW7471A	Mercury	3.24	mg/kg		J	9
QX25	NBF-MH108-052010-W	QX25A	SW8082	Aroclor 1248	0.1	ug/l	Y	U	22
QX25	NBF-MH138A-052010-S	QX25AA	SW8082	Aroclor 1248	5	ug	Y	U	22
QX25	NBF-LS431-052010-W	QX25B	SW8082	Aroclor 1248	0.025	ug/l	Y	U	22
QX25	NBF-MH108A-052010-S	QX25E	SW8082	Aroclor 1248	20	ug	Y	U	22
QX25	NBF-LS431A-052010-S	QX25G	SW8082	Aroclor 1248	4	ug	Y	U	22
QX25	NBF-CB423A-052010-S	QX25I	SW8082	Aroclor 1248	2	ug	Y	U	22
QX25	NBF-MH356A-052010-S	QX25K	SW8082	Aroclor 1248	4	ug	Y	U	22
QX25	NBF-MH369A-052010-S	QX25M	SW8082	Aroclor 1248	1.2	ug	Y	U	22
QX25	NBF-MH226A-052010-S	QX25O	SW8082	Aroclor 1248	5	ug	Y	U	22
QX25	NBF-MH152A-052010-S	QX25Q	SW8082	Aroclor 1248	30	ug	Y	U	22
QX25	NBF-CB165A-052010-S	QX25S	SW8082	Aroclor 1248	50	ug	Y	U	22
QX25	NBF-MH178A-052010-S	QX25U	SW8082	Aroclor 1248	1.5	ug	Y	U	22
QX25	NBF-CB173A-052010-S	QX25W	SW8082	Aroclor 1248	100	ug	Y	U	22
QX25	NBF-CB173A-052010-S	QX25W	SW8082	Aroclor 1260	30	ug	Y	U	22
QX25	NBF-MH133A-052010-S	QX25Y	SW8082	Aroclor 1248	3	ug	Y	U	22
QX25	NBF-MH108-052010-W	QX25A	SW8270DSIM	Benzo(k)fluoranthene	0.16	ug/l		NJ	14
QX25	NBF-MH108-052010-W	QX25A	SW8270DSIM	Benzo(b)fluoranthene	0.16	ug/l		NJ	14
QX25	NBF-LS431-052010-W	QX25B	SW8270DSIM	Benzo(k)fluoranthene	0.3	ug/l		NJ	14
QX25	NBF-LS431-052010-W	QX25B	SW8270DSIM	Benzo(b)fluoranthene	0.3	ug/l		NJ	14
QY41	NBF-LS431V-Composite3>500	QY41A	SW8082	Aroclor 1248	190	ug/kg	Y	U	22
QY41	NBF-LS431V-Composite3 500-250	QY41B	SW8082	Aroclor 1248	63	ug/kg	Y	U	22
QY41	NBF-LS431V-Composite3 250-63	QY41C	SW8082	Aroclor 1248	160	ug/kg	Y	U	22
QY41	NBF-LS431V-Composite3 <63	QY41D	SW8082	Aroclor 1248	330	ug/kg	Y	U	22
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8082	Aroclor 1248	320	ug/kg	Y	U	22
QY41	NBF-LS431V-Composite4 500-250	QY41F	SW8082	Aroclor 1248	64	ug/kg	Y	U	22
QY41	NBF-LS431V-Composite4 250-63	QY41G	SW8082	Aroclor 1248	160	ug/kg	Y	U	22
QY41	NBF-LS431V-Composite4 <63	QY41H	SW8082	Aroclor 1248	410	ug/kg	Y	U	22
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Benzo(a)anthracene	590	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	2-Methylnaphthalene	27	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Chrysene	810	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Benzo(k)fluoranthene	680	ug/kg		NJ	13,14
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Benzo(a)pyrene	910	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Indeno(1,2,3-cd)pyrene	610	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Dibenz(a,h)anthracene	260	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Benzo(g,h,i)perylene	730	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Fluoranthene	1200	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Benzo(b)fluoranthene	680	ug/kg		NJ	13,14
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Dibenzofuran	20	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Anthracene	84	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Acenaphthene	26	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Pyrene	1100	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Phenanthrene	270	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Fluorene	40	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Naphthalene	23	ug/kg		J	13
QY41	NBF-LS431V-Composite3>500	QY41A	SW8270DSIM	Acenaphthylene	20	ug/kg		J	13

QUALIFIED DATA SUMMARY TABLE
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Qual	DV Qual	Val Reason
QY41	NBF-LS431V-Composite3 500-250	QY41B	SW8270DSIM	Benzo(k)fluoranthene	98	ug/kg		NJ	14
QY41	NBF-LS431V-Composite3 500-250	QY41B	SW8270DSIM	Benzo(b)fluoranthene	98	ug/kg		NJ	14
QY41	NBF-LS431V-Composite3 250-63	QY41C	SW8270DSIM	Benzo(g,h,i)perylene	340	ug/kg		J	19
QY41	NBF-LS431V-Composite3 250-63	QY41C	SW8270DSIM	Dibenz(a,h)anthracene	96	ug/kg		J	19
QY41	NBF-LS431V-Composite3 250-63	QY41C	SW8270DSIM	Indeno(1,2,3-cd)pyrene	250	ug/kg		J	19
QY41	NBF-LS431V-Composite3 250-63	QY41C	SW8270DSIM	Benzo(a)pyrene	310	ug/kg		J	19
QY41	NBF-LS431V-Composite3 250-63	QY41C	SW8270DSIM	Benzo(k)fluoranthene	300	ug/kg		NJ	14,19
QY41	NBF-LS431V-Composite3 250-63	QY41C	SW8270DSIM	Benzo(b)fluoranthene	300	ug/kg		NJ	14,19
QY41	NBF-LS431V-Composite3 <63	QY41D	SW8270DSIM	Dibenz(a,h)anthracene	270	ug/kg		J	19
QY41	NBF-LS431V-Composite3 <63	QY41D	SW8270DSIM	Benzo(g,h,i)perylene	1100	ug/kg		J	19
QY41	NBF-LS431V-Composite3 <63	QY41D	SW8270DSIM	Benzo(a)pyrene	790	ug/kg		J	19
QY41	NBF-LS431V-Composite3 <63	QY41D	SW8270DSIM	Benzo(k)fluoranthene	1000	ug/kg		NJ	14,19
QY41	NBF-LS431V-Composite3 <63	QY41D	SW8270DSIM	Benzo(b)fluoranthene	1000	ug/kg		NJ	14,19
QY41	NBF-LS431V-Composite3 <63	QY41D	SW8270DSIM	Indeno(1,2,3-cd)pyrene	810	ug/kg		J	19
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	Benzo(b)fluoranthene	8100	ug/kg		NJ	14
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	Anthracene	3900	ug/kg		J	13
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	Dibenz(a,h)anthracene	3200	ug/kg		J	13
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	Naphthalene	1400	ug/kg		J	13
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	Dibenzofuran	1600	ug/kg		J	13
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	Benzo(k)fluoranthene	8100	ug/kg		NJ	14
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	Acenaphthene	1900	ug/kg		J	13
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	Acenaphthylene	160	ug/kg		J	13
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	2-Methylnaphthalene	540	ug/kg		J	13
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	1-Methylnaphthalene	560	ug/kg		J	13
QY41	NBF-LS431V-Composite4 >500	QY41E	SW8270DSIM	Fluorene	2800	ug/kg		J	13
QY41	NBF-LS431V-Composite4 500-250	QY41F	SW8270DSIM	Benzo(a)anthracene	190	ug/kg		J	8
QY41	NBF-LS431V-Composite4 500-250	QY41F	SW8270DSIM	Benzo(a)pyrene	200	ug/kg		J	8
QY41	NBF-LS431V-Composite4 500-250	QY41F	SW8270DSIM	Benzo(k)fluoranthene	160	ug/kg		NJ	8,14
QY41	NBF-LS431V-Composite4 500-250	QY41F	SW8270DSIM	Benzo(b)fluoranthene	160	ug/kg		NJ	8,14
QY41	NBF-LS431V-Composite4 500-250	QY41F	SW8270DSIM	Chrysene	250	ug/kg		J	8
QY41	NBF-LS431V-Composite4 500-250	QY41F	SW8270DSIM	Pyrene	380	ug/kg		J	8
QY41	NBF-LS431V-Composite4 500-250	QY41F	SW8270DSIM	Phenanthrene	290	ug/kg		J	8
QY41	NBF-LS431V-Composite4 500-250	QY41F	SW8270DSIM	Fluoranthene	540	ug/kg		J	8
QY41	NBF-LS431V-Composite4 250-63	QY41G	SW8270DSIM	Benzo(b)fluoranthene	270	ug/kg		NJ	14
QY41	NBF-LS431V-Composite4 250-63	QY41G	SW8270DSIM	Benzo(k)fluoranthene	270	ug/kg		NJ	14
QY41	NBF-LS431V-Composite4 <63	QY41H	SW8270DSIM	Benzo(b)fluoranthene	1000	ug/kg		NJ	14,19
QY41	NBF-LS431V-Composite4 <63	QY41H	SW8270DSIM	Benzo(k)fluoranthene	1000	ug/kg		NJ	14,19
QY41	NBF-LS431V-Composite4 <63	QY41H	SW8270DSIM	Benzo(a)pyrene	860	ug/kg	M	J	19
QY41	NBF-LS431V-Composite4 <63	QY41H	SW8270DSIM	Indeno(1,2,3-cd)pyrene	660	ug/kg		J	19
QY41	NBF-LS431V-Composite4 <63	QY41H	SW8270DSIM	Dibenz(a,h)anthracene	200	ug/kg		J	19
QY41	NBF-LS431V-Composite4 <63	QY41H	SW8270DSIM	Benzo(g,h,i)perylene	820	ug/kg		J	19
QY59	NBF-MH434A-052810-S	QY59B	SW6010B	Chromium	65.8	mg/kg		J	9
QY59	NBF-MH423A-052810-S	QY59D	SW6010B	Chromium	65	mg/kg		J	9
QY59	NBF-LS431A-052810-S	QY59F	SW6010B	Chromium	36	mg/kg		J	9
QY59	NBF-MH434A-052810-S	QY59A	SW8082	Aroclor 1248	8	ug	Y	U	22
QY59	NBF-MH434A-052810-S	QY59A	SW8082	Aroclor 1254	8.6	ug		J	19
QY59	NBF-MH434A-052810-S	QY59A	SW8082	Aroclor 1260	7.2	ug		J	19
QY59	NBF-MH423A-052810-S	QY59C	SW8082	Aroclor 1260	2.3	ug		J	19
QY59	NBF-MH423A-052810-S	QY59C	SW8082	Aroclor 1254	2.4	ug		J	19

QUALIFIED DATA SUMMARY TABLE
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Qual	DV Qual	Val Reason
QY59	NBF-MH423A-052810-S	QY59C	SW8082	Aroclor 1248	4	ug	Y	U	22
QY59	NBF-LS431A-052810-S	QY59E	SW8082	Aroclor 1260	3	ug		J	19
QY59	NBF-LS431A-052810-S	QY59E	SW8082	Aroclor 1254	7	ug		J	19
QY59	NBF-LS431A-052810-S	QY59E	SW8082	Aroclor 1248	5	ug	Y	U	22
QZ03	NBF-MH108B-021110-S	QZ03A	SW8270D	Benzo(k)fluoranthene	8.3	ug		NJ	14
QZ03	NBF-MH108B-021110-S	QZ03A	SW8270D	Benzo(b)fluoranthene	8.3	ug		NJ	14
QZ03	NBF-LS431B-021110-S	QZ03B	SW8270D	Benzo(k)fluoranthene	12	ug		NJ	14
QZ03	NBF-LS431B-021110-S	QZ03B	SW8270D	Benzo(b)fluoranthene	12	ug		NJ	14
QZ03	NBF-LS431B-032910-S	QZ03C	SW8270D	Benzo(b)fluoranthene	140	ug		NJ	14
QZ03	NBF-LS431B-032910-S	QZ03C	SW8270D	Benzo(k)fluoranthene	140	ug		NJ	14
QZ03	NBF-MH108B-032910-S	QZ03D	SW8270D	Benzo(b)fluoranthene	110	ug		NJ	14
QZ03	NBF-MH108B-032910-S	QZ03D	SW8270D	Benzo(k)fluoranthene	110	ug		NJ	14
QZ07	NBF-LS431-060210-W	QZ07B	EPA200.8	Copper	5	ug/l		U	6
QZ07	NBF-LS431-060210-W	QZ07D	EPA200.8	Copper	3	ug/l		U	7
QZ07	NBF-MH108-060210-W	QZ07A	SW8082	Aroclor 1248	0.05	ug/l	Y	U	22
QZ07	NBF-LS431-060210-W	QZ07B	SW8082	Aroclor 1248	0.015	ug/l	Y	U	22
QZ07	NBF-MH108-060210-W	QZ07A	SW8270D	bis(2-Ethylhexyl)phthalate	1.1	ug/l		U	6
QZ07	NBF-MH108-060210-W	QZ07A	SW8270DSIM	Benzo(a)pyrene	0.013	ug/l		J	10
QZ07	NBF-MH108-060210-W	QZ07A	SW8270DSIM	Benzo(k)fluoranthene	0.015	ug/l		NJ	14
QZ07	NBF-MH108-060210-W	QZ07A	SW8270DSIM	Benzo(b)fluoranthene	0.015	ug/l		NJ	14
QZ07	NBF-LS431-060210-W	QZ07B	SW8270DSIM	Benzo(a)anthracene	0.029	ug/l		J	10
QZ07	NBF-LS431-060210-W	QZ07B	SW8270DSIM	Benzo(b)fluoranthene	0.064	ug/l		NJ	14
QZ07	NBF-LS431-060210-W	QZ07B	SW8270DSIM	Benzo(k)fluoranthene	0.064	ug/l		NJ	14
QZ07	NBF-LS431-060210-W	QZ07B	SW8270DSIM	Benzo(a)pyrene	0.053	ug/l		J	10
QZ31	NBF-MH434A-060210-S	QZ31B	SW7471A	Mercury	0.2	mg/kg		J	9
QZ31	NBF-MH356A-060210-S	QZ31D	SW7471A	Mercury	0.3	mg/kg	U	UJ	9
QZ31	NBF-LS431A-060210-S	QZ31F	SW7471A	Mercury	0.1	mg/kg		J	9
QZ31	NBF-MH423A-060210-S	QZ31H	SW7471A	Mercury	0.26	mg/kg		J	9
QZ31	NBF-MH369A-060210-S	QZ31J	SW7471A	Mercury	0.1	mg/kg		J	9
QZ31	NBF-MH108A-060210-S	QZ31L	SW7471A	Mercury	0.6	mg/kg		J	9
QZ31	NBF-MH226A-060210-S	QZ31N	SW7471A	Mercury	0.3	mg/kg		J	9
QZ31	NBF-MH133A-060210-S	QZ31P	SW7471A	Mercury	3.46	mg/kg		J	9
QZ31	NBF-MH138A-060210-S	QZ31R	SW7471A	Mercury	0.37	mg/kg		J	9
QZ31	NBF-MH152A-060210-S	QZ31T	SW7471A	Mercury	0.4	mg/kg		J	9
QZ31	NBF-CB165A-060210-S	QZ31V	SW7471A	Mercury	2.17	mg/kg		J	9
QZ31	NBF-CB173A-060210-S	QZ31X	SW7471A	Mercury	0.8	mg/kg		J	9
QZ31	NBF-MH178A-060210-S	QZ31Z	SW7471A	Mercury	0.3	mg/kg		J	9
QZ31	NBF-MH434A-060210-S	QZ31A	SW8082	Aroclor 1248	4	ug	Y	U	22
QZ31	NBF-MH356A-060210-S	QZ31C	SW8082	Aroclor 1248	3	ug	Y	U	22
QZ31	NBF-LS431A-060210-S	QZ31E	SW8082	Aroclor 1248	4	ug	Y	U	22
QZ31	NBF-MH423A-060210-S	QZ31G	SW8082	Aroclor 1248	5	ug	Y	U	22
QZ31	NBF-MH369A-060210-S	QZ31I	SW8082	Aroclor 1248	1.2	ug	Y	U	22
QZ31	NBF-MH108A-060210-S	QZ31K	SW8082	Aroclor 1248	35	ug	Y	U	22
QZ31	NBF-MH133A-060210-S	QZ31O	SW8082	Aroclor 1248	3	ug	Y	U	22
QZ31	NBF-MH138A-060210-S	QZ31Q	SW8082	Aroclor 1248	20	ug	Y	U	22
QZ31	NBF-MH152A-060210-S	QZ31S	SW8082	Aroclor 1248	30	ug	Y	U	22
QZ31	NBF-CB165A-060210-S	QZ31U	SW8082	Aroclor 1248	75	ug	Y	U	22
QZ31	NBF-CB173A-060210-S	QZ31W	SW8082	Aroclor 1248	500	ug	Y	U	22

QUALIFIED DATA SUMMARY TABLE
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SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Qual	DV Qual	Val Reason
QZ31	NBF-MH178A-060210-S	QZ31Y	SW8082	Aroclor 1248	6.2	ug	Y	U	22
QZ31	NBF-MH434B-060210-S	QZ31AA	SW8270D	Benzo(k)fluoranthene	38	ug		NJ	14
QZ31	NBF-MH434B-060210-S	QZ31AA	SW8270D	Benzo(b)fluoranthene	38	ug		NJ	14
QZ31	NBF-MH356B-060210-S	QZ31AB	SW8270D	Fluoranthene	390	ug		J	13
QZ31	NBF-MH356B-060210-S	QZ31AB	SW8270D	Benzo(b)fluoranthene	150	ug		NJ	14
QZ31	NBF-MH356B-060210-S	QZ31AB	SW8270D	Benzo(k)fluoranthene	150	ug		NJ	14
QZ31	NBF-LS431B-060210-S	QZ31AC	SW8270D	Benzo(b)fluoranthene	20	ug		NJ	14
QZ31	NBF-LS431B-060210-S	QZ31AC	SW8270D	Benzo(k)fluoranthene	20	ug		NJ	14
QZ31	NBF-MH369B-060210-S	QZ31AE	SW8270D	Benzo(b)fluoranthene	3.7	ug		NJ	14
QZ31	NBF-MH369B-060210-S	QZ31AE	SW8270D	Benzo(k)fluoranthene	3.7	ug		NJ	14
QZ31	NBF-MH108B-060210-S	QZ31AF	SW8270D	Benzo(b)fluoranthene	34	ug		NJ	14
QZ31	NBF-MH108B-060210-S	QZ31AF	SW8270D	Benzo(k)fluoranthene	34	ug		NJ	14
QZ31	NBF-MH226B-060210-S	QZ31AG	SW8270D	Benzo(k)fluoranthene	79	ug		NJ	14
QZ31	NBF-MH226B-060210-S	QZ31AG	SW8270D	Benzo(b)fluoranthene	79	ug		NJ	14
QZ31	NBF-MH133B-060210-S	QZ31AH	SW8270D	Benzo(k)fluoranthene	110	ug		NJ	14
QZ31	NBF-MH133B-060210-S	QZ31AH	SW8270D	Benzo(b)fluoranthene	110	ug		NJ	14
QZ31	NBF-MH138B-060210-S	QZ31AI	SW8270D	Benzo(b)fluoranthene	7.2	ug		NJ	14
QZ31	NBF-MH138B-060210-S	QZ31AI	SW8270D	Benzo(k)fluoranthene	7.2	ug		NJ	14
QZ31	NBF-MH152B-060210-S	QZ31AJ	SW8270D	Benzo(b)fluoranthene	19	ug		NJ	14
QZ31	NBF-MH152B-060210-S	QZ31AJ	SW8270D	Benzo(k)fluoranthene	19	ug		NJ	14
QZ31	NBF-CB165B-060210-S	QZ31AK	SW8270D	Benzo(b)fluoranthene	12	ug		NJ	14
QZ31	NBF-CB165B-060210-S	QZ31AK	SW8270D	Benzo(k)fluoranthene	12	ug		NJ	14
QZ31	NBF-CB173B-060210-S	QZ31AL	SW8270D	Benzo(b)fluoranthene	6.7	ug		NJ	14
QZ31	NBF-CB173B-060210-S	QZ31AL	SW8270D	Benzo(k)fluoranthene	6.7	ug		NJ	14
QZ31	NBF-MH178B-060210-S	QZ31AM	SW8270D	Benzo(k)fluoranthene	59	ug		NJ	14
QZ31	NBF-MH178B-060210-S	QZ31AM	SW8270D	Benzo(b)fluoranthene	59	ug		NJ	14
RC27	NBF-MH108-062910-W	RC27A	EPA200.8	Copper	3.9	ug/l		U	6
RC27	NBF-MH108-062910-W	RC27A	SW8082	Aroclor 1260	0.012	ug/l	Y	U	22
RC46	NBF-LS431-063010-W	RC46A	EPA200.8	Copper	2.2	ug/l		U	6
RC46	NBF-LS431-063010-W	RC46B	EPA200.8	Silver	0.2	ug/l	U	UJ	8
RC46	NBF-LS431-063010-W	RC46A	SW8270D	Nitrobenzene	1	ug/l	U	UJ	5B
RC75	NBF-LS431A-063010-S	RC75H	SW7471A	Mercury	0.15	mg/kg		J	14
RD97	NBF-D283A-071310-S	RD97E	SW8082	Aroclor 1248	74	ug/kg	Y	U	22
RD97	NBF-D436A-071310-S	RD97F	SW8082	Aroclor 1248	48	ug/kg	Y	U	22
WG33003	NBF-MH108B-052010-S	L14824-1 LW	E1613	1,2,3,4,7,8-HXCDD	249	PG/Sample	K J	U	22
WG33003	NBF-MH108B-052010-S	L14824-1 LW	E1613	1,2,3,7,8,9-HXCDF	13.5	PG/Sample	K J	U	22
WG33003	NBF-MH108B-052010-S	L14824-1 LW	E1613	1,2,3,7,8-PECDD	181	PG/Sample	K J	U	22
WG33003	NBF-CB173B-052010-S	L14824-10 LW	E1613	1,2,3,7,8,9-HXCDF	42.8	PG/Sample	K J	U	22
WG33003	NBF-MH133B-052010-S	L14824-11 LW	E1613	1,2,3,7,8,9-HXCDF	22.8	PG/Sample	K J	U	22
WG33003	NBF-MH138B-052010-S	L14824-12 LW	E1613	1,2,3,7,8,9-HXCDF	5.56	PG/Sample	K J	U	22
WG33003	NBF-MH138B-052010-S	L14824-12 LW	E1613	1,2,3,7,8-PECDD	42.4	PG/Sample	K J	U	22
WG33003	NBF-MH138B-052010-S	L14824-12 LW	E1613	1,2,3,7,8-PECDF	42.4	PG/Sample	K J	U	22
WG33003	NBF-MH138B-052010-S	L14824-12 LW	E1613	2,3,7,8-TCDD	9.13	PG/Sample	K J	U	22
WG33003	NBF-MH434B-052810-S	L14824-13 LW	E1613	1,2,3,7,8,9-HXCDF	33.9	PG/Sample	K J	U	22
WG33003	NBF-LS431B-052010-S	L14824-2 LW	E1613	1,2,3,4,7,8-HXCDD	118	PG/Sample	K J	U	22
WG33003	NBF-LS431B-052010-S	L14824-2 LW	E1613	1,2,3,7,8,9-HXCDF	4.64	PG/Sample	K J	U	22
WG33003	NBF-LS431B-052010-S	L14824-2 LW	E1613	1,2,3,7,8-PECDD	79.1	PG/Sample	K J	U	22

QUALIFIED DATA SUMMARY TABLE
North Boeing Field Task 3.4 Stormwater Sampling

SDG	Sample ID	Lab ID	Method	Analyte	Result	Units	Lab Qual	DV Qual	Val Reason
WG33003	NBF-MH356B-052010-S	L14824-4 LW	E1613	1,2,3,7,8,9-HXCDF	7.37	PG/Sample	K J	U	22
WG33003	NBF-MH369B-052010-S	L14824-5 LW	E1613	1,2,3,4,7,8,9-HPCDF	56	PG/Sample	K J	U	22
WG33003	NBF-MH369B-052010-S	L14824-5 LW	E1613	1,2,3,7,8,9-HXCDF	3.34	PG/Sample	K J	U	22
WG33003	NBF-MH369B-052010-S	L14824-5 LW	E1613	2,3,7,8-TCDD	5.25	PG/Sample	K J	U	22
WG33003	NBF-MH226B-052010-S	L14824-6 LW	E1613	1,2,3,7,8,9-HXCDF	11.7	PG/Sample	K J	U	22
WG33328	NBF-MH108B-063010-S	L14969-1 W	E1613	1,2,3,6,7,8-HXCDD	122	PG/Sample	K D J	U	22
WG33328	NBF-MH108B-063010-S	L14969-1 W	E1613	1,2,3,7,8-PECDD	43.6	PG/Sample	K D J	U	22
WG33328	NBF-MH108B-063010-S	L14969-1 W	E1613	2,3,7,8-TCDD	23.6	PG/Sample	K D J	UJ	14,22
WG33328	NBF-CB173B-063010-S	L14969-2 W	E1613	2,3,7,8-TCDD	64.1	PG/Sample	D	J	14
WG33328	NBF-LS431B-063010-S	L14969-3 i	E1613	1,2,3,7,8-PECDD	25.8	PG/Sample	K J	U	22
WG33328	NBF-LS431B-063010-S	L14969-3 i	E1613	1,2,3,7,8-PECDF	18.9	PG/Sample	K B J	U	22
WG33328	NBF-LS431B-063010-S	L14969-3 i	E1613	2,3,7,8-TCDD	6.68	PG/Sample	J	J	14