2014 AOC-65 IN-SITU CHEMICAL OXIDATION ASSESSMENT REPORT

Prepared for:

Camp Stanley Storage Activity
Boerne, Texas

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Executive Summary

This report provides a summary and evaluation of In-Situ Chemical Oxidation (ISCO) treatability study activities at Camp Stanley Storage Activity (CSSA) between February 2012 and September 2014 (Phases I and II). This treatability study was initiated to determine the efficacy of ISCO as a viable remedial option to treat volatile organic compound (VOC) contamination within the underlying fractured bedrock at Area of Concern 65 (AOC-65) and groundwater contamination plume emanating from AOC-65. Parsons conducted an interim removal action in February 2012 to remove contaminated source material from AOC-65, and an ISCO injection system was installed in the resultant excavation. Geological information in the trench, such as fault locations and orientations, was noted and used in developing a monitoring network to gauge ISCO progress. An oxidant was selected and bench-scale tests were performed to determine oxidant/activator ratios. Parsons installed 11 new wells within AOC-65 to monitor ISCO progress and facilitate ISCO solution injection. From August 2012 to June 2013 two rounds of ISCO injections were completed. Monitoring efforts associated with ISCO injections began with a round of pre-ISCO injection baseline sampling in April 2012 and continued through September 2014 with several rounds of sampling conducted at various intervals following injections.

This report describes ISCO activities conducted at AOC-65 from conception to injection, including injection system:

- design;
- construction;
- oxidant selection;
- bench-scale testing;
- pilot-scale injection and monitoring;
- treatability study-scale injection and monitoring; and
- field methods and results.

This report does not include the results for the Phase III large-scale injection performed from September through November 2014.

Results from monitoring indicate ISCO solution has been distributed within the Upper Glen Rose (UGR) Formation at AOC-65. Persulfate has been identified in wells near the infiltration gallery and up to 60 feet away (VEW-25). Increases in pH readings at monitoring wells, presumably as a result of sodium hydroxide injection, further demonstrates connections between the infiltration gallery and monitoring wells screened within the subsurface.

At USEPA's request, a larger scale application of ISCO solution, amounting to three times the volume of the second injection, was implemented in late September 2014 (Phase III). Results from this latest injection are not yet available. The combined results of Phases I through III will be provided in an addendum to this report, which will include conclusions regarding ISCO application at AOC-65 as well as recommendations for future ISCO remedial efforts at AOC-65, if appropriate.

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LIST OF ACRONYMS

AOC	Area of Concern
bgs	below ground surface
CO_2	carbon dioxide
CSSA	Camp Stanley Storage Activity
CY	cubic yards
DCE	Cis-1,2-dichloroethene
FI	Facility Investigation
FMC	FMC Corp.
GAC	granular activated carbon
HDPE	high-density polyethylene
ID	inside diameter
IDM	investigation-derived media
ISCO	*In-Situ* Chemical Oxidation
IRA	interim removal action
KDT	Klozur Demand Testing
LGR	Lower Glen Rose
MSDS	Material Safety Data Sheets
NaOH	sodium hydroxide
ORP	oxidation-reduction potential
PCE	Tetrachloroethene
PCLs	protective concentration levels
pH	power of Hydrogen
ppt	part per trillion
PVC	polyvinyl chloride
PZ	piezometer
QA/QC	quality assurance/quality control
QED	(page 5-2, 5.2.2)
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
SF_6	sulfur hexafluoride
SVE	soil vapor extraction
TCEQ	Texas Commission on Environmental Quality
TCE	Trichloroethene
TDLR	Texas Department of Licensing and Regulation

LIST OF ACRONYMS (*continued*)

TRRP	Texas Risk Reduction Program
TSW	treatability study well
UGR	Upper Glen Rose
UIC	Underground Injection Control
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
VEW	vapor extraction well
VMPs	vapor monitoring points
VOC	volatile organic compound
WB	Westbay
WWTP	waste water treatment plant

SECTION 1
INTRODUCTION

1.1 PURPOSE

This report provides a summary of activities and results related to the in-situ chemical oxidation (ISCO) treatability study at Camp Stanley Storage Activity (CSSA) between January 2012 and September 2014. These activities were conducted in support of treatability studies of the tetrachloroethene (PCE) and trichloroethene (TCE) groundwater plume at Area of Concern 65 (AOC-65). These activities included:

- The excavation of a trench and removal of contaminated soils as part of an interim removal action (IRA),
- Fracture survey of the excavated trench walls to identify potential flow paths and provide information regarding the placement of wells,
- Infiltration gallery installation to provide a location for delivering ISCO solution to the subsurface,
- Gaseous tracer test to determine connectivity of flow paths,
- Drilling and installation of seven monitoring wells, three soil borings, and four injection wells to provide locations for monitoring ISCO effects,
- Bench-scale testing to identify appropriate ISCO/sodium hydroxide mix for the subsurface conditions at the site,
- Two rounds of ISCO chemical injections, and
- Multiple rounds of groundwater monitoring.

1.2 BACKGROUND

Camp Stanley Storage Activity is located in northwestern Bexar County, about 19 miles northwest of downtown San Antonio. The installation consists of 4,004 acres immediately east of Ralph Fair Road, and approximately 0.5 miles east of Interstate Highway 10. AOC-65 is located along the western fenceline within the inner cantonment. Buildings 90 and 89 are located within AOC-65 (**Figure 1.1**). A general history of AOC-65 is provided in **Table 1.**1 and a brief chronology of activities at the site is provided below (**Table 1.2**).

SVE system operations were terminated in 2012 because the effectiveness of the system had decreased significantly. Although many of the SVE system components, including system blowers, manifolds, and controls were removed; several of the vapor extraction wells (VEWs) were retained and are used as monitoring points in the ISCO treatability study monitoring network. However, plugging and abandonment of 12 VEWs and three vapor monitoring points (VMPs) was necessary due to their location adjacent to the IRA excavation and due to remodeling efforts at Building 90. Specifics regarding the termination of SVE activities are

provided in the ***2012 Update to AOC-65 Soil Vapor Extraction Operations and Maintenance Assessment Report*** (Parsons, 2012).

Table 1.1 General History of AOC-65

Date	Activity
Prior to 1995	Chlorinated solvent PCE was used as a cleaning agent in and around Building 90 for more than 30 years.
1995	Citrus-based cleaner usage replaced chlorinated solvents at Building 90.
1999	PCE was identified in wells in the vicinity of Building 90 during the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI).
2001	Soil gas survey conducted at over 300 points in and around Building 90. The soil gas survey detected PCE and its natural degradation products TCE, *cis*-1,2-dichloroethene (DCE), and *trans*-1,2-DCE.
2002	RFI report for AOC-65 completed. Interim removal action completed including the removal of surface soils underlying pavement and drainage swale west of Building 90. The drainage swale was lined with concrete to prevent rainwater run-off infiltration.
2002 - 2012	SVE treatability study system installed and operated within AOC-65. The SVE system was enhanced in 2006 and 2010, including installation of additional blowers and VEWs.
2011	Steam enhanced extraction treatability study conducted. SVE system returned to normal operations following test completion.
February 2012	Onset of ISCO related activities including a second interim removal action, and subsequent installation of an ISCO infiltration gallery.
August 2012	SVE system operations formally terminated at AOC-65 due to its significantly decreased effectiveness. System components were dismantled shortly thereafter.

Activities associated with the ISCO treatability study began with the initiation of a second IRA which removed contaminated soil beneath the concrete-lined drainage swale on the west side of Building 90. Past releases of PCE into the ditch are suspected to have contributed to the long-term dissolved phase PCE and TCE contamination in groundwater in the Upper and Lower Glen Rose Formations locally. This second IRA consisted of the excavation of a ~320-foot long, 3.5-foot wide, and between 12- and 15-foot deep trench in this ditch. The trench was subsequently converted into a series of infiltration galleries to facilitate the application of chemical oxidants for this treatability study.

1.3 OBJECTIVE OF INVESTIGATION

The objective of the investigation is to determine the efficacy of ISCO as a remedial option for treatment of contaminants within soils, bedrock, and groundwater in the vicinity of AOC-65. The ISCO treatability study efforts include the following primary and ancillary objectives.

1. Conduct IRA – excavate and remove contaminated soils and bedrock beneath a concrete-lined drainage swale west of Building 90.
2. Determine potential flow paths and preferred pathways within the area surrounding the trench derived from the IRA.
    a. Fracture analysis of exposed trench walls.
    b. Gaseous chemical tracer test.
3. Install ISCO delivery system.
    a. Modify existing well (SIW-01).
    b. Transform IRA trench into infiltration gallery.
    c. Install four additional injection wells to prevent off-post migration of mobilized contaminants.
4. Select Oxidant/Activator.
    a. Perform bench-scale testing to determine appropriate mixture.
5. Expand monitoring network
    a. Installation of treatability study wells (TSWs).
    b. Plug and abandon vapor extraction wells, vapor monitoring points, and monitoring wells damaged/unused following trench installation.
6. Inject ISCO solution
7. Monitor affects of ISCO application in groundwater.

1.4 REPORT ORGANIZATION

This report consists of eight sections. The activities described in these sections are presented in chronological order. This section (Section 1) presents an overview, including the project purpose, background information, and objectives of efforts associated with the ISCO treatability study. Section 2 describes activities leading up to and including the installation of the ISCO injection system. Section 3 depicts the selection process for the ISCO chemicals including bench-scale testing and results. Section 4 describes drilling activities related to the completion of two ISCO treatability study injection efforts. Section 5 describes the monitoring efforts associated with the ISCO treatability study including: monitoring network locations, analyses, and field parameter collection. Section 6 describes the first two ISCO injection efforts including: amounts of chemicals used, distribution of chemicals, and the specialized equipment used. Section 7 includes monitoring results following the first two injections and references are included in Section 8.

1.5 TIMELINE OF EVENTS

The following is a chronological list of events associated with ISCO activities including: permitting, excavation, construction, drilling, injection, and monitoring. Activities from September 2014 and later will be reported in an addendum to this report.

Table 1.2 ISCO Activity Calendar

	2012	2013	2014
January	• Core sample collection at correlative strata for bench-scale testing.	Quarterly sampling	
February	• IRA conducted: excavation of 1,000 cubic yards (CY) of soil and bedrock at AOC-65 creates 3.5-foot wide, 12 to 15-foot deep, and 320-foot long trench.		• Quarterly sampling.
March	• Fracture documentation and analysis; • Texas Commission on Environmental Quality (TCEQ) issues Underground Injection Control (UIC) permit approval for the construction of ISCO injection system and subsequent injection of ISCO chemicals.		
April	• Infiltration gallery construction completed; • Background/baseline sample collection from all ISCO monitoring locations.	• IIWs drilled and installed; • Quarterly sampling; • Baseline monitoring for Injection #2.	
May	• Gaseous chemical tracer test performed at AOC-65 using sulfur hexafluoride (SF_6) and SVE system blowers, and ISCO infiltration gallery. • Bench-scale Klozur demand test performed on core samples.	• **ISCO injection #2** (May 21 – June 6) including 48,500 lbs of activated sodium persulfate into infiltration gallery zones, IIWs, and SIW-01.	• Quarterly sampling.
June	• Drilling and installation of Treatability Study Wells (TSWs)	• 30-day post-injection #2 sampling.	
July	• Baseline monitoring for injection #1	• 60-day post-injection #2 sampling.	
August	• **ISCO injection #1** (Aug. 3 – Aug. 16) including 19,000 lbs of activated sodium persulfate into infiltration gallery zones and SIW-01. • AOC-65 SVE system operations formally terminated	• 90-day post-injection #2 sampling.	• Quarterly sampling; • Baseline monitoring for injection #3.
September	• 30-day post-injection #1 sampling. • Building 90 VEWs and VMPs plugged and abandoned. .		• **ISCO injection #3** (Sept. 22 – Nov. 6) including 145,464 lbs of activated sodium persulfate into infiltration gallery zones, IIWs, and SIW-01
October	• 60-day post-injection #1 sampling.		• 30-day post-injection #3 sampling.
November	• 90-day post-injection #1 sampling.	• Quarterly sampling.	• 60-day post-injection #3 sampling.
December	• 120-day post-injection #1 sampling.		• 90-day post-injection #3 sampling.

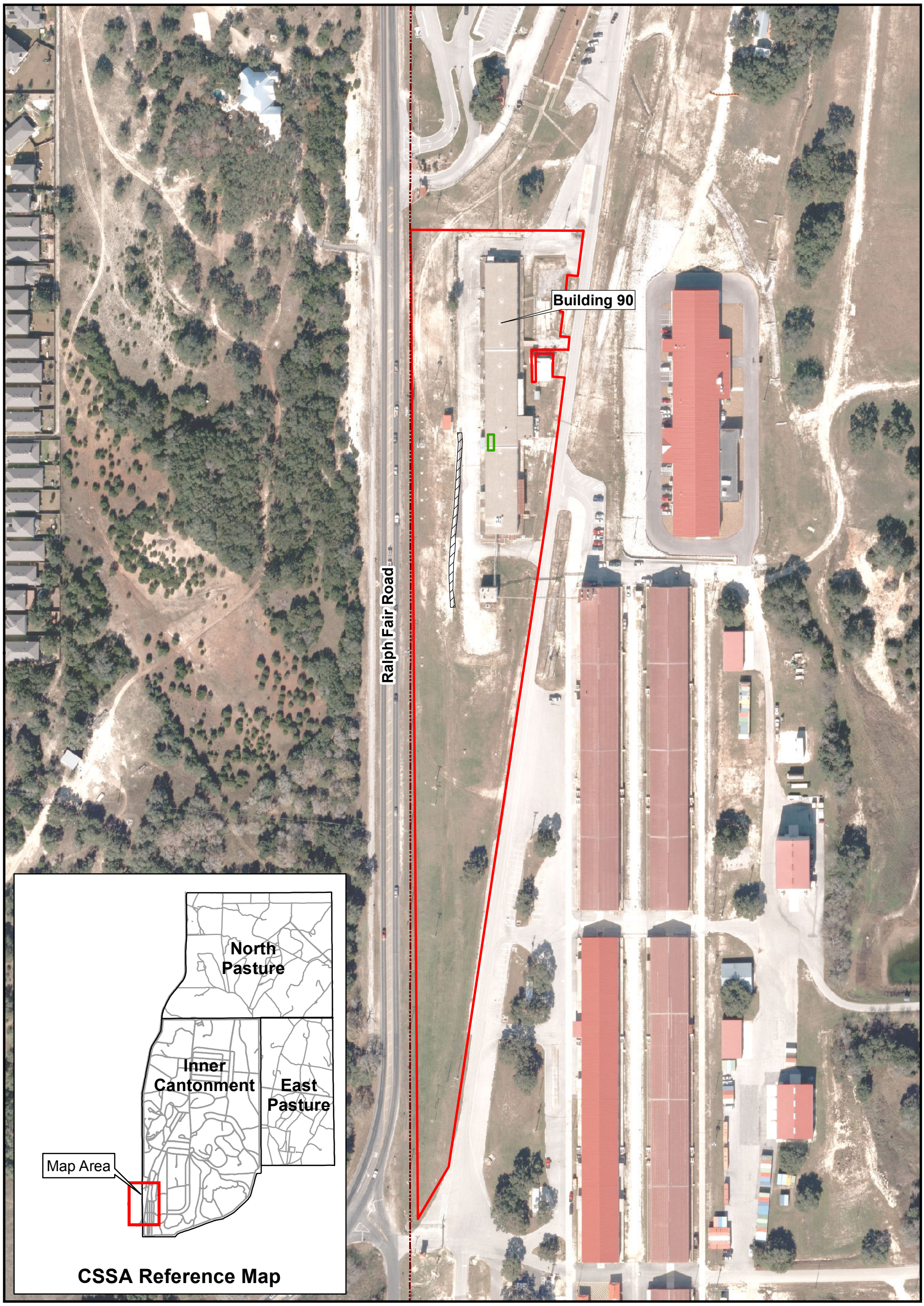

Figure 1.1

AOC-65
Site Map
Camp Stanley Storage Activity

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SECTION 2
ISCO INJECTION SYSTEM INSTALLATION

2.1 INTERIM REMOVAL ACTION

In February of 2012, an IRA was conducted to remove contaminated soil and bedrock along the drainage swale west of Building 90 (**Figure 2.1**). The excavation was completed using an Austin Trencher AT 1460 trenching unit and resulted in a 3.5 foot wide, between 12 and 15 foot deep and 320 foot long trench. Variations in trench depth were required to overcome the change in elevation across the site and ensure a level bottom. Approximately 1,000 cubic yards (CY) of material were removed during the excavation efforts.

The 2012 IRA served multiple remedial purposes at AOC-65. First, removal of the media beneath the drainage ditch, a source of aqueous and vapor phase contamination identified in the 2001 soil gas survey, will aid in reducing off-post migration of PCE and TCE in groundwater as a source of dissolved-phase contamination is removed. Second, the trench walls provide access to identify subsurface structural features (such as faults and fractures) that likely influenced the direction of contaminant migration, and could be used to identify target areas for the delivery of chemical oxidant solutions for the ISCO treatability study. Our approach in the ISCO treatability study is to apply the oxidant *in-situ* within the aquifer along the original contaminant migration paths to maximize contact time to destroy contaminants residing within these fractures. Thus, installing infiltration galleries within the excavated trench allows more opportunities to intersect the preferred paths and contamination contained within these fractures as well as within the adjacent soils and bedrock than through the use of conventional injection wells.

2.1.1 IRA Waste Disposition

All solid investigation-derived media (IDM) from trenching efforts was disposed according to ***CSSA RCRA Facility Investigation and Interim Measures Waste Management Plan (Volume 1-1, Work Plan)*** approved by the U.S. Environmental Protection Agency (USEPA) and TCEQ. Solid media samples were collected at a rate of one sample per 200 CY of material and analyzed for the full list of VOCs using USEPA 8620B method. Approximately 1,000 CY of solid media were generated during IRA efforts. Waste characterization sampling indicated these materials met the TCEQ criteria for Class 3 non-hazardous waste as per 30 Texas Administrative Code (TAC) 335 Subchapter R. Approximately 35 CY of excavated material impacted with construction debris from the removal of the concrete swale lining were disposed of off-post. The remaining 965 CY of material were transported from the site to the East Pasture where they were used as construction fill for road improvements throughout CSSA. Summary tables of IDM waste characterization sample results as well as their respective data packages are located in **Appendix A**. Although concentrations of VOCs in this material were not anticipated to be high due to volatilization resulting from friction and heat generated by the trenching operations, a low level of PCE was detected in one sample.

Figure 2.1

AOC-65 Interim Removal Action
Camp Stanley Storage Activity

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2.2 FRACTURE ANALYSIS

Upon completion of excavation efforts, trench wall profiles identifying features of significance including fractures and changes in lithology were sketched and photographs of the sidewalls were taken to document exposed fractures, solutionally-enlarged features, and bedding plane partings that could be identified as a potential flow path. An extendable boom manlift was used to allow field personnel a safe way to take close-up pictures from above the trench. A survey rod was placed along the lip of the trench to provide scale, and a white erase board was used to label position along the trench relative to the northern most extent of the excavation. Pictures were taken every five feet on both sides of the trench, starting at the north end (0 feet east or west) and terminating on the south end (300 feet east or west). Trench wall survey photographs are available on the **accompanying CD**.

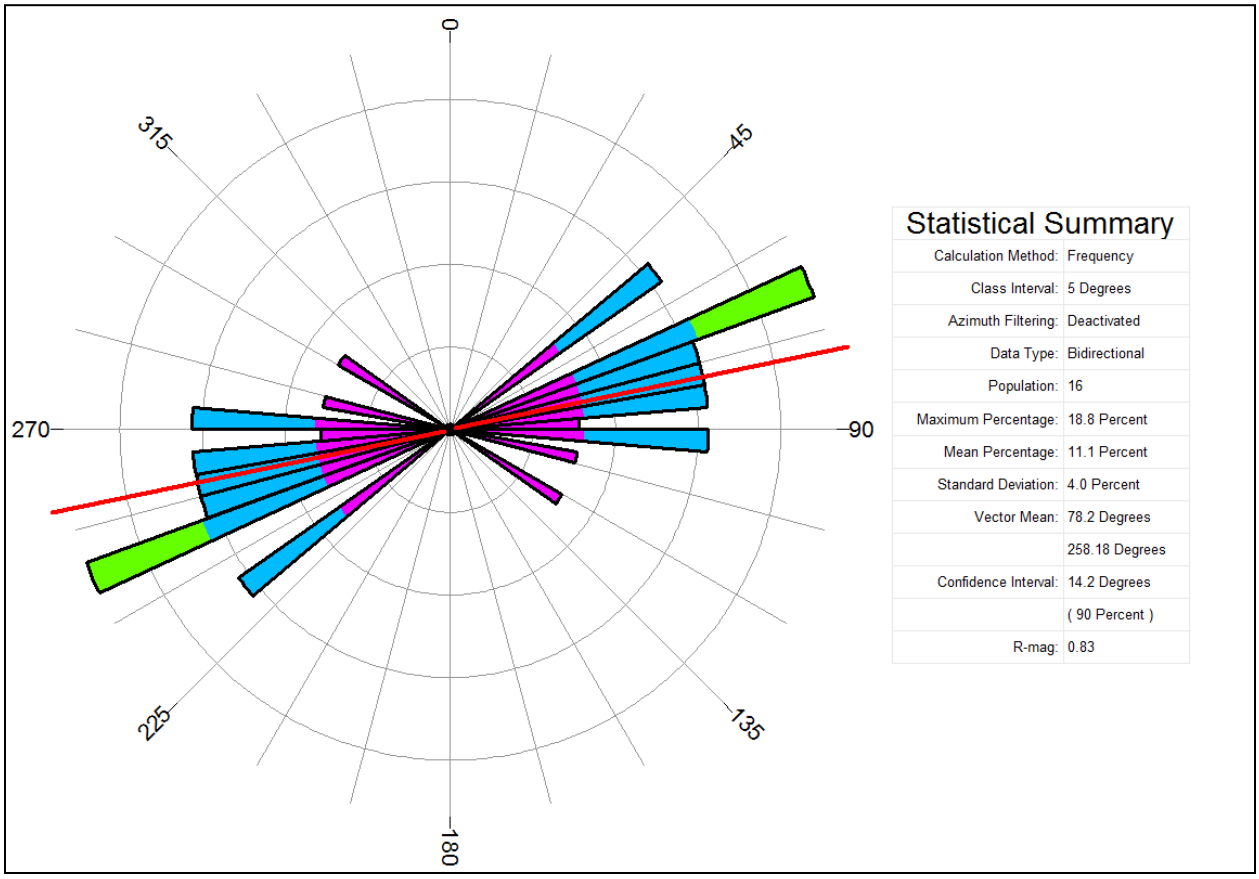
In addition to the trench wall photographs, GeoCam was subcontracted to provide video documentation of the trench walls. To accomplish this, the logging truck was parked beside the ditch and the downhole camera was connected to a pulley attached to the manlift so that the camera would be positioned centrally within the trench. Two passes were filmed with the downhole camera at each 5-foot station (one for each wall) before the manlift and logging truck were repositioned. At each station the survey rod was positioned vertically within the trench to provide a vertical scale. Videos documenting the trench walls are provided in the **accompanying DVDs**.

During excavation, as the trencher removed materials, it ground rock into a fine dust that adhered to the trench walls making the identification of structural and lithologic features difficult. Following the initial trench wall documentation, several rain events occurred. The rain effectively washed off the rock flour and exposed some of the more subtle fractures. Photographs taken after the rain events showed fractures that were not visible initially, weeping fractures, and transmissive bedding plane partings. Additional fractures revealed following rain events were sketched into the profiles. The trench wall profiles are included in **Appendix B**.

Due to safety concerns, no personnel were allowed in the trench, thus directly measuring strike and dip information from identified fractures was not possible. However, using the sketches, photographs, and scale, the location of readily identifiable fractures along the trench walls was carefully plotted on a map. The photographs provided a means to match fractures on opposite trench walls; thus, a “fracture pair” across the trench, approximating the trend for each fracture, was obtained. The approximate fracture trends for 16 features were plotted in a rose diagram to determine an average trend for features identified in the trench, **Figure 2.2**. The resulting trend analysis indicates a mean fracture trend of N78.2E. A fault located in the northern portion of AOC-65 identified by the U.S. Geological Society (USGS) shows a similar trend of N76E. Fracture trends identified in the fracture analysis and local faults mapped by USGS are presented in **Figure 2.3**.

Fractures identified in sketches and photographs on one trench wall which could not be reliably "paired" with another fracture on the opposite wall were excluded from the statistical analysis. It is assumed that the larger, more readily identified features on the trench walls are more representative of preferred pathways found throughout AOC-65.

Figure 2.2 Rose Diagram of AOC-65 Trench Fracture Trends (Bidirectional)



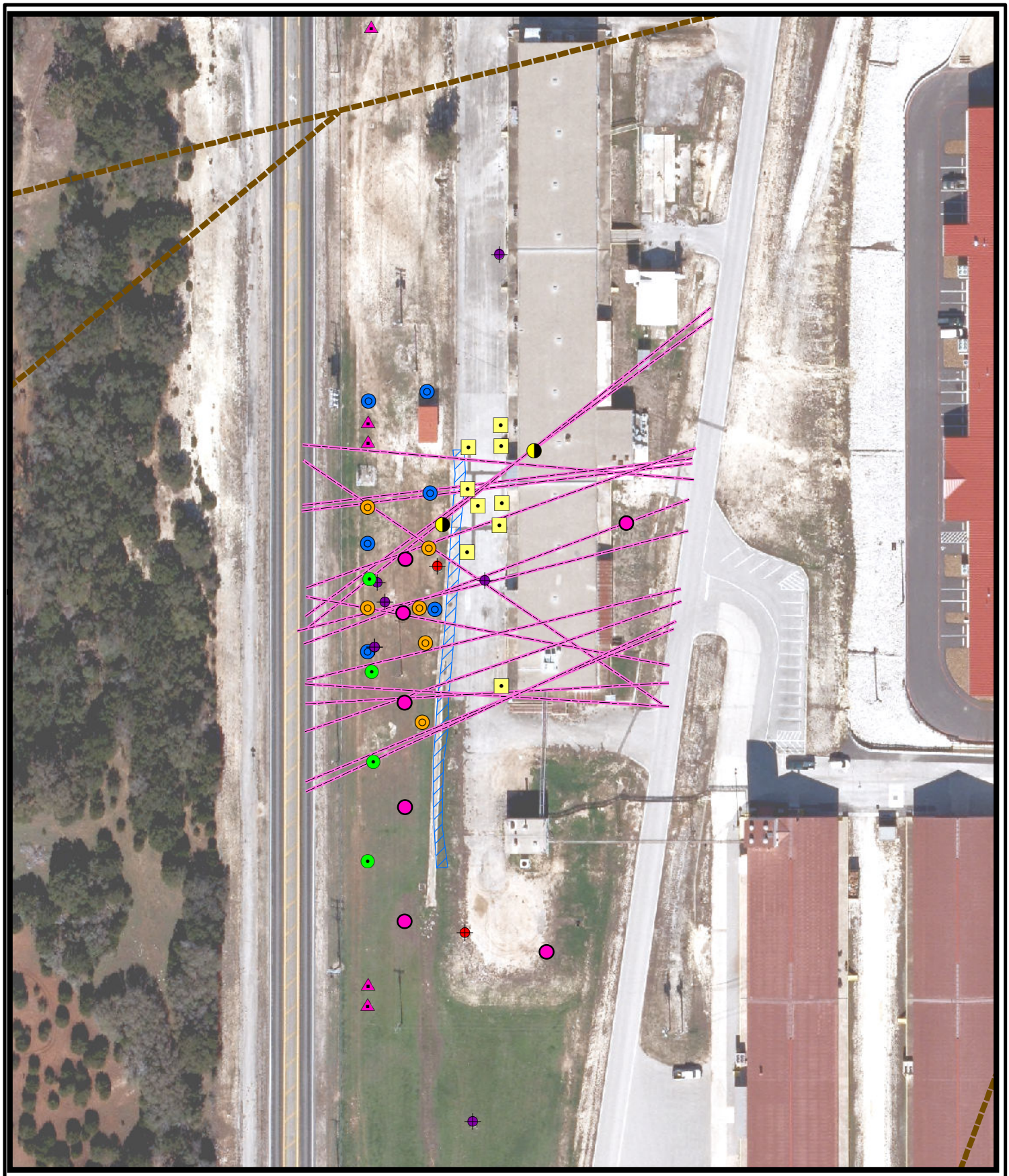


Figure 2.3

Identified Fracture Trends
Camp Stanley Storage Activity

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2.3 INFILTRATION GALLERY INSTALLATION

Several rain events of moderate intensity occurred while the trench was "open". Following these rain events water was observed flowing into the trench from several of the larger aperture fractures. Additionally, water accumulated in the bottom foot of the trench was observed to drain within a few days indicating vertical and lateral transport of fluids was likely to occur. With the documentation of the trench walls complete, an infiltration system was installed within the trench deliver ISCO to the subsurface via the exposed natural preferential pathways. It is anticipated that applying the ISCO solution in an infiltration gallery rather than via an injection well gives the solution a greater opportunity to follow the natural preferential paths, both laterally and vertically, that the contaminants once used. Individual wells may or may not intersect one or any of the preferred flow paths.

The infiltration gallery design includes three discrete treatment zones made from 4-foot thick layers of 0.5-inch-sized quartz gravel separated by 1-foot thick layers of compacted clay. Perforated high-density polyethylene (HDPE) pipe installed within each of the gravel layers provides a means for ISCO solution conveyance and distribution along the entire length of each of the gravel layers. Pipe perforations of varying size, with the smallest located nearest the injection manifold and the largest perforations located furthest away, ideally allow a more uniform distribution of injected ISCO solution within each treatment zone.

The permeable material (gravel) defines the three treatment zone areas into which the chemical oxidant solution can be applied and allowed to slowly drain into the subsurface. Construction of the infiltration gallery at AOC-65 using materials with varying permeability (gravel versus compacted clay) resulted in creation of three discrete zones within the gallery into which the ISCO solution may be applied independently or simultaneously to treat the surrounding bedrock and destroy contamination contained therein. The division of the infiltration gallery also increases the possibility that both lateral and vertical paths are taken when the ISCO solution is added. The compacted clay that divides the zones forms a vertical barrier in the upper and middle zones, thus ISCO solution injected into these zones must drain laterally through the fractures and conduits in the walls of the trench. While the deep zone, with no basal clay layer, is anticipated to drain vertically and laterally. The infiltration gallery design is presented in **Figure 2.4**.

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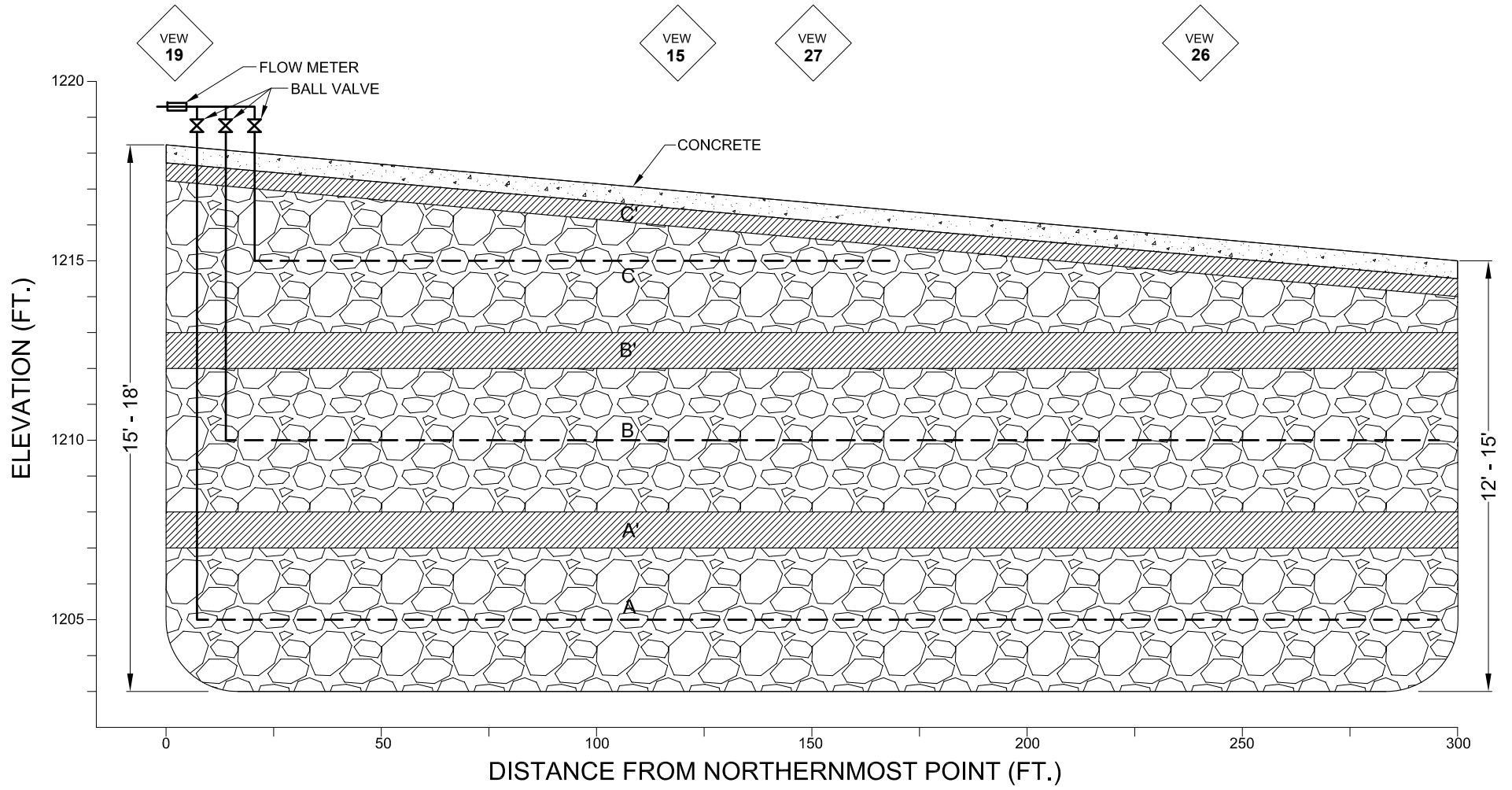

VEW 15 — APPROXIMATE LOCATION OF ADJACENT VEWs

A' — COMPACTED CLAY (~1' THICK)

A — GRAVEL (~4' THICK)

CONCRETE

2" SOLID WALL HDPE PIPING

2" PERFORATED HDPE TUBING

Not to Scale

Figure 2.4

Cross Section of Proposed ISCO Infiltration Gallery

Camp Stanley Storage Activity

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2.4 GASEOUS TRACER TEST

Identifying fractures from photographs may not provide sufficient information to determine which fractures are preferred conduits for contaminant migration. Following the fracture analysis and subsequent construction of the infiltration gallery, a gaseous tracer test was performed to determine relative connectedness to vapor extraction wells located within Building 90 and distributed throughout AOC-65. Results from the gaseous tracer test, in conjunction with the fracture analysis results, were used to determine deficiencies in the monitoring network, identify data gaps, and help determine locations for additional monitoring wells to improve the monitoring network. The tracer test was accomplished by applying a tracer gas into future ISCO injection locations (zones within the infiltration gallery or injection wells), and monitoring the SVE system exhausts to determine tracer gas breakthrough. Additionally, monitoring individual vapor extraction well (VEW) exhausts for the tracer gas was used to demonstrate connections between the injection locations and individual VEWs distributed throughout the site.

2.4.1 Tracer Gas Selection

SF_6 is typically used in the electrical industry for magnesium casting and as an inert filling for insulated glazing windows, though it has also been used as a tracer for vadose zone, vapor intrusion, and large-scale gas transport studies. SF_6 is an inorganic, colorless, odorless, and non-flammable gas, it is non-toxic, it is detectable at very low concentrations (parts per trillion [ppt]), atmospheric concentrations of SF_6 are negligible, and is readily available commercially. However, due to the low detection limit and virtually zero effective background concentration, only a small quantity of SF_6 was required to conduct the tracer study than other, more frequently used tracer gasses (e.g., helium).

2.4.2 Tracer Implementation

Two tests were performed at AOC-65. The first focused on the impacted area beneath Building 90 using steam injection well SIW-01, while the second focused on the area beneath/surrounding the concrete-lined drainage swale and newly constructed infiltration gallery using the middle zone of the trench. In each test, the SVE system blowers remained off until the injection well or infiltration zone had been filled with an appropriate amount of SF_6. Tracer testing at SIW-01 included 120 minutes of continuous injection of SF_6, while testing within the infiltration gallery consisted of a one-time application of tracer gas.

2.4.2.1 SIW-01

SIW-01 was installed in a former solvent containment vat as part of the 2011 steam-enhanced extraction study. SIW-01 consists of an 8-inch open borehole from 10' to 25' below ground surface (bgs), with 4-inch casing from 10' bgs to 3' above grade. The volume of the well is given by:

$$V_{SIW-01} = \left(\pi * r^2_{(open\ borehole)} * h_{(open\ borehole)}\right) + \left(\pi * r^2_{(cased\ borehole)} * h_{(cased\ borehole)}\right)$$

Thus, V_{SIW-01} = (3.14 * (0.333 (ft))^2 * 15 (ft)) + (3.14 * (0.125 (ft))^2 * 13 (ft)); or 5.86 cubic feet. SIW-01 was filled with SF_6 and the sub-slab, exterior, and western system shallow blowers that made up the SVE system were turned on. SF_6 application within SIW-01 continued at a rate of 0.33 (~6% borehole volume) cubic feet per minute (cfm) for 120 minutes, during which continuous and periodic monitoring of SVE system exhausts and individual VEWs occurred. A total of 46 cubic feet of SF_6 was injected into SIW-01.

2.4.2.2 Infiltration Gallery

SF_6 was also applied in the middle treatment zone of the infiltration gallery. The photographic analysis of the trench walls indicated that a greater number and larger aperture fractures occurred in the middle portion (vertically) of the trench than either the lower or upper portions, indicating that the middle zone is likely more transmissive, and therefore may provide better dispersion of tracer gas within the subsurface than the other zones. Similarly, previous VOC data collected from VEWs during SVE system operations indicated that the majority of removed volatilized contaminants derive from the more shallowly screened wells (where the screened interval begins between 6 and 10 ft bgs).

The middle treatment zone runs the entire length of the trench (~320 feet), and is approximately 3.5 feet wide and 4 feet tall. The 0.5-inch gravel used to backfill the trench creates an estimated effective porosity (ϕ) of 30% within the section. The total void volume for the middle treatment zone is given by:

$$V_v = l * w * h * \phi$$

Thus, the volume of the middle treatment zone is V_v = 320 (ft) x 3.5 (ft) x 4.5 (ft) x 0.30; or ~1,512 cubic feet. 170 cubic feet of SF_6 was applied in the middle zone and no additional SF_6 was added after the SVE system was turned on. The tracer gas was added using a ~200 foot long section of semi-rigid tubing that was inserted within the perforated HDPE ISCO injection line. Once SF_6 application began a vacuum attached to the ISCO injection manifold at the northern end of the infiltration gallery was turned on. The vacuum exhaust was continuously monitored until SF_6 was positively identified using a portable gas detector. When the SF_6 was identified, the vacuum was turned off and the tubing was extracted. The tracer gas was allowed to disperse within the treatment zone for

an hour to ensure the tracer gas was evenly distributed before the SVE system was turned on and monitoring began.

2.4.3 Tracer Monitoring

For both tests, continuous and periodic sampling was utilized to monitor for SF_6. Two Ion Science SF_6 LeakCheck P1:p gas detectors were used to continuously monitor SVE system exhausts (eastern and western SVE system exhausts) and periodic samples from individual VEWs were collected using Tedlar bags and summarily screened.

2.4.4 Tracer Results

Gaseous tracer test results suggest connections between application points and the monitoring network of VEWs. Additionally, results from individual VEWs provide insights into where open fractures (flow paths) likely exist, and where more information is needed (i.e. where data gaps are located). The SVE system exhausts at AOC-65 are a combination of two discrete sub-system exhausts. Each sub-system consists of a blower connected to a series of VEWs, thus the exhaust is a mixture of extracted soil vapors from all of the VEWs connected to that blower. Individual sub-system exhausts are combined into a unified system (Eastern or Western) exhaust before being directed to a GAC filtration system or released to the atmosphere. The eastern SVE system is composed of the Building 90 sub-slab and Building 90 exterior sub-systems. The western SVE system is composed of deep and shallow sub-systems. Thus, SF_6 results from each system include the combined results of both sub-systems in operation. Independent sub-system monitoring is not possible due to the SVE system design. However, monitoring the system exhaust, one can assess how well vapors can be transported from the point of injection, through the fractured bedrock, to the network of VEWs that make up the SVE system. It is anticipated that SF_6 concentrations detected at the system exhausts will be lower than at the well-connected individual VEWs. This is because the system exhaust is a combination of all of the VEWs exhausts (those with good connections as well as those that have little or no connection to injection points) prior to release into the GAC unit or the atmosphere.

2.4.4.1 SIW-01 Test

Results from SF_6 injections within SIW-01 suggest connections to both the eastern and western systems. SF_6 was detected immediately following application of gas within the western system exhaust (**Figure 2.5**), followed by long periods of low concentration to non-detection and sporadic high concentration detections (at 122, 191, 237, 297, and 322 minutes). Eastern system exhaust detections were typically low (less than 100 parts per million [ppm]); however, a peak was detected just before the application period ended between 64 and 75 minutes, and additional peaks at 184, 205, and 265 minutes following cessation of SF_6 application.

One explanation for the low SF_6 returns in the eastern system exhaust is that the VEWs located within Building 90 (VEW-01 through -12) are typically very shallow (total depths of 6 – 12 ft. bgs). SF_6 is denser than air, and SIW-01 has a protective steel casing installed to 10 ft. bgs, thus the shallower VEWs have less screened interval that overlaps with the open portion of SIW-01 and are therefore anticipated to generally be less effective at pulling the tracer gas from below the level of the screened intervals. VEWs -08 and -09 are the exceptions. Both of these VEWs are located within Building 90 near SIW-01 and both indicated significant connections to SIW-01 throughout the test, additionally, VEWs -30 and -32 (exterior sub-system) also indicated connections to SIW-01 (**Figure 2.6**).

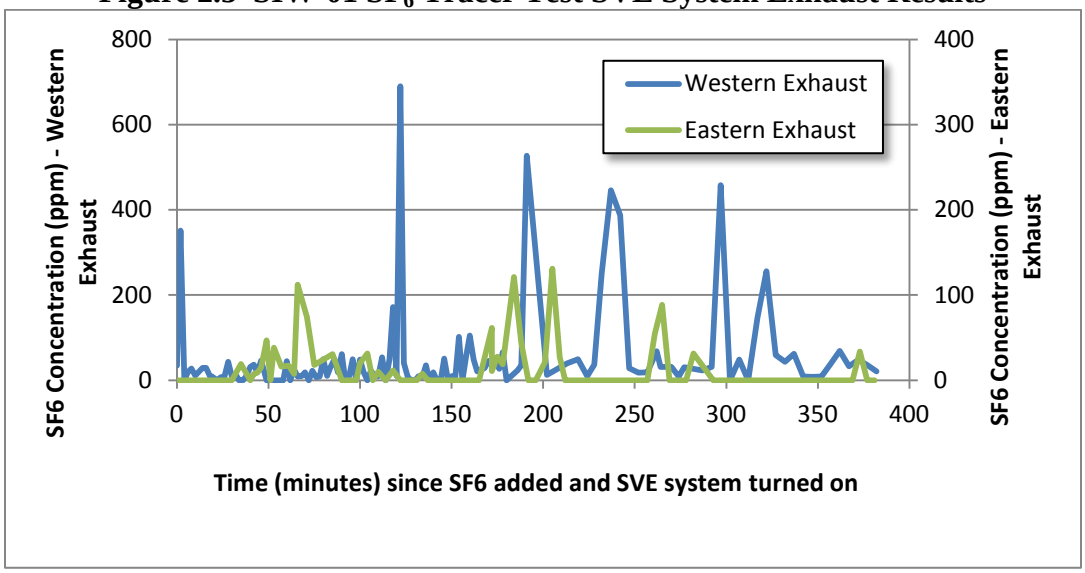
Results from individual western system VEWs suggested a good correlation between the western system exhaust and exhausts from VEWs in the shallow sub-system and little response from VEWs included in the deep sub-system. **Figure 2.7** presents results from selected western system VEWs during SIW-01 tracer testing.

2.4.4.2 Infiltration Gallery Test

Results from the application of SF_6 within the middle treatment zone of the infiltration gallery suggest a significant connection between the middle treatment zone and shallow VEWs in the western SVE system. Western deep and eastern system VEWs generally did not indicate the presence of SF_6 (**Figure 2.8**). The few detections of SF_6 that were observed in deep sub-system VEWs in the western system and in eastern system VEWs (sub-slab or exterior) were observed shortly after system start up. SF_6 was identified in the western system exhaust immediately after the SVE systems were turned on, and after a slight (10 minute) delay in the eastern system exhaust. Multiple high SF_6 concentration (greater than 200 ppm) peaks were detected within the western system exhaust through the first 90 minutes of SVE system operation (western system) before tapering off (**Figure 2.9**).

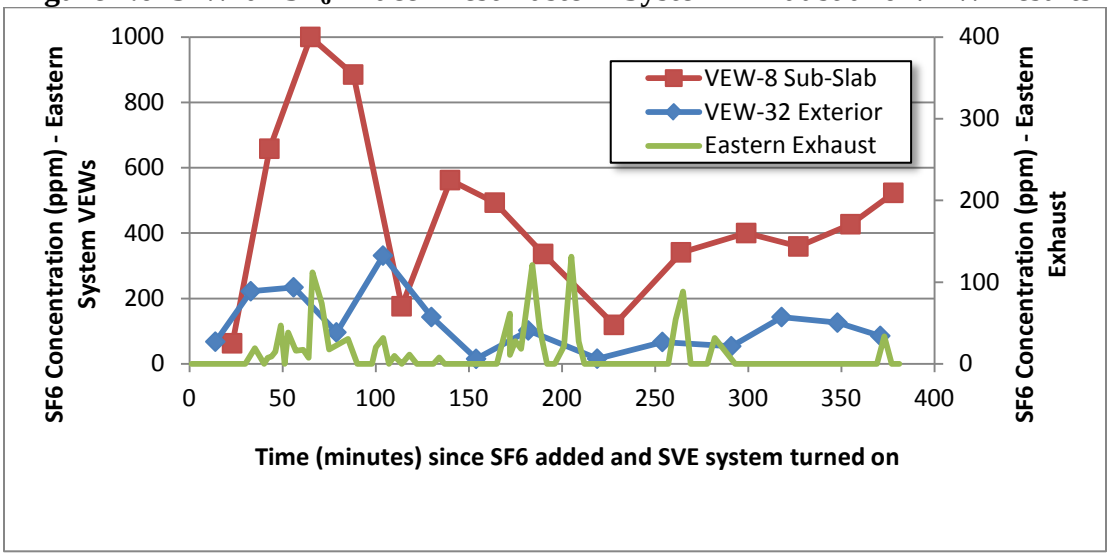
It is suspected that the dominance of SF_6 recovery by western system VEWs indicates that fractures or other flow path features are more open or more directly connect the shallow VEWs on the west side of the trench, such that the vacuum generated during operation can easily overcome the pull associated with eastern system operation.

Figure 2.5 SIW-01 SF_6 Tracer Test SVE System Exhaust Results



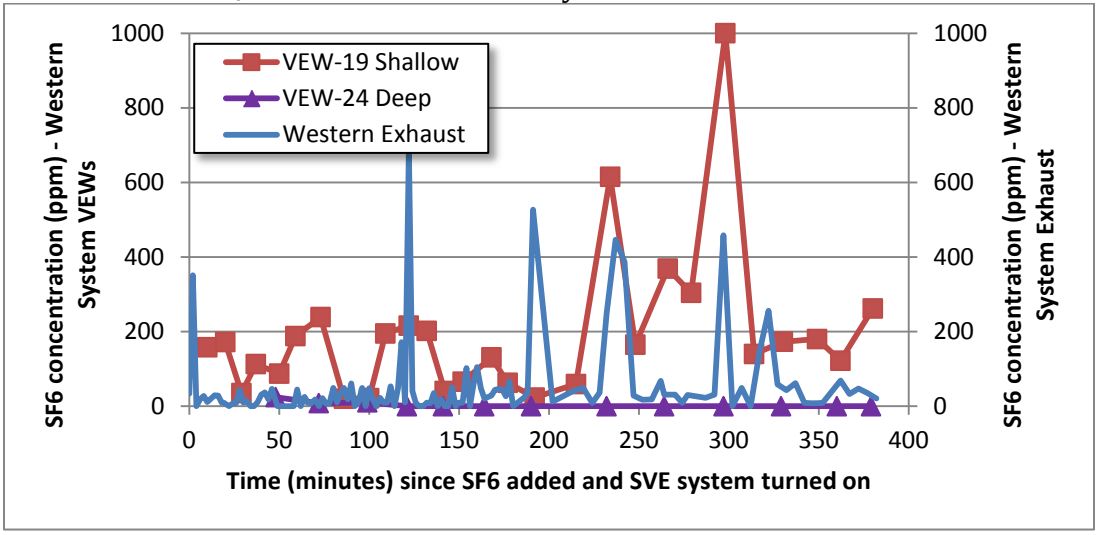
Continuous monitoring of SVE system exhausts following SIW-01 tracer gas application indicate connections exist between SIW-01 and both eastern and western SVE systems (as noted by peaks in SF_6 concentrations within exhausts).

Figure 2.6 SIW-01 SF_6 Tracer Test Eastern System Exhaust and VEW Results



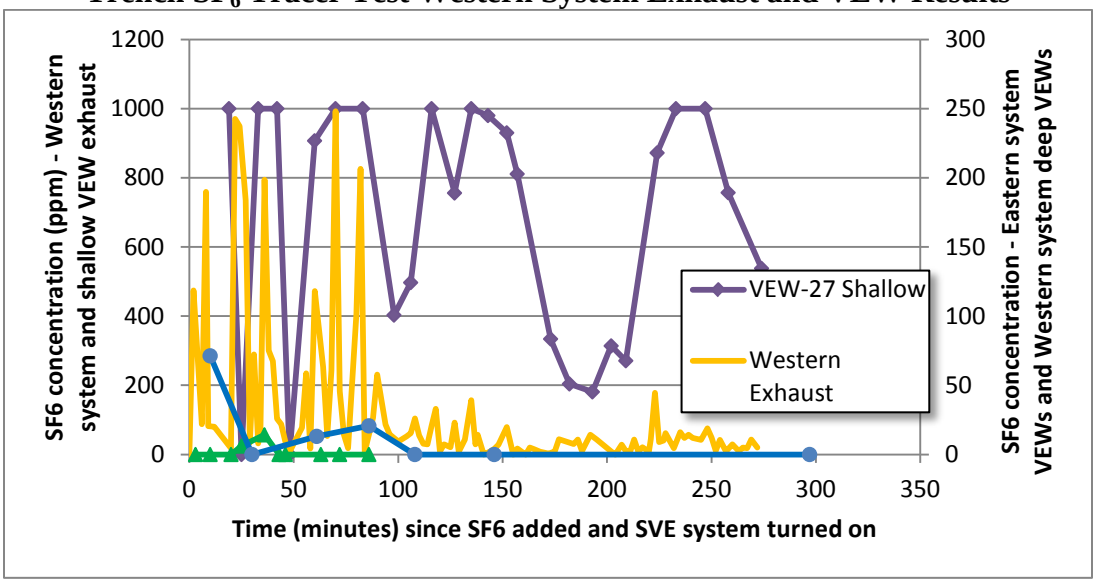
Results from two of the eastern system VEWs during SIW-01 application indicate that although SF_6 may be detected at individual VEWs, those detections do not necessarily correlate with the eastern system exhaust detections. SF_6 detection within VEW-8 at the 70 minute mark may be responsible for Eastern Exhaust peak detection.

Figure 2.7
SIW-01 SF_6 Tracer Test Western System Exhaust and VEW Results



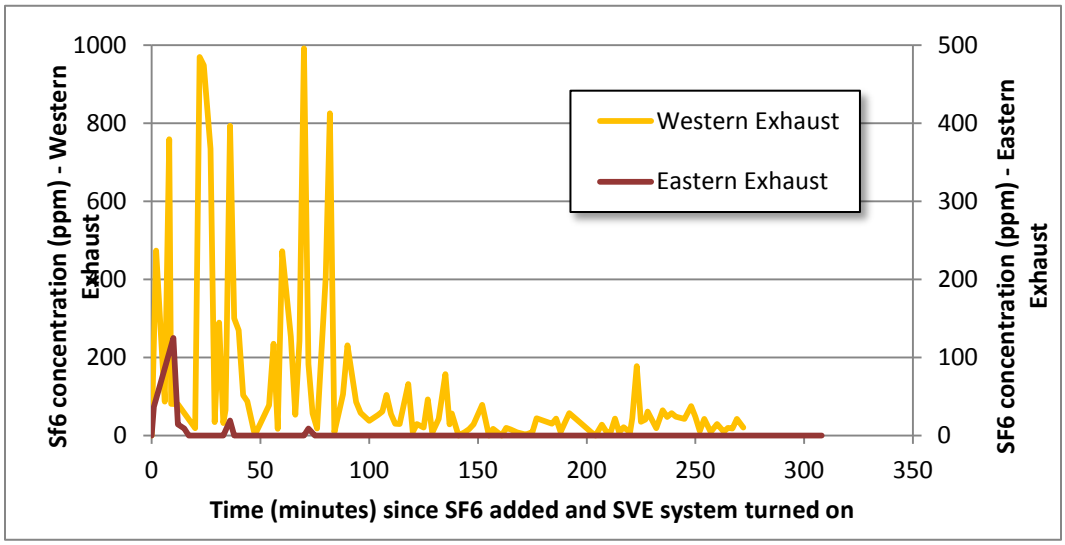
Following application in SIW-01, SF_6 was detected in the western system exhaust. Detections from shallow, western system VEWs indicate some correlation with exhaust detections (i.e., VEW-19 at ~230 and 300 minutes), while few detections were observed in deep VEWs, suggesting that direct paths between SIW-01 and deep, western system VEWs are less common.

Figure 2.8
Trench SF_6 Tracer Test Western System Exhaust and VEW Results



Results from middle treatment zone application indicate a near immediate response within the western system exhaust, in particular within shallow VEWs. Western system deep VEWs and eastern system exterior VEWs indicate fewer and less pronounced detections.

Figure 2.9 Trench SF_6 Tracer Test SVE System Exhaust Results



System exhaust results following SF_6 application within the middle treatment zone of the infiltration gallery suggest the western system VEWs are better connected to the trench than eastern system VEWs, or the vacuum applied by the western system is greater than the vacuum applied by the eastern system.

SECTION 3
ISCO CHEMICAL SELECTION

3.1 GENERAL

The chemical oxidation process involves increasing the oxidation state of a substance (e.g., chlorinated solvents) by introducing an oxidant. The targeted substance(s) are then transformed into new compounds that are less harmful than the originals. Oxidation of the substance may occur by the addition of an oxygen atom, the removal of a hydrogen atom, and/or the removal of electrons without the removal of a proton from the target compound.

ISCO requires the injection of an oxidant into the subsurface so that a redox reaction between the oxidant and the target compound takes place, oxidizing the target compound into benign compounds. An assessment of potential oxidants for implementation at AOC-65 included the review of several different types commonly used in environmental remediation applications. Permanganate, Fenton's, persulfate, and ozone are a few of the more commonly used ISCO chemical oxidants. Each of these oxidants will oxidize contaminants differently based on the stochiometry of the redox reaction between the oxidant and contaminant. The oxidants differ in type of reaction, speed of reaction, and oxidant persistence.

Permanganate (MnO_4^-) oxidation involves electron transfer to oxidize contaminants. Oxidation in this manner has a relatively slow reaction rate, which is essential for greater dispersal from the injection site and thus, a larger treatment area. The use of permanganate at AOC-65 was rejected due to the potential to precipitate $MnO_{2(s)}$. Accumulated $MnO_{2(s)}$ within the aquifer will cause an overall reduction in aquifer permeability, and negatively impact the mass transfer at dissolved-phase and liquid-phase contaminant interfaces.

Fenton's oxidation generally involves combining a hydroxyl radical (OH), produced from an intermediate reaction of hydrogen peroxide (H_2O_2) and ferrous iron (Fe(II)), with the contaminant. The OH oxidizes the contaminant by stripping off one of its electrons in order to return to a more stable hydroxyl ion. Persistence of Fenton's in the subsurface is generally low as the oxidant is generally consumed within minutes to hours after injection. In general, the reaction rates for Fenton's oxidation are very fast, thus the transport distance away from the site of formation is very limited. Fenton's oxidation was rejected due to the small area of achievable treatment caused by fast reaction times and low persistence within the aquifer. Additionally, Fenton's oxidation is exothermic and could potentially pose a risk to installed remediation assets. Finally, the release of oxygen as a byproduct of the oxidation reaction has the potential to increase subsurface pressure and facilitate pneumatic transport of contaminated groundwater away from the injection site(s).

Ozone oxidation involves injecting a mixture of air and ozone into the subsurface. Ozone injections can either be above or below the water table. Once injected, the air and ozone flow upward through the saturated zone, and contaminants are volatilized into the air or are oxidized

directly or indirectly via reactions associated with ozone. The delivery system is similar to an air sparging system with an additional ozone generator and compressor. Recovery of volatile emissions produced during ozone oxidation is generally accomplished using an SVE system, and therefore would be subject to the same shortcomings as the SVE systems previously employed at CSSA. As such, ozone oxidation was rejected.

The evaluation of basic oxidant characteristics led to the conclusion that sodium persulfate is the most suitable oxidant for application at AOC-65 for several reasons (**AOC-65 Technology Assessment Report**, **2011**). First, sodium persulfate is more stable than many other oxidants used in ISCO applications, like ozone and hydrogen peroxide, yet has a relatively high oxidation potential (2.1V). Similarly, the sulfate radical is more stable than the hydroxyl radical upon catalysis. Sodium persulfate has a high solubility, and the densities of persulfate solutions are greater than water which allows for more effective vertical transport in fractures. The reaction rate for persulfate is generally slow, up to a few weeks. The slow reaction rate/long persistence of persulfate also allows for greater dispersal and thus, may affect a greater volume of contaminated media. Finally, use of sodium persulfate is less likely to leave undesirable reaction products, mobilize naturally occurring metals, or precipitate solids and foul the formation, than many other potential oxidants. The direct oxidation of PCE in contact with sodium persulfate is given by:

$$Na_2S_2O_8^{2-} + C_2Cl_4 + 4H_2O \rightarrow 2CO_2 + 2SO_4^{2-} + 8H^+ + 4Cl^- + 2Na$$

Where $Na_2S_2O_8^{2-}$ (sodium persulfate), C_2Cl_4 (PCE), and water are the reactants. The reaction results in the destruction of PCE with the addition of an oxygen atom and formation of carbon dioxide, as well as the additional products sulfate and chloride and the release of hydrogen and sodium.

Persulfate may be catalyzed to form the sulfate radical ($\cdot SO_4^-$), which has a greater oxidation potential (2.6V) than the persulfate anion $S_2O_8^{2-}$. Catalysis may be accomplished in a number of ways including: increasing temperatures, photo (UV) activation, addition of general activators like ferrous iron (Fe (II)), copper, silver, manganese, cerium, and cobalt, with base conditions, or with H_2O_2. At AOC-65, alkaline activation was selected because it is least likely to mobilize or precipitate metals, and the activator used (NaOH) has a density similar to the persulfate solution in that it is denser than water and therefore, will remain mixed with the persulfate solution once injected. For alkaline activation of persulfate, the pH of the soil and groundwater must be maintained between 10.5 and 12. As the persulfate decomposes, acid is generated which must be neutralized in order to maintain the optimal pH range. Additionally, the natural buffering capacity of the soil and bedrock must be overcome. Acids are neutralized and buffering capacity is overcome and ideal pH conditions are sustained with the addition of sodium hydroxide (NaOH).

When the sodium persulfate is activated with the addition of sodium hydroxide, and the sulfate or hydroxyl radicals are formed, the oxidation of PCE is given by:

$SO_4^{\bullet -} + C_2Cl_4 \rightarrow 2CO_2 + 4Cl^- + S$

$8OH^{\bullet -} + 2C_2Cl_4 \rightarrow 4CO_2 + 8H^+ + 8Cl^-$

Where $SO_4^{\bullet -}$ is the sulfate radical and $OH^{\bullet -}$ is the hydroxyl radical and S is sulfide.

Klozur® persulfate, manufactured by FMC, was selected for use at AOC-65 for the following reasons:

- Klozur persulfate is effective at treating the primary contaminants of concern (PCE and TCE) and associated natural attenuation byproducts (cis-DCE, trans-DCE, and vinyl chloride) found at AOC-65.
- Contaminants are distributed both laterally and vertically within a fractured limestone aquifer at AOC-65, and the physical and chemical properties of Klozur persulfate allow for more contact time with contaminants.
    - Persulfate has a density greater than water, such that, when injected, will follow vertical preferred paths similar to the contaminants of concern.
    - Persulfate has a relatively long reaction time (several weeks) which, when coupled with the density driven transport, allows the persulfate to permeate further from the injection site and react with contaminants in a larger volume for a longer period of time.
- The Klozur sodium persulfate reaction byproducts are less likely than other oxidizers (e.g., permanganate) to precipitate within the aquifer and result in a reduction of aquifer transmissivity.
- The activation chemistry (high pH) allows for the simultaneous injection and more complete activation of the persulfate solution versus the following alternative activation methods:
    - Thermal activation: effectiveness is limited by the heat capacity of the limestone.
    - Peroxide: activation is very rapid, limiting the distribution of activated persulfate.
    - General activator (e.g. Fe(II)) addition: may result in the mobilization of metals.

3.2 BENCH-SCALE TESTING

Chemical oxidants are not specific as to what they will oxidize. As a result, activated persulfate will not only mineralize the contaminant of concern, but a portion of the oxidant will be used in oxidizing soil organics, metals, and organic species that are naturally occurring. In addition, activated persulfate will undergo auto-decomposition as a function of temperature, concentration, and activation method. Quantification of the oxidant demand from all these components is necessary to develop appropriate persulfate and activator dosing for field applications during treatability testing.

Bench-scale testing was conducted following the selection of type of oxidant (Klozur®), activation method (high pH), and completion of infiltration gallery construction. Materials used in infiltration gallery construction and unimpacted bedrock samples were key components for determining the natural oxidant demand likely to be encountered at AOC-65. Collection of intact bedrock core samples for the bench-scale tests was required to more accurately determine the natural oxidant demand encountered within the fractured aquifer. In fractured or karst aquifers, the majority of groundwater flow is transmitted within fractures or conduits, while the matrix porosity of the host rock acts primarily as storage. Klozur demand tests are typically conducted using unconsolidated samples. At CSSA, intact core samples were used for the Klozur demand tests to more closely reflect the limited surface area that would be encountered by an injected fluid following the preferred flow paths within a fractured bedrock aquifer (low storage and high transmissivity). In contrast, an unconsolidated or crushed sample would reflect the characteristics of an aquifer existing within the inter-granular pore spaces of the matrix (higher storage and lower transmissivity). Thus, due to the oxidant's contact with a much greater surface area per sample volume than that of an intact core, the use of a crushed sample may result in a greater oxidant demand than is likely to occur at AOC-65.

Bench-scale testing was essential to determine the appropriate dosage requirements for field-scale application of ISCO at AOC-65. Core samples were collected using a CME-75 air-rotary drilling rig from correlative and stratigraphically similar section of the same lithologic unit (Upper Glen Rose [UGR]) encountered at AOC-65, though not impacted by chlorinated solvents, for bench-scale testing. The core samples along with unimpacted groundwater from an on-post supply well (CS-10) were submitted for Klozur Demand Testing (KDT) performed by FMC. A total of six 1,000 gram samples underwent KDT testing including: two intact cores, one crushed core, materials from infiltration gallery construction (one clay and one gravel), and one composite sample of clay, gravel, and crushed bedrock material. The KDT analysis measures the loss of persulfate in the presence of soil, groundwater, and activator over 48 and 96 hours.

Results from the KDT tests indicated persulfate demands of 0.418 and 0.555 g/kg after 48 and 96-hour exposures, respectively, and an average soil oxidant demand of 0.49 g/kg for the intact core samples. Construction material samples indicated minimal oxidant demands. Additionally, acid neutralization demand (12.7 gallons 25% NaOH per 100 pounds of Klozur sodium persulfate) and soil buffering capacity (3.81 gallons per 100 pounds of Klozur sodium persulfate) were determined. Based on these results, FMC recommended the use of 20% Klozur solution activated with 25% sodium hydroxide at a ratio of 1 gallon of 25% NaOH to 3.19 gallons of 25% sodium persulfate solution. KDT analytical reports are provided in **Appendix C** as well as Material Safety Data Sheets (MSDS) for Klozur sodium persulfate and NaOH.

SECTION 4
AOC-65 ISCO DRILLING ACTIVITIES

4.1 GENERAL

This section describes efforts associated with monitoring and injection well drilling and installation, plug and abandonment activities, and coring activities related to the ISCO treatability study at AOC-65. Locations of ISCO related drilling activities, including coring and monitoring and injection well installation, are provided in **Figure 4.1**.

4.2 CORE SAMPLING

Coring was conducted to provide samples of uncontaminated bedrock for bench-scale testing. Multiple samples of the bedrock surface were collected from a freshly exposed area approximately 1,500 feet to the southeast of AOC-65. This area was free of VOC contamination and the bedrock lithology in this area is similar to that encountered at AOC-65. Cores were collected from six locations, approximately 15 feet below grade. Four of the core samples were submitted for bench-scale testing. Three of the samples included 1,000 grams of bedrock from coring, 2 of which remained intact; the third was crushed at the lab prior to testing. The fourth core sample was submitted as part of a composite sample which included equal parts (333 grams) of intact core and infiltration gallery construction materials (clay and gravel).

4.3 INSTALLATION OF TREATABILITY STUDY WELLS

Although many potential monitoring points (VEWs) are distributed around AOC-65, seven additional treatability study wells were necessary to monitor fractures and other potential flow paths identified during the fracture analysis described in Section 2. These wells were located such that it was likely they would intersect likely flow paths (based on fracture trend analyses), and/or in areas where well coverage was minimal (TSW-05 and TSW-06) (**Figure 4.1**).

4.3.1 TSW Drilling

Monitoring well installation at each location began with the establishment of a safety and quality assurance/quality control (QA/QC) exclusion zone around the drilling rig and work area. A containment area consisting of 2 feet by 10 feet wood planks and heavy gauge plastic sheeting was constructed to surround the wellhead and drilling table to capture drilling fluids and solid cuttings.

TSWs were drilled by GeoProjects International, Inc. (GPI) using air rotary methods in accordance with the Sampling and Analysis Plan (SAP). Non-chlorinated water used for fluid injection during drilling was obtained from CSSA water supply well CS-10. Drilling through dry

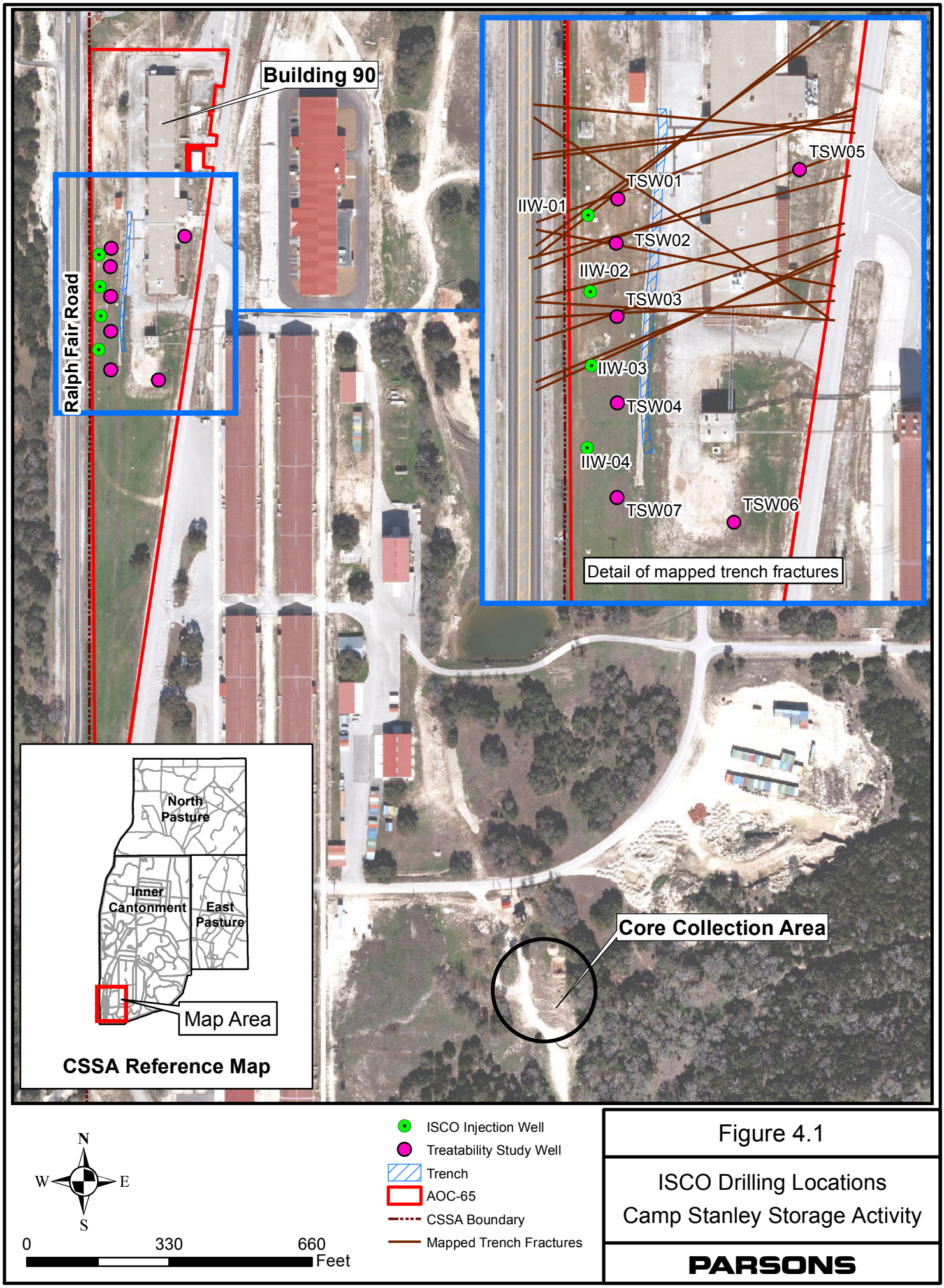


Figure 4.1

ISCO Drilling Locations
Camp Stanley Storage Activity

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portions of the limestone formation required small amounts of injected water for lubrication, cooling, and to assist in lifting drill cuttings to the surface. Boreholes were drilled with a 7-$^{7}/_{8}$ inch diameter tri-cone roller bit to their total depths. Continuous observation of cuttings was performed to provide indication of unusual or unexpected changes in rock characteristics.

Drilling depths for the TSWs were anticipated to range between 35 and 45 feet bgs, and terminate within the lower portion of the UGR Formation. Final total depths (TDs) are provided in **Table 4.1**. Once the TDs were reached, the boreholes were developed to remove as much sediment and debris as possible. The boreholes were then logged using gamma and resistivity geophysical tools, and caliper.

Results from initial groundwater sampling at these wells indicate higher concentrations of PCE and TCE near the suspected point of release at TSWs -01 and -03 than TSWs located further south and/or east (Figure 4.1). TSW-02 was dry and therefore, no sample was collected.

Table 4.1 ISCO Treatability Study Well Statistics

Well ID	Drilling Dates		Total Depth	Screen Interval
	Started	Completed	(ft. bgs)	(ft. bgs)
TSW-01	6/5/2012	6/7/2012	40.5	10 - 40
TSW-02	6/5/2012	6/7/2012	40.5	10 - 40
TSW-03	6/5/2012	6/11/2012	40.5	10 - 40
TSW-04	6/6/2012	6/11/2012	40.5	10 - 40
TSW-05	6/6/2012	6/11/2012	40.5	10 - 40
TSW-06	6/6/2012	6/12/2012	50	19 - 49
TSW-07	6/6/2012	6/11/2012	40.5	10 - 40

4.3.2 TSW Waste Disposition

All fluid and solid IDM from TSW drilling efforts was disposed according to ***CSSA RCRA Facility Investigation and Interim Measures Waste Management Plan (Volume 1-1, Work Plan)*** approved by USEPA and TCEQ. Fluids were captured in the containment pits then collected and transported by vacuum truck to the SWMU B-3 bioreactor for on-site treatment. All solid media were analyzed for the full list of VOCs using the USEPA 8620B method. All solid media were below Texas Risk Reduction Program (TRRP) Tier 1 residential protective concentration levels (PCLs), and the media were used to augment the East Pasture Berm. Summary tables of IDM sample results are provided in **Appendix A**.

4.3.3 TSW Installation

Well construction for the TSWs included the installation of nominal 4-inch inside diameter (ID) Schedule 40 polyvinyl chloride (PVC) risers and screens. Well screens have 0.040-inch slot size (40-slot) and are typically 30 feet in length. The annular space was filled with a filter pack

from the base of the borehole to 2 feet above the screened interval. A 100 percent sodium bentonite seal with a maximum thickness of 5 feet was emplaced above the filter pack. Portland grout was added via a tremie pipe filling the annual space from the top of the bentonite seal to the surface. The TSWs are completed with 4-foot square concrete pads and 12-inch diameter traffic rated flush mount protective covers. The wells were developed following the installation of well materials, and allowing for a 48-hour grout curing period. Typical TSW construction details are presented in **Figure 4.2**. Well completion reports and boring logs are provided in **Appendix D**.

4.4 WELL PLUGGING AND ABANDONMENT

The following plugging and abandonment and well modification activities were conducted as described below:

- Plugging and abandonment of three VMPs
- Modification of two SIWs
- Plugging and abandonment of twelve VEWs

Wells located near the area impacted by IRA (trenching) activities were identified as at risk to damage from operating the trenching equipment along the proposed excavation. Wells involved in this plug and abandonment effort included VMP-3, VMP-4A, and VMP-6. Additionally, modifications to existing steam injection wells SIW-01 and -02 were required as both of which contained perforated iron pipes installed within well casings to facilitate steam injection. The iron pipe stingers installed in these wells would likely be damage or destroyed by the chemicals used during ISCO injection.

The construction of VMPs includes several intervals of short (1-foot) sections of screen connected to tubing that extends to the well head; each section of screen included a sand pack and bentonite seal. This style of construction allowed discrete interval monitoring of soil vapors, however, due to this construction style, conventional means of plugging and abandonment is not possible, thus, a drill rig was used to drill out the installed well materials. Over-drilling the VMPs effectively broke up the installed well materials within each borehole, and brought the debris to the surface, which was collected and subsequently disposed. With the borehole clear of well materials, Portland cement was applied via a tremie pipe and the borehole was plugged. Plugging reports submitted to the Texas Department of Licensing and Regulation (TDLR) are provided in **Appendix D**.

SIW-01 is located within the concrete lined pit that once contained a solvent vat, and the area beneath the pit is a potential source of contamination, and therefore, an area targeted for ISCO application. To facilitate ISCO application within this well, the existing 8-inch diameter steel well casing required isolation from injected ISCO chemicals to ensure the steel casing remained undamaged during ISCO injections. A 2-inch diameter 13-foot long section of PVC

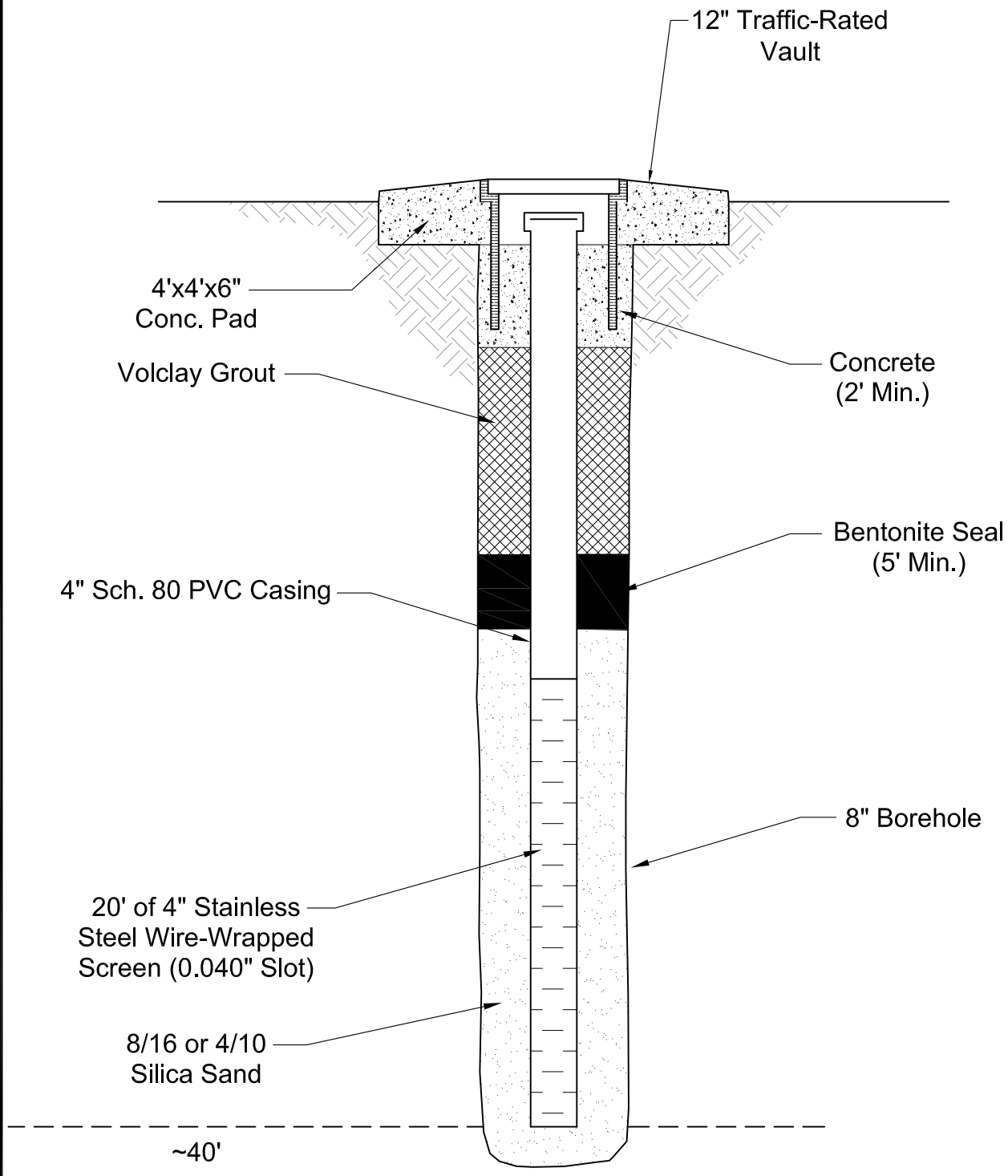

Figure 3.1

Typical Monitoring Well Design

Camp Stanley Storage Activity

Not to Scale

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RESTORATION/DRILLING 2011 CSSA-TYPMW.DWG 2/16/11

well casing was inserted into the well with an inflatable tube-style packer that, when inflated below the steel casing, sealed the open portion of the borehole from the steel cased portion. The installed PVC casing terminates above the Building 90 floor level with a new wellhead composed of PVC fittings threaded into a stainless steel flange and includes a threaded PVC end cap. The modifications to SIW-01 are depicted in **Figure 4.3**. Similarly, SIW-02 also included a perforated iron stinger, and due to its proximity to the infiltration gallery, required removal. No other modifications to the well were necessary.

The second plug and abandonment effort was completed in September 2012 following the first application of ISCO chemicals. Twelve VEWs (VEW-01 – 12) located inside Building 90 were plugged after analysis of SVE system data indicated limited system effectiveness and all vapor extraction system operations at AOC-65 were ceased. The plugging reports for these twelve VEWs are provided in **Appendix D**.

4.5 INSTALLATION OF ISCO INJECTION WELLS

Data collected following the initial ISCO injection indicated significant increase in VOC concentrations at a few of the performance monitoring points located between the infiltration gallery and the western CSSA fenceline within AOC-65. The mobilization of VOCs following ISCO application raised concerns that these elevated concentrations may migrate off-post as the ISCO treatment front progresses away from the point of injection. In an effort to mitigate the contamination migration, four ISCO injection wells (IIWs) were installed. These IIWs were located between the infiltration gallery and the CSSA property boundary (**Figure 4.1**). ISCO solution injected into these wells forms as a secondary oxidation treatment area which VOCs mobilized during injections in trench treatment zones have to pass through prior to off-post migration.

4.5.1 IIW Drilling

Each of the IIWs were drilled by GPI using air rotary methods in accordance with the SAP, in a manner similar to that described in Section 4.3.1.

Drilling depths for the IIWs were anticipated to terminate near a somewhat wetter, more productive interval located approximately 125 feet bgs within the Lower Glen Rose (LGR). Final total depths are provided in **Table 4.2**.

Table 4.2 ISCO Injection Well Statistics

Well ID	Drilling Dates		Total Depth	Screen Interval
	Started	Completed	(ft. bgs)	(ft. bgs)
IIW-01	5/16/2013	5/16/2013	125	Open Hole
IIW-02	5/16/2013	5/16/2013	125	Open Hole
IIW-03	5/15/2013	5/15/2013	125	Open Hole
IIW-04	5/14/2013	5/14/2013	125	Open Hole

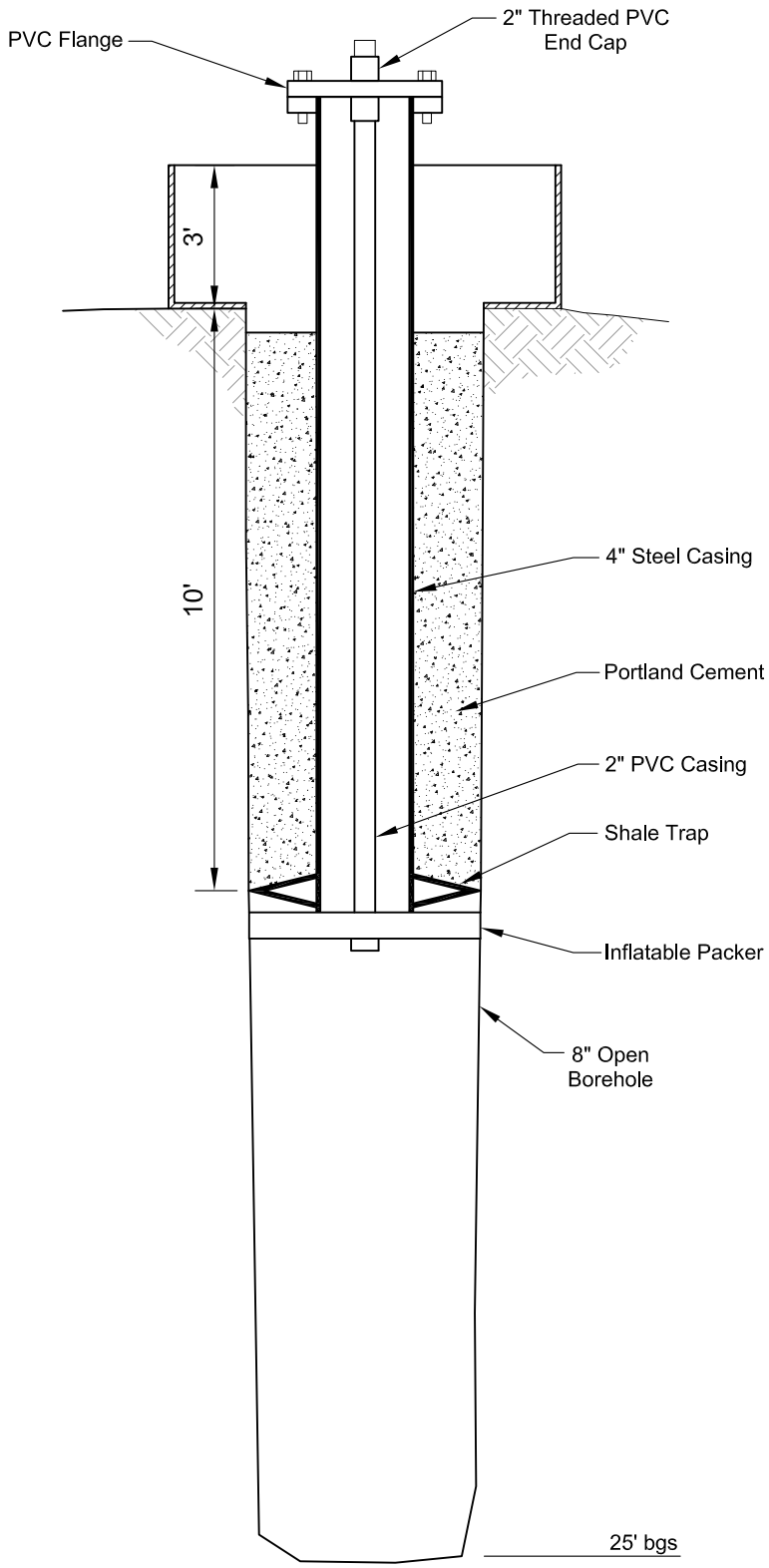

Figure 4.3

SIW-01 Modified for ISCO Injection

Camp Stanley Storage Activity

Not to Scale

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747781 CSSA-SIW01.DWG 10/2/13

4.5.2 IIW Waste Disposition

All fluid and solid IDM from IIW drilling efforts was disposed according to ***CSSA RCRA Facility Investigation and Interim Measures Waste Management Plan (Volume 1-1, Work Plan)*** approved by USEPA and TCEQ. Fluids were captured in the containment pits then collected and transported by vacuum truck to the SWMU B-3 bioreactor for on-site treatment. Drill cuttings were analyzed for the full list of VOCs using the USEPA 8620B method. All solid media were below TRRP Tier 1 residential protective concentration levels (PCLs), and the media were used to augment the East Pasture Berm. Summary tables of IDM sample results can be found in **Appendix A**.

4.5.3 IIW Installation

Well construction for the IIWs included the installation of nominal 4-inch ID Schedule 40 PVC surface casing with a standard dimension ratio (SDR) of 17 from 10 ft bgs to the surface. The remainder of the well was left open-borehole to maximize exposure to fractures or other flow path features. The IIWs are completed with 4-foot square concrete pads and 12-inch diameter traffic rated flush mount protective covers. Typical IIW construction details are presented in **Figure 4.4**. These injection wells were designed to create a subsurface barrier of activated persulfate when ISCO solution is injected, thus should contaminants be mobilized during injections within the infiltration gallery; there is additional opportunity for these contaminants to be oxidized prior to off-post migration. Well completion reports and boring logs for IIWs are provided in **Appendix D**.

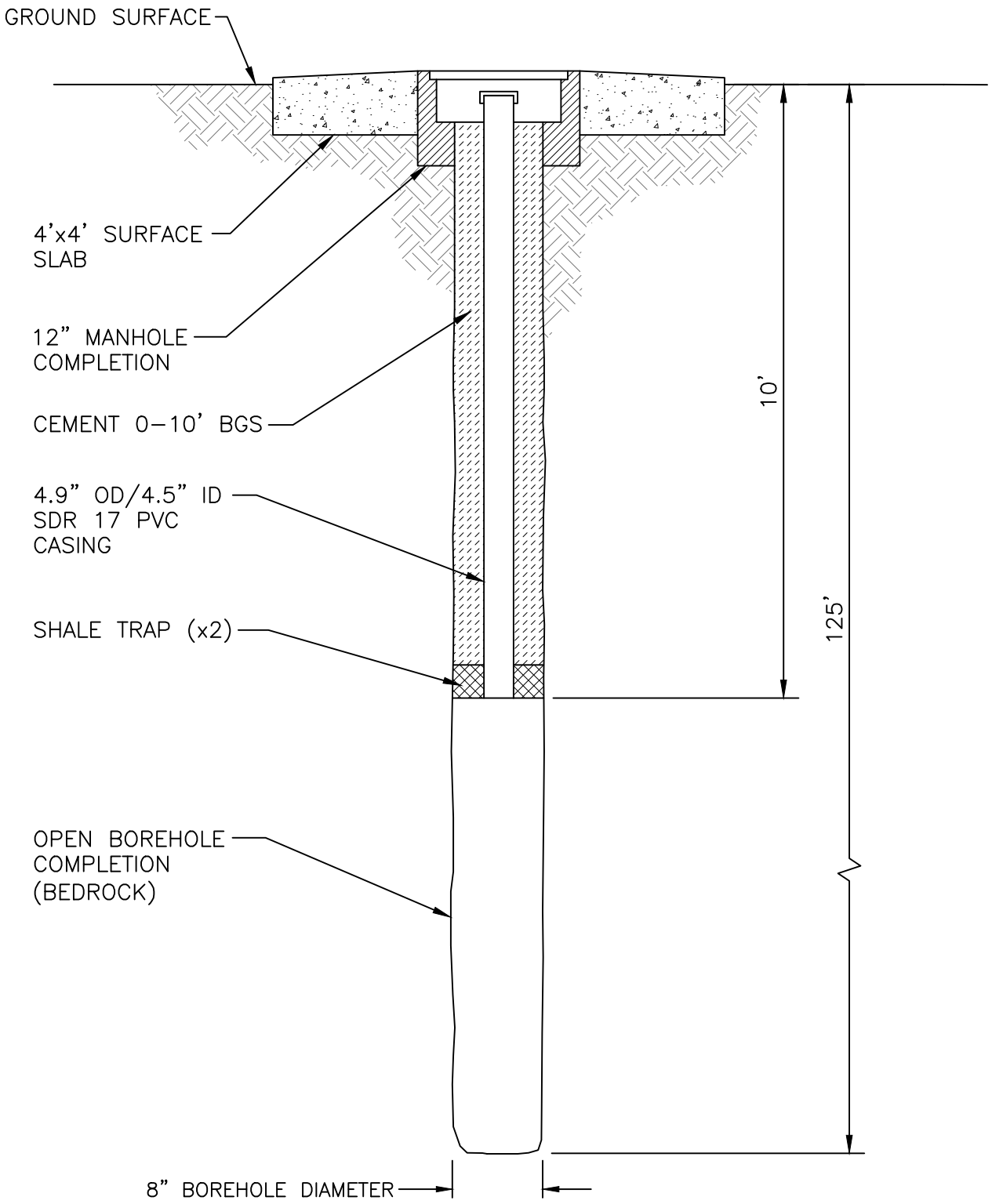

Figure 4.4

Typical ISCO Injection Well Design
IIW-01 through IIW-04

Camp Stanley Storage Activity

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SECTION 5
ISCO MONITORING

5.1 GENERAL

Westbay wells, monitoring wells, and vapor extraction wells make up the ISCO monitoring network at and around AOC-65. The majority of these wells were designed and installed prior to ISCO injections as part of the groundwater monitoring program at CSSA or for SVE treatability studies. Seven new wells were installed specifically for ISCO monitoring following infiltration gallery installation. Within AOC-65, the monitoring network is comprised of wells completed in the UGR (VEWs and one zone of each of the on-post Westbay wells) as well as the LGR (Westbay wells and LGR monitoring wells). Off-post private water supply wells were also monitored. Off-post private supply wells, monitoring wells, and an additional Westbay well are primarily completed in the LGR Formation.

5.2 MONITORING

ISCO treatability study progress monitoring included baseline and post-injection sampling. Baseline sampling occurred prior to ISCO application events. Post-injection sampling events occurred 30, 60, 90, and 120 days following the start of ISCO injections and continued on a quarterly basis thereafter. Quarterly sampling was conducted at required regulatory monitoring locations as well as performance monitoring locations. In addition to collecting groundwater samples, field testing for persulfate and collection of field parameters, including pH was completed at on-post wells and VEWs weekly during the first month, then monthly until the last scheduled sampling event (120 days following injections) followed by quarterly ISCO monitoring events.

5.2.1 Monitoring Locations

Monitoring locations fall into three categories based on the type and frequency of sampling. Baseline sampling is all inclusive; thus, all available AOC-65 monitoring locations as well as required regulatory monitoring locations were sampled if conditions allowed (Figure 5.1). Regulatory and performance monitoring locations identified in Figure 5.2 included on and off-post monitoring wells, Westbay wells, and private water supply wells. Performance monitoring locations included monitoring wells within AOC-65. These three monitoring location categories were sampled regularly for various sampling events associated with ISCO injection monitoring, including: baseline sampling locations, regulatory monitoring locations, and optional performance monitoring locations and are presented in Table 5.1. At the minimum, sampling was conducted at each of the regulatory required monitoring locations if site conditions allowed during each sampling event.

Table 5.1

ISCO Treatability Study Monitoring Location Categories

Off-Post Supply Wells
RFR-10
RFR-11
OFR-3
LS-5
LS-6
LS-7

Off-Post Monitoring Wells
I10-4
WB04 (11 zones)

Westbay Wells	
Zone Breakdown	
Zones:	
UGR-01	
LGR-01	WB01, 02, & 03
LGR-02	LGR-09
LGR-03	UGR-01
LGR-04	LGR-01
LGR-05 (WB01, 02, & 03 only)	
LGR-06	WB04
LGR-07	LGR-11
LGR-08	
LGR-09	
LGR-10 (WB04 only)	
LGR-11 (WB04 only)	

On-Post Monitoring Wells
CS-MW6-LGR
CS-MW7-LGR
CS-MW8-LGR
CS-MW36-LGR
PZ-01
PZ-02
PZ-03
PZ-04
PZ-05
PZ-06
TSW-01
TSW-02
TSW-03
TSW-04
TSW-05
TSW-06
TSW-07
WB01 (9 zones)
WB02 (9 zones)
WB03 (9 zones)

On-Post Vapor Extraction Wells
VEW-15
VEW-16
VEW-17
VEW-18
VEW-19
VEW-20
VEW-21
VEW-22
VEW-23
VEW-24
VEW-25
VEW-26
VEW-27
VEW-28A
VEW-28B
VEW-29
VEW-30
VEW-31
VEW-32
VEW-33

Notes:

1. All wells/WB zones sampled during Baseline sampling event(s).

2. Regulatory required sample locations.

3. Performance sampling locations.

4. Field parameters may be collected at PZ, TSW, and VEW locations periodically.

VEW21
VEW20
PZ06
VEW15
PZ01
VEW29
VEW16
VEW19
VEW30
SIW01
VEW22
VEW31
VEW28
SIW02
TSW05
VEW23
VEW13
VEW32
VEW33
TSW01
WB03
CS-MW36-LGR
VEW24
VEW27
TSW02
VEW17
VEW25
VEW14
VEW18
TSW03
VEW26
TSW04
CS-MW6-LGR
PZ04
PZ03
I10-4
TSW07
TSW06
PZ02
CS-WB02
CS-MW7-LGR
PZ05
CS-MW8-LGR
CS-WB01
RFR-10
CS-WB04
OFR-3
RFR-11
LS-7
LS-5
LS-6

N
W
E
S

0 200 400 800
Feet

Monitoring Locations
Trench

Figure 5.1

AOC-65 ISCO
Monitoring Locations
Camp Stanley Storage Activity

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5.2.2 Sample Collection

Several sampling methods were required to obtain samples from the various types of wells included in the ISCO monitoring network. The monitoring network includes monitoring wells with or without QED Environmental Systems (QED) pumps installed, Westbay multi-port monitoring wells, VEWs, piezometers, and water supply wells with submersible electric pumps and granular activated carbon (GAC) filters. Samples were collected with dedicated disposable poly bailers, Westbay equipment or installed pumps. Pre-GAC samples were collected at GAC-equipped supply wells.

5.2.3 Sample Analyses

Samples collected during ISCO treatability study activities were analyzed for VOCs, Priority Pollutant Metals and anions (sulfate and chloride) using USEPA methods SW8260B, SW6010B, and SW9056 for VOCs, metals, and anions, respectively. Specific analytes for the various analytical methods are given in **Table 5.2**.

Table 5.2
ISCO Treatability Study Analyte List by Method

	Volatile Organic Compounds (short list)	**Metals**	**Anions**
Method	*SW8260B*	*SW6010B*	*SW9065*
Analytes	1,1-Dichloroethene *cis*-1,2-Dichloroethene Tetrachloroethene Trichloroethene *trans*-1,2-Dichloroethene Vinyl Chloride	Antimony Beryllium Cadmium Chromium Copper Mercury Nickel Selenium Silver Thallium Zinc	Chloride Sulfate (as SO_4)

5.2.4 Sampling Events

Three types of sampling events were conducted during scheduled ISCO monitoring: baseline, regulatory, and performance. Baseline (or re-baseline) sampling occurred prior to ISCO injections, and regulatory and performance monitoring sampling events were conducted 30, 60, 90, and 120 days following the commencement of ISCO injections, then continued on a quarterly

basis until the next ISCO injection, when the cycle began anew.

5.2.4.1 Baseline Sampling

Baseline sampling included sample collection at every available monitoring location within AOC-65 including: monitoring wells, VEWs, WB wells (all zones), and piezometers as well as, on and off- post monitoring and water supply wells. Samples were analyzed for VOCs, metals, and anions described in section 5.2.3. Additionally, field parameters were collected from monitoring locations within AOC-65 (pH and water levels were collected from other monitoring locations as available).

5.2.4.2 Regulatory Sampling

Groundwater monitoring associated with the Class V aquifer remediation permit included monitoring of the LGR within the deepest available zone at Westbay wells -01 through -04 (within the LGR09 zone at Westbay wells WB01, WB02, and WB03, and within the LGR11 zone at WB04), at private water supply wells, and within LGR monitoring wells on-post. Required analyses included VOCs, Priority Pollutant metals, and sulfate. Pre-GAC samples were collected at private supply wells equipped with GAC filtration systems.

5.2.4.3 Performance Sampling

Groundwater samples collected for laboratory analysis (section 5.2.3) for performance monitoring were collected at monitoring locations near ISCO injection/application sites within AOC-65. Generally, these locations included a selection of TSWs, VEWs, shallow zones within WB wells (UGR-01 and LGR-01), and PZs. Performance monitoring at these locations also included field parameter collection (as applicable) as described in section 5.2.5.

5.2.4.4 Conditional Sampling

Although the WB04-UGR01 zone is typically dry, samples collected from this zone are of particular interest due to its proximity to RFR-10 which is the nearest off-post supply well to AOC-65 that contains PCE. This zone was scheduled to be sampled during baseline sampling events and at any time zone pressures indicated that water was present during any monitoring efforts (ISCO or groundwater). However, pressures recorded did not indicate the presence of water in this zone at any time thus, no samples were collected.

5.2.5 Additional Field Parameter Collection

Field parameters were collected using a hand-held water quality multi-parameter meter. A YSI-556 (or similar) was used to collect temperature, pH, conductivity, dissolved oxygen, and oxidation-reduction potential (ORP). Field parameters were collected at shallow monitoring locations provided there was greater than 0.5 feet of saturated thickness within the well. When insufficient saturated thickness is present, no field parameters (other than water level) are collected. For deep wells, a bailer is used to collect a sample for field parameter analysis if no pump is installed; however, if sample collection with a bailer was deemed impracticable due to

well design or configuration, no field parameters will are collected (e.g. VEW-28A). Field parameters were not collected at Westbay wells unless samples were being collected for analytical purposes.

Water levels were collected using a standard water level indicator at monitoring locations. Depth to water was measured from the top of casing, and then used to calculate water table elevations. Pressures in WB well zones were recorded for water level calculation during scheduled sampling events.

SECTION 6
ISCO INJECTION

6.1 PHASE I - ISCO INJECTION 1 – AUGUST 2012

The first ISCO injection effort at AOC-65 began on August 3, 2012 and was completed August 16, 2012. Approximately 19,800 lbs of powdered Klozur sodium persulfate mixed with 10,500 gallons of water and 3,300 gallons of 25% sodium hydroxide were distributed in the three treatment zones within the infiltration gallery and in SIW-01. Pre-injection activities consisted of baseline sample collection at all designated monitoring locations (**Section 5.2.1**) as well as field parameter analysis. Additional, sampling at regulatory and performance monitoring locations was conducted concurrently during ISCO injection on days 1, and 5 following initiation of injections and on day 15 post-injection. SVE system operations at AOC-65 were suspended during ISCO injection activities and were not resumed following the completion of injections.

6.1.1 Injection Equipment

Equipment used to complete the initial ISCO injection effort included mixing and pump skids designed and maintained by FMC Corp. (FMC). The mixing skid included a 500 gallon poly tank with stainless-steel hose connections for recirculation/injection lines. The pump skid included a stainless-steel dual diaphragm pump, eductor, and flow meters. The vane-style flow meters were used to regulate the addition of sodium hydroxide and ensure that proper oxidant/activator dosages were maintained.

Make-up water was acquired from CSSA's distribution system and accessed from a nearby fire hydrant for mixing the powdered persulfate into the 20% solution recommended by FMC. The water from CSSA's distribution system is chlorinated (concentrations ranging between 0.7 and 2.0 ppm); however, FMC technical representatives indicated that, at these concentrations, the additional persulfate demand generated by the presence of chlorine is negligible and therefore suitable for use in this application.

6.1.2 Injection Volumes and Locations

Activated ISCO solution was distributed via each of the three treatment zones within the infiltration gallery and within SIW-01 during the initial ISCO injection effort. ISCO solution was mixed in 500-gallon batches then activated while injected. Un-activated ISCO solution injection volumes for the initial injection effort are given in **Table 6.1**.

Activation of the ISCO solution occurred simultaneously with the injection of the Klozur solution. Sodium hydroxide was introduced via an eductor located on the pump skid and two vane-style flowmeters located on the pump skid (one on the sodium hydroxide add-line and the other on the pump-skid outlet line) were used to monitor volumes of persulfate and sodium hydroxide solutions while injections were conducted to maintain appropriate dosages. In addition

to activating the persulfate solution, supplementary sodium hydroxide was injected to neutralize the acids generated from the reduction of the persulfate. This additional volume is roughly equivalent to 35% of the required activation volume (**Table 6.1**).

Table 6.1 Injection 1 - Injection Volumes

Injection Location	Klozur Persulfate Solution (gallons)	Batches Klozur Persulfate Solution	Sodium Hydroxide for Activation (gallons)	Acid Neutralization Sodium Hydroxide (gallons)
Trench - Upper Zone	1,500	3	470	170
Trench - Middle Zone	5,400	10.8	1,700	610
Trench - Lower Zone	3,500	7	1,100	400
SIW-01	100	0.2	30	20
Total	10,500	21	3,300	1,200

6.2 PHASE II - ISCO INJECTION 2 – MAY 2013

The second ISCO injection effort at AOC-65 began on May 21, 2013 and was completed June 6, 2013. This effort included the application of approximately 44,000 lbs of powdered Klozur sodium persulfate mixed with 23,100 gallons of water and 8,500 gallons of 25% sodium hydroxide. Lessons learned during the first injection led to the revisions to the ISCO injection and distribution systems. Two of the changes included the use of larger 2,200 lb sacks, rather than 50 lb sacks, and the use of a larger, more automated mixing skid. Using the larger sacks and the larger mixing skid, along with a forklift to manage the sacks, minimized efforts associated with lifting and subsequently reduced potential contact with the persulfate, and allowed larger batches to be mixed, reducing overall mixing and injection time.

Data collected during post-injection sampling following the first ISCO effort indicated much higher concentrations of PCE were present in wells west of the trench than anticipated. To mitigate the movement of contaminants off-post, four 125'-deep open-borehole IIWs were installed between the property boundary and the infiltration gallery. These new IIWs were located along likely fracture paths identified from the fracture analysis and designed such that when ISCO solution is applied within these wells a "curtain" of activated persulfate is created. Thus, if additional contaminant mass is mobilized during the main ISCO injections (within the infiltration gallery treatment zones) there is additional opportunity for these contaminants to be treated before off-post migration. Pre-injection activities consisted of re-baseline sample collection at all designated monitoring locations (**Section 5.2.1**) as well as field parameter collection.

6.2.1 Injection Equipment

Because the second injection was larger, different equipment was used than that used for the first injection. To facilitate the injection of ISCO solutions into injection wells and the infiltration gallery within AOC-65, a skid mounted mixing hopper with circulation pump

(provided by FMC), an air-powered dual-diaphragm pump, a ~4,000 gallon storage tank, and two smaller (200-gallon and 65-gallon) polyethylene transport tanks were used. The dual-diaphragm pump required compressed air to pump injection fluids; thus, a gas-operated air compressor capable of 100 cfm at 100 psig was required. A forklift was used to off-load and position injection equipment and position the loaded super sack jig atop the mixing hopper. Vane-style flow meters, installed in-line up and downstream of the eductor for adding sodium hydroxide, were used to ensure proper dosages of oxidant and activator were maintained.

6.2.2 Injection Volumes and Locations

Activated ISCO solution was distributed via each of the three treatment zones within the infiltration gallery, in each of the four IIWs, and within SIW-01 during the second ISCO injection effort. ISCO solution was mixed in 1,155-gallon batches then activated via eductor prior to injection into the trench treatment zones. At each of the IIWs, 250 gallons of persulfate solution and 75 gallons of sodium hydroxide were transported in separate poly tanks and gravity fed simultaneously into wells, thereby activating within the well. At SIW-01 activated persulfate solution was pumped into a 55-gallon drum staged near the well and gravity fed from the drum into the well. Un-activated ISCO solution and sodium hydroxide injection volumes for the second injection effort are given in **Table 6.2**.

Activation of the ISCO solution occurred simultaneously with the injection of the Klozur solution. The sodium hydroxide was introduced via an eductor located on the pump skid. Two totalizers located on the pump skid (one on the sodium hydroxide add-line and the other on the pump-skid outlet line) were used to monitor volumes of persulfate and sodium hydroxide solutions and maintain appropriate dosages. In addition to activating the persulfate solution, sodium hydroxide was injected to neutralize the acids generated from the reduction of the persulfate. This additional volume is roughly equivalent to 35% of the required activation volume (**Table 6.2**).

Table 6.2 Injection 2 - Injection Volumes

Injection Location	Klozur Persulfate Solution (gallons	Sodium Hydroxide (activator) (gallons)	Sodium Hydroxide for Activation (gallons)	Acid Neutralization Sodium Hydroxide (gallons)
Trench - Upper Zone	5,407	1,770	1,310	460
Trench - Middle Zone	10,770	3,520	2,610	910
Trench - Lower Zone	8,088	2,645	1,960	685
IIW-01	250	80	60	20
IIW-02	250	80	24	8
IIW-03	250	80	6,144	2,143
IIW-04	250	80		
SIW-01	100	32		
Total	25,365	8,287		

SECTION 7
ISCO MONITORING RESULTS

7.1 GENERAL

Results from monitoring efforts associated with each of the ISCO injections are separated by analysis. Field parameter and laboratory analyses tables and figures are presented in **Appendix E**.

7.2 FIELD PARAMETERS

Application of an oxidant, in particular sodium persulfate, can result in an alteration of subsurface geochemical conditions including: pH, conductivity, and ORP. Monitoring field parameters for changes in these geochemical conditions at AOC-65 performance monitoring locations provides indirect evidence of ISCO solution movement along preferred subsurface flow paths. Measurements were collected from performance monitoring locations within AOC-65. Water quality measurements were collected only if water levels were greater than six inches above the total depth of the well, as measured via water level indicator, ensuring the YSI probe is fully submerged. Field parameters collected are presented in **Table 7.1**.

7.2.1 pH

Field parameter collection provides general screening information during and following ISCO injections. Measurement of pH values near ISCO injection points provide a rough indication of which direction injected materials are moving in the subsurface. Sodium hydroxide has a very high pH value (12+) and activated sodium persulfate also exhibits very alkaline pH. Thus, when comparing neutral baseline pH values (~6.5-7.5) with post-injection values, areas affected by ISCO solution injection may exhibit increases in pH values. The magnitude of pH increase may also provide insight as to how well the monitoring point is connected to the infiltration gallery or injection wells. Observable increases in pH may only occur if sufficient sodium hydroxide is present to neutralize the acid generated from the decomposition of the persulfate solution. Very acidic pH (2 or less) may be observed in areas where contaminants are being oxidized and the decomposition products are forming hydrochloric acid where the sodium hydroxide supply is absent or has been exhausted.

Neutral or slightly acidic pH values do not necessarily mean a connection between a particular monitoring point and injection point does not exist, however. As the activated sodium persulfate interacts and degrades contaminants in the subsurface, acid is generated. Typically, an additional volume of sodium hydroxide, equivalent to approximately 30 to 35% of the volume required for persulfate activation, is injected with the activated persulfate solution to neutralize the acid generated during contaminant oxidation. If an insufficient amount of sodium hydroxide is injected, alkaline conditions are not maintained, and acids generated will force pH toward

more neutral or acidic conditions. **Figure 7.1** presents pH data acquired from performance monitoring locations following ISCO injections. VEWs -19, -25, and -27 indicated the largest deviations from baseline pH readings following the second ISCO injection.

7.2.2 Conductivity

Similar to pH, conductivity data may provide ancillary information useful for determining where contaminant oxidation has occurred in response to ISCO injection. Alterations in subsurface geochemical conditions arise as a result of the breakdown of VOCs and/or the ISCO solution as the oxidation reaction progresses. An increase in conductivity values in monitoring points near the infiltration gallery and/or injection wells may indicate an increase in inorganic dissolved solids such as sulfate and chloride. An increase in sulfate may be attributed to the breakdown of the ISCO solution and an increase in chloride may be attributed to the destruction of chlorinated contaminants. Thus, increases in conductivity may indicate areas where the ISCO solution is actively destroying chlorinated contaminants.

7.2.3 Oxidation-Reduction Potential

ORP is used as a general screening tool to determine whether subsurface geochemical conditions are oxidizing or reducing in an area. Generally, it is anticipated that ORP values in areas affected by injected ISCO fluids would remain in the oxidizing range (~100 mV or greater), as was the case at AOC-65 during both injections, with few exceptions. Of the wells monitored for ORP, only VEWs -19, -29, and -31 indicated significant periods with continuous reducing conditions.

7.2.4 Persulfate Field Test Kits

Persulfate field test kits were utilized to identify the Klozur solution during and immediately following the second ISCO injection within AOC-65 monitoring wells. Identification of persulfate solution within a well confirms that the ISCO solution is being distributed within the UGR. Thus, the positive identification of persulfate within a monitoring well may indicate the infiltration trench is operating as intended. Persulfate field test kit results are presented in **Table 7.2**.

Mid-way through the second ISCO injection, persulfate was only identified in VEW-27. Both VEWs -19 and -27 are adjacent to the infiltration gallery (within ~15 feet) indicating VEW-27 is more directly connected to the deep or middle treatment zone(s). Persulfate was identified in wells further from the infiltration gallery following the completion of the second injection. Test kit analyses from samples collected at VEW-25 and TSWs -03 and -04 indicated persulfate presence. The presence of persulfate at VEW-25 is significant in that this well is located on the western edge of AOC-65.

Table 7.2 Persulfate Field Test Kit Results – ISCO Injection 2

Date	Activity	Well tested	Result (g/L)	Persulfate Injected to Date
5/21/13	ISCO Injection #2 Begins	none	NA	none
5/30/13	Test kit samples collected	TSW-01	0.0	1 ton - IIWs,
		TSW-03	0.0	7 tons - lower trench zone,
		VEW-15	0.0	3 tons - middle trench zone
		VEW-19	0.0	
		VEW-20	0.0	
		VEW-29	0.0	
6/3/13	Test kit sample collected	VEW-27	**41.0**	
6/6/13	ISCO Injection #2 Completed	none	NA	
6/10/13	Test kit samples collected	TSW-01	0.0	1 ton - IIWs,
		TSW-03	**2.5**	7 tons - lower trench zone,
		VEW-15	0.0	9.3 tons - middle trench zone
		VEW-20	0.0	4.7 tons - upper trench zone
		VEW-25	**32.8**	100 lbs - SIW-01
		VEW-29	0.0	
6/19/13	Test kit samples collected	MW-36	0.0	
		TSW-01	0.0	
		TSW-03	**3.9**	
		TSW-04	**6.0**	
		TSW-05	0.0	

7.3 LABORATORY ANALYSES

7.3.1 Volatile Organic Compounds

VOC analytical results for regulatory and performance monitoring locations are presented in **Tables 7.3** and **7.4**, respectively. Generally, the analytical results from samples collected at off-post monitoring locations during and following both ISCO injections show little deviation from baseline concentrations. VOC analytical results from samples collected from some UGR wells within AOC-65 indicate a decline in PCE concentrations, while an increasing trend was observed at other wells. In particular, PCE at TSW-01 increased an order of magnitude from the baseline concentration of ~6.4 ppm to 64 ppm following initial ISCO injection within the infiltration gallery. PCE concentrations at TSW-01 declined to 6.1 ppm in the months between injections, rose to ~9.5 ppm following the second injection, and have since declined to just below baseline concentrations (**Figure 7.2**). The clearest reduction in VOC concentrations within UGR wells at AOC-65 is observed in VEW-27 results (**Figure 7.3**), while VEW-32 data indicates VOC mobilization following ISCO injections (**Figure 7.4**). The locations of these (TSW-01, VEW-27, and VEW-32) and their respective VOC results implies that while significant mass is

located on the west side of the trench (TSW-01), contaminant reduction is occurring on the west side near the infiltration trench (VEW-27), while VOCs are being mobilized near the trench on the east side (VEW-32), which is observed even further east at TSW-05.

Slight fluctuations in relative PCE concentrations are observed within AOC-65 monitoring wells within the upper portion of the LGR. These fluctuations are difficult to directly attribute to ISCO injections, due to changing water levels particularly for WB03-LGR-01, which was dry during several sampling events. **Figure 7.5** presents the observed changes in PCE concentrations at each UGR monitoring location within AOC-65 boundary. Similarly, **Figure 7.6** presents PCE concentrations observed within LGR monitoring locations. Individual PCE concentration trend figures for UGR and LGR monitoring locations are presented in Appendix E.

Importantly, no significant changes in VOC concentrations were observed at off-post private supply wells (**Figure 7.7**). Off-post water supply wells will continue to be monitored.

7.3.2 Metals

Metals mobilization is often a possible side-effect of the oxidation processes. Although using sodium persulfate is less likely to mobilize metals than many other types of chemical oxidants commonly used, an increase in metals concentrations is not completely unanticipated due to the changing geochemical conditions in the subsurface as a result of the changes in pH. Results from laboratory analyses for metals at regulatory and performance monitoring locations are presented in **Tables 7.5** and **7.6**, respectively.

Generally, the analytical results for samples collected at off-post monitoring locations during and following both ISCO injections show little deviation from baseline concentrations. However, analytical results from samples collected at performance monitoring wells indicate significant increases in chromium and arsenic concentrations following ISCO injections and lesser increases in copper, nickel, and zinc concentrations. Chromium concentrations began increasing following the first ISCO injection and increased sharply following the second ISCO injection. Arsenic concentrations appear unaffected following the first injection, and then rose sharply following the second injection. In some cases both chromium and arsenic concentrations appear to return to baseline concentrations (VEWs -19 and -25), while in other cases, the concentrations for one or both remain elevated (TSWs -03, -04, and -07, and WB02-LGR-01). Copper, nickel, and zinc concentrations spiked following the second injection, and while copper and nickel return to concentrations similar to baseline conditions, zinc concentrations remain elevated (VEWs -19 and -25). Figures depicting metals concentrations at selected monitoring locations are presented in Appendix E.

7.3.3 Anions (Sulfate and Chloride)

Increases in sulfate and chloride concentrations are anticipated following ISCO injections. The increase in sulfate is likely a result of the degradation of sodium persulfate as contaminants

or other naturally occurring organics are oxidized while increases in chloride concentrations reflect the oxidation of chlorinated contaminants.

Analytical results for sulfate and chloride are presented in **Table 7.7** and **7.8** for regulatory and performance monitoring locations, respectively. Analytical results for samples collected at off-post monitoring locations during and following both ISCO injections show little deviation from baseline concentrations.

Peaks in sulfate concentrations mostly occurred following the completion of persulfate applications. Additionally, larger peaks in sulfate occurred following the second injection, which included the application of twice the volume of persulfate as the first injection. Similarly, increases in chloride concentrations also followed injection events.

Figure 7.2 TSW-01 PCE Concentrations

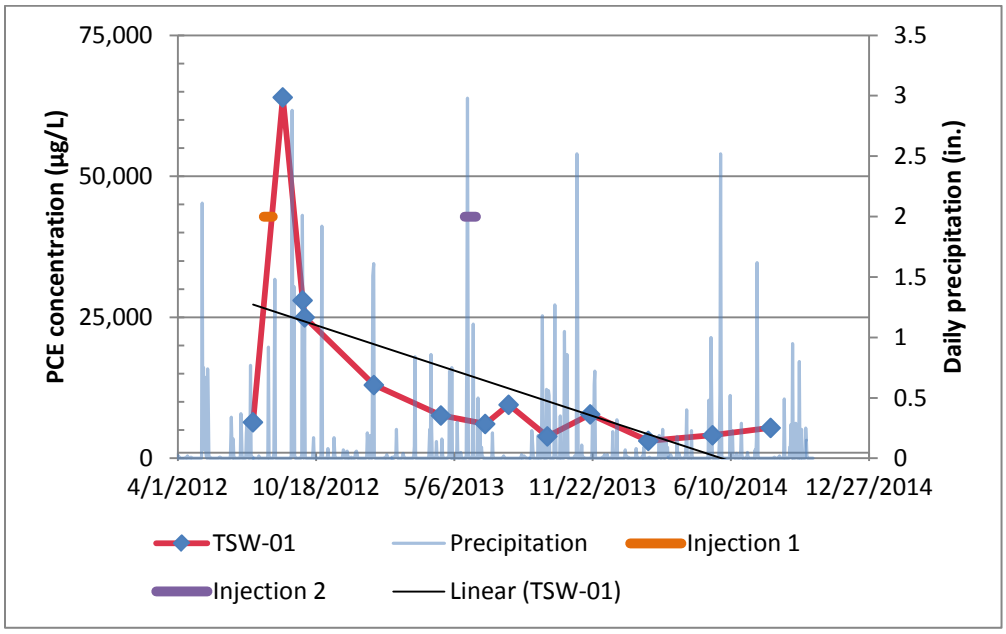


Figure 7.3 VEW-27 PCE Concentrations

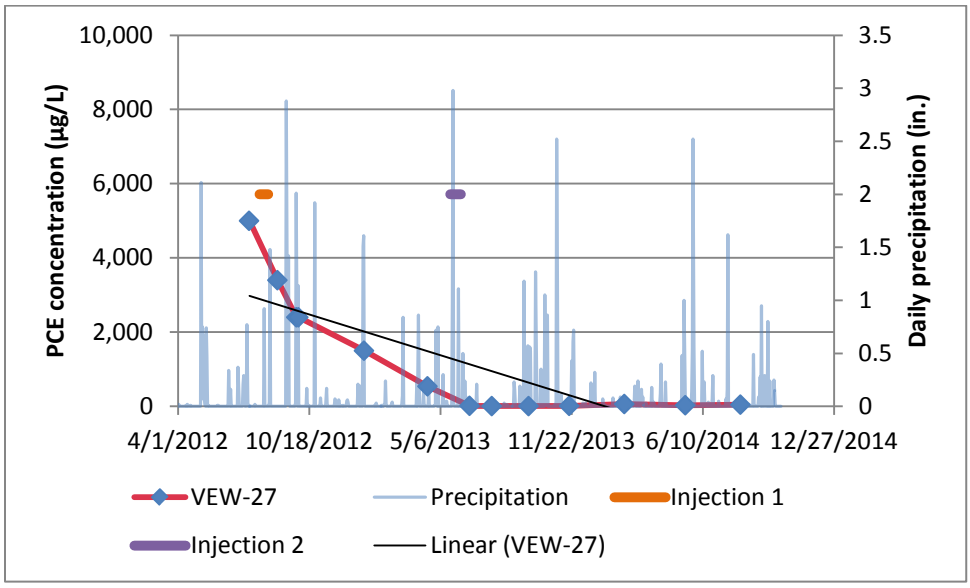
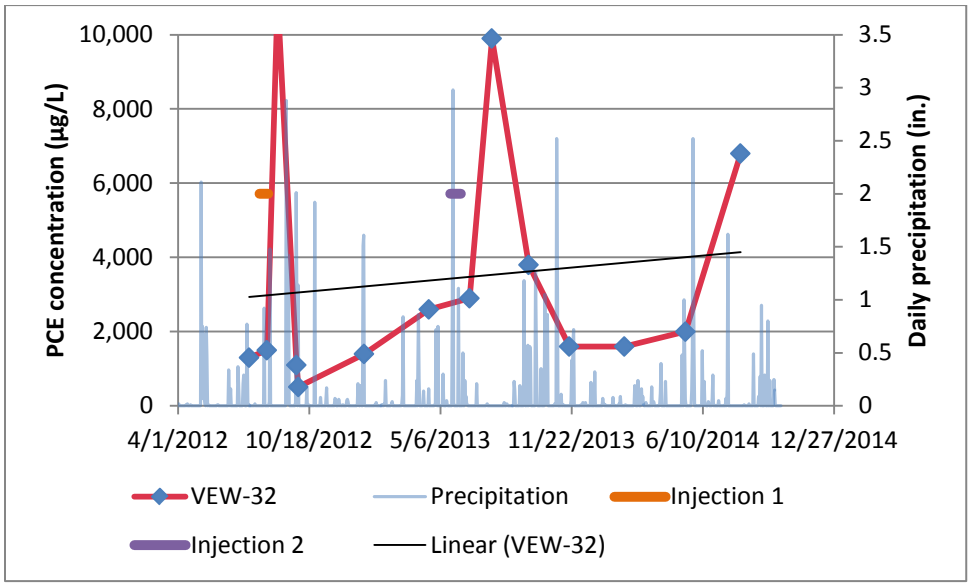


Figure 7.4 VEW-32 PCE Concentrations



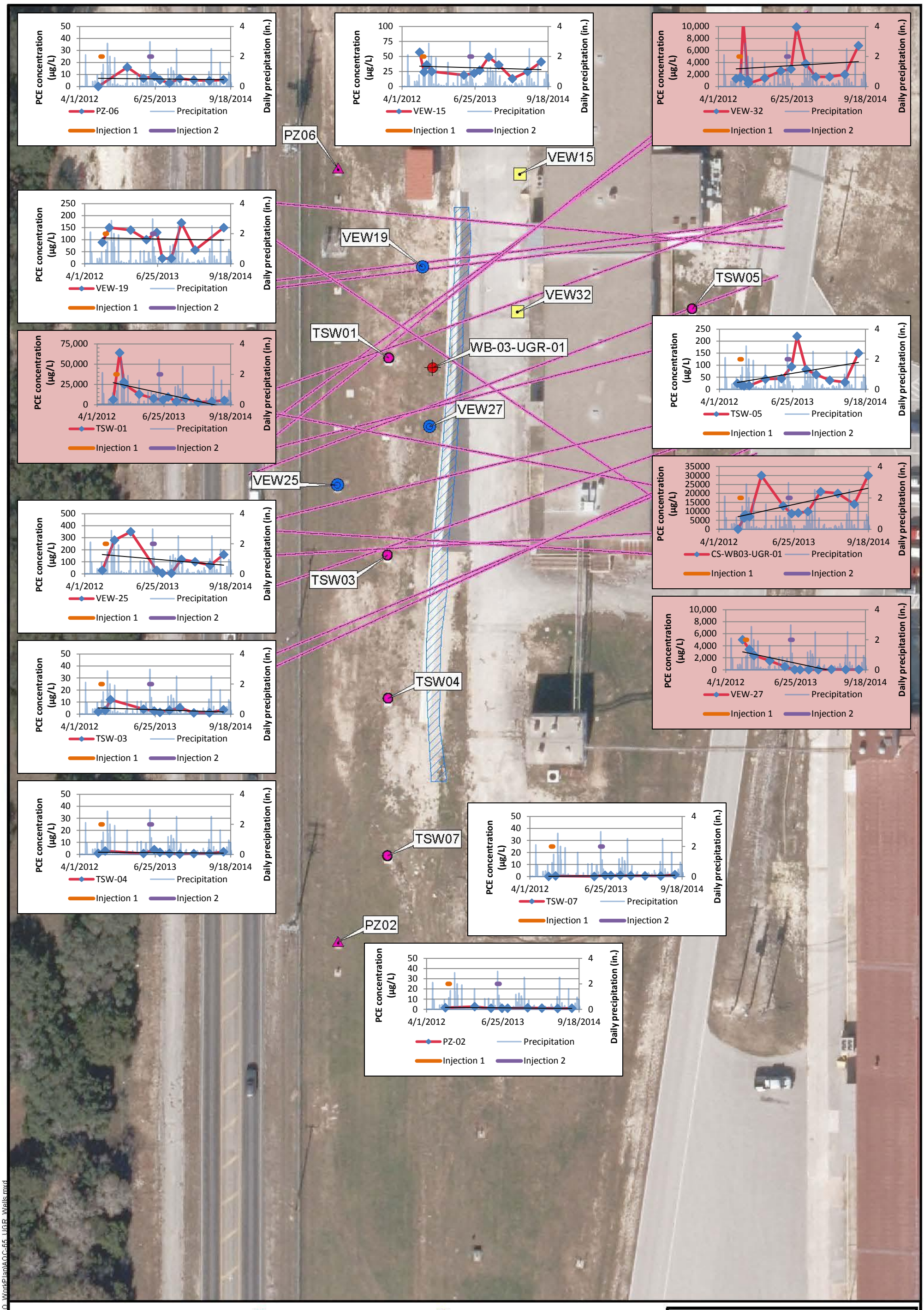


Figure 7.5

UGR Wells

Camp Stanley Storage Activity

PARSONS

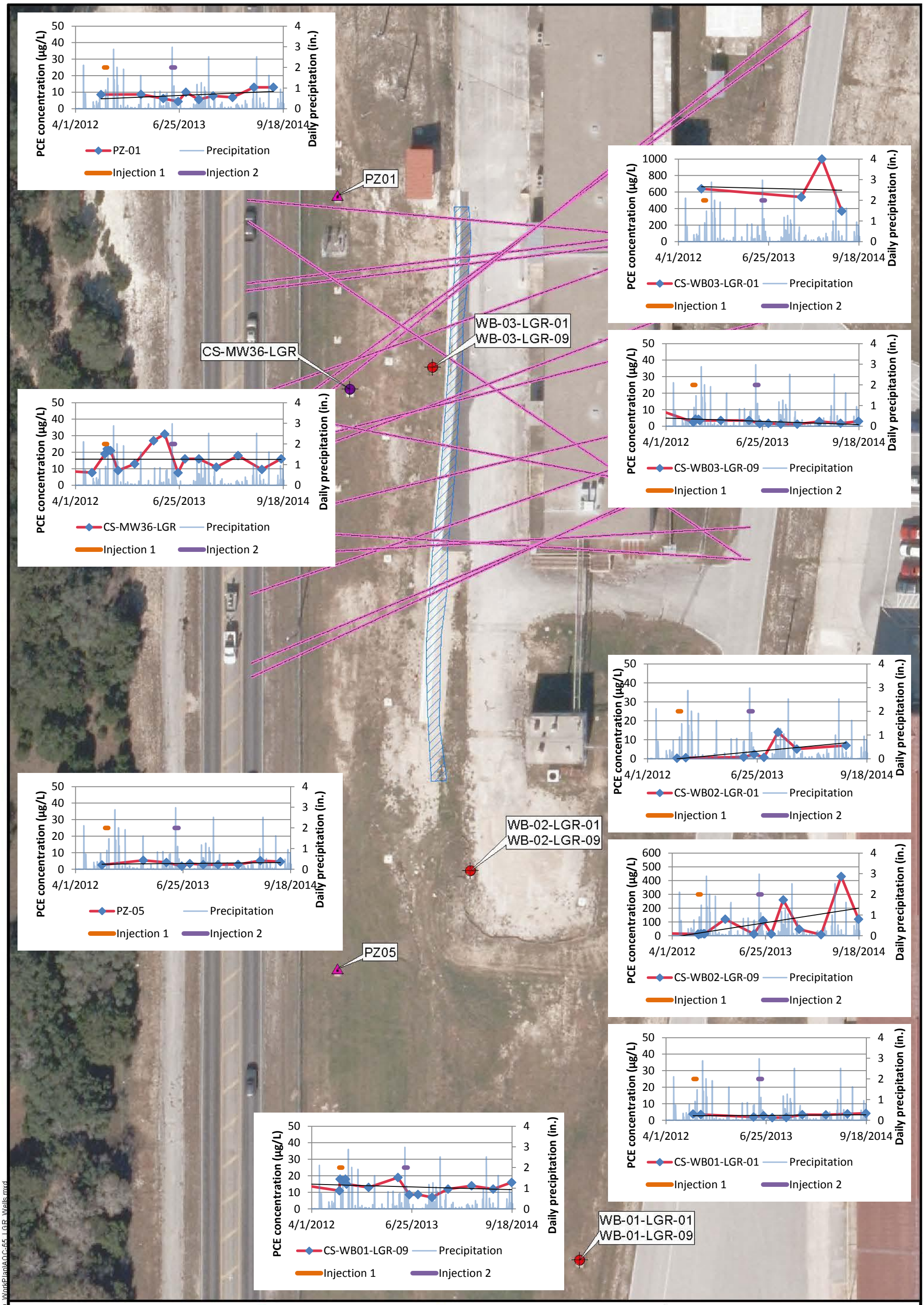


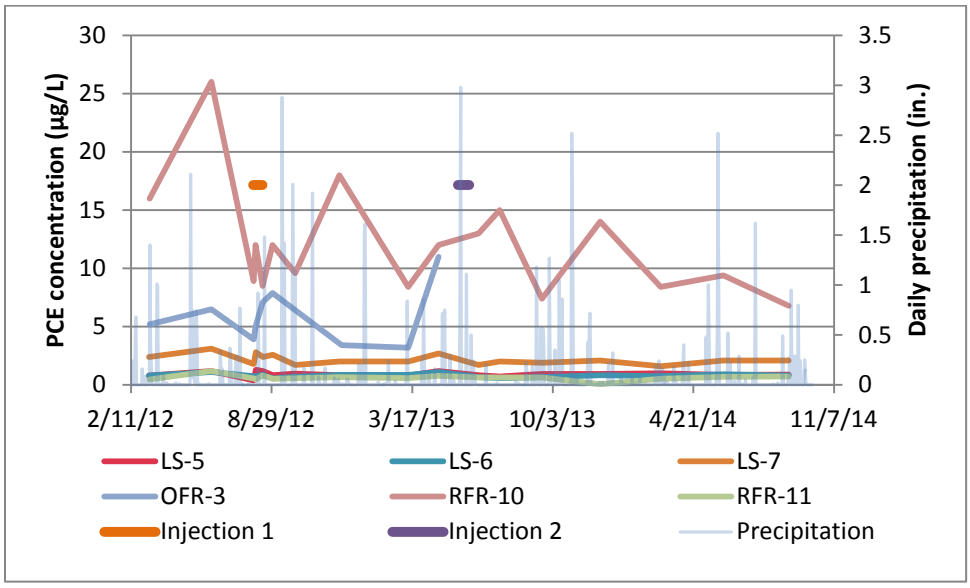
Figure 7.6

LGR Wells

Camp Stanley Storage Activity

PARSONS

Figure 7.7 Off-Post Monitoring Well PCE Concentration Trends



SECTION 8
REFERENCES

Parsons, 2002. *Area of Concern-65 RCRA Facility Investigation Report*, Parsons Infrastructure and Technology Group, Austin, Texas, September 2002.

Parsons, 2012. *Area of Concern-65 Soil Vapor Extraction O&M Assessment Report*, Parsons Government Services Group, Austin, Texas, April 2012.

Parsons, 2012. *Update to AOC-65 Soil Vapor Extraction Operations and Maintenance Assessment Report*, Parsons Government Services Group, Austin, Texas, December 2012.

Appendix A

Waste Characterization

Waste Characterization Summary Table

ISCO Waste Characterization
Analytes with Detections
February 2012 - May 2013

Constituents	Regulatory Levels[1] Hazardous (mg/l)	NH 1 (mg/l)	NH 3 (mg/l)[2]	CSSA Background (mg/kg)	SAMPLE ID: / DATE SAMPLED: / Units	AOC65-WC03 2/8/2012	AOC65-WC04 2/13/2012	AOC65-WC05 2/29/2012	AOC65-WC06 2/29/2012	AOC65-WC07 2/29/2012	AOC65-WC08 2/29/2012	AOC65-WC09 2/29/2012	AOC65-WC10 3/22/2012	AOC65-WC11 3/22/2012	AOC65-WC12 6/6/2012	AOC65-WC13 5/16/2013	AOC65-WC14 5/16/2013
Volatile Organics - SW8260B																	
Methylene chloride				-	mg/kg	0.0013 U		**0.0058**	**0.0032** F	**0.0052**	**0.0043** F	**0.0061**			0.0013 U		
Tetrachloroethene (PCE)				-	mg/kg	0.00080 U		0.00080 U	**0.30**	**0.24**	**0.15**	**0.0026** F			0.00080 U		
Toluene				-	mg/kg	0.0010 U		0.0010 U	0.0010 U	**0.0012** F	0.0010 U	0.0010 U			0.0010 U		
Trichloroethene (TCE)				-	mg/kg	0.0012 U		0.0012 U	**0.0028** F	**0.0093** F	**0.0067** F	0.0012 U			0.0012 U		
Metals - SW6010B/SW7471A																	
Arsenic				19.6	mg/kg	**9.5** F		**2.2** F	**2.8** F	**2.7** F	**2.2** F	**2.3** F			**2.3** F		
Barium				186	mg/kg	**100** J		**23**	**20**	**21**	**18**	**18**			**6.6**		
Chromium				40.2	mg/kg	**32**		**14** F	**5.6** F	**6.0** F	**6.2** F	**6.4** F			**3.6** F		
Copper				23.2	mg/kg	**15**		**3.8**	**3.4**	**3.8**	**3.6**	**3.0**			**25**		
Lead				84.5	mg/kg	**66**		**14** J	**9.2** F	**11** J	**11** J	**11** J			**1.6** F		
Mercury				0.77	mg/kg	**0.060** F		**0.020** F	**0.020** F	**0.020** F	**0.020** F	**0.020** F			0.010 U		
Nickel				35.5	mg/kg	**15**		**3.0**	**2.4**	**3.0**	**2.5**	**2.6**			**3.6**		
Zinc				73.2	mg/kg	**46**		**18** J	**15** J	**17** J	**20** J	**17** J			**13**		
7-Day Leach Test - SW8260B																	
Methylene chloride	-	50	-		µg/L								**0.87** F	**0.81** F			
Tetrachloroethene (PCE)	0.7	0.7	0.005		µg/L								**0.57** F	0.060 U			0.15 U
TCLP Metals - SW6010B/SW7470A																	
Arsenic	5.0	1.8	0.05		mg/L		0.0020 U	**0.0050** F	**0.0050** F	**0.0050** F	**0.0060** F	**0.0040** F				**0.0070** F	
Barium	100.0	100.0	1.00		mg/L		**0.37**	**0.27**	**0.25**	**0.27**	**0.23**	**0.22**				**0.17**	
Mercury	0.2	0.2	0.002		mg/L		**0.00020** F	0.00010 U	0.00010 U	0.00010 U	0.00010 U	0.00010 U				0.00010 U	
Silver	5.0	5.0	0.05		mg/L		**0.0052** F	**0.024**	**0.023**	**0.023**	**0.023**	**0.023**				**0.011**	
Total Dissolved Solids - EPA 160.1																	
Total Dissolved Solids	-	-	-	500	mg/L								**100**	**90**			

QA NOTES AND DATA QUALIFIERS:

(NO CODE) - Confirmed identification.

U - Analyte was not detected above the indicated Method Detection Limit (MDL).

F - Analyte was positively identified, but the quantitation is an estimation above the MDL and below the Reporting Limit (RL).

J - Analyte was positively identified, but the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

Detections are bolded.

1 - Regalatory levels for waste classification include constituents identifed as Hazardous (40 CFR 261.24 Table 1) and Non Hazardous (30 TAC 335.501 - 335.521) through TCLP analysis.

2 - Non hazardous Class 3 waste determined by TCEQ 7-day distilled water leach test

Analytical Waste Characterization

Data Packages

Laboratory Report

RECEIVED 2/29/2012

Parsons

Project #: 748402.01000 CSSA

ARF: 66922

Sample collected: February 8, 2012

APPL, Inc.

Summary Package
for
Project #: 748402.01000 CSSA
ARF 66922
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

CASE NARRATIVE

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Case Narrative

ARF: 66922

Project: 748402.01000 CSSA

California State Certification Number: CA1312 (DW & WW)

NELAP Certification number: 05233CA (HW)

Texas Certificate Number: T104704242-10-3

Results in this report apply to the sample analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sample Receipt Information:

One soil sample was received February 10, 2012, at 1.5°C. The sample was assigned Analytical Request Form (ARF) number 66922. The sample number and requested analyses were compared to the chain of custody. The TCLP metal analysis was placed on hold, as instructed. No other exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
AOC65-WC03	AY54360	SOIL	02/08/12	02/10/12

Percent moisture was determined using CLP 4.0.

Total Petroleum Hydrocarbons
TX-1005

Sample Preparation:

The sample was extracted according to the TX-1005 method . All holding times were met.

Sample Analysis Information:

The sample was analyzed according to the TX-1005 method using a Hewlett Packard Gas Chromatograph with a flame ionization detector. All holding times were met.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was used for quality assurance. All recoveries were acceptable.

No sample was designated by the client for MS/MSD analysis.

Surrogates

Surrogate recoveries are summarized on the form 2 & 8. All surrogate recoveries were acceptable.

Method blanks

No target analyte was detected above the reporting limit.

Calibration

Initial and continuing calibrations were analyzed according to the method. All calibration criteria were met.

Summary:

No analytical exception is noted. All data are acceptable.

Volatile Organic Compounds
EPA Method 8260B

Sample Preparation:

The sample was purged according to EPA method 5035. All holding times were met.

Sample Analysis Information:

The sample was analyzed according to EPA method 8260B using a Hewlett Packard Gas Chromatograph with a mass spectrometer detector. All holding times were met.

Quality Control/Assurance:

Spike Recovery:

A Laboratory Control Spike (LCS) was used for quality assurance. A second-source standard (SS) was used for the LCS. All LCS and SS criteria were met.

There was no sample designated by the client for MS/MSD analysis.

Surrogates:

Surrogate recoveries are summarized on Form 2 & 8. All surrogate recoveries met acceptance criteria.

Method blanks:

No target compound was detected above its reporting limit in the method blank.

Calibration:

Initial and continuing calibrations were analyzed according to the method. All calibration criteria were met.

Tuning:

The instrument was tuned using BFB. All method criteria were met.

Internal Standards:

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All acceptance criteria were met.

Summary:

No analytical exception was noted. All data generated are acceptable

EPA Methods 6010B and 7471B

Metals

Digestion Information:

The soil sample was digested according to EPA methods 3050B and 7471B. All holding times were met.

Analysis Information:

Samples:

The sample was analyzed according to EPA method 6010B using a Perkin Elmer Optima 5300DV ICP and according to EPA method 7471B using a Perkin Elmer AAnalyst 300.

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard.

Blanks:

No target metal was detected above the reporting limit (RL) in the method blanks.

Spikes:

Laboratory Control Spikes (LCS), Post Digestion Spike (PDS) and serial dilution were used for quality assurance. All LCS acceptance criteria were met.

No sample was designated by the client for MS/MSD analysis. The serial dilution was applicable to barium, chromium, copper, lead, nickel, and zinc, all of which exceeded the 10% deviation limit. The PDS recovered below the 75% lower control limit for barium. Barium is flagged with a "J" in the associated sample, in accordance with CSSA QAPP guidelines.

Summary:

No other analytical exception is noted.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

2/22/12

Sharon Dehmlow, Laboratory Director / Date

CHAIN OF CUSTODY

AND ARF

APPL - Analysis Request Form

66922

lient: **Parsons**
ddress: **8000 Centre Park Drive Ste 200**
Austin, TX 78754
tn: **Tammy Chang**
none: **512-719-6092** Fax: **512-719-6099**
b: **748402.01000 CSSA**
O #: **748336.30000-00 (prime *G012)**
hain of Custody (Y/N): **Y** # **020812APPFA**
AD Screen (Y/N): **Y** pH (Y/N): **N**
rn Around Type: **3 DAYS**

Received by: **TBV**
Date Received: **02/10/12** Time: **09:50**
Delivered by: **FED EX**
Shuttle Custody Seals (Y/N): **Y** Time Zone: **CST**
Chest Temp(s): **1.5°C**
Color: **VOA,C-BLK**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Diane Anderson** TVA
QC Report Type: **DVP3/AFCEE/ERPIMS/TX**
Due Date: **02/13/12**

omments:
f ARF to Tammy & Pam; send 2 DVP3 to Tammy RDS
ta screening project: analyze samples ONCE; report deficiencies; do NOT re-analyze RDS
se Narrative. CSSA + AFCEE 3.1 QAPP. Only report MS/MSD when requested. RDS
e AFCEE forms with AFCEE flagging to report sample & QC data only. RDS
PL forms for everything else and APPL DVP3. RDS
D: ERPIMS 4 Lab PC4 checked TXF to Pam.Ford@parsons.com RDS
LP Metals on hold. RDS

2-13 Sent ARF

ample Distribution:
: **1-$TNRS**
ractions: **1-_MSE017**
A: **1-$826AF**
als: **1-$HGAFBS, 1-$MTAFS(As,Ba,Cd,Cr,Cu,Ni,Pb,Zn)**
tlab: **1-MOIST**
ner: **1-_M3050GROSS, 1-_M7471GROSS**

Charges:

Invoice To:
BOA 748336.30000 TO# 3
8000 Centre Park Drive Ste 200
Austin, TX 78754-5140
Attn: Ellen Felfe

Client ID	APPL ID	Sampled	Analyses Requested
AOC65-WC03	AY54360S	02/08/12 10:34	$826AF, $HGAFBS, $MTAFS(As,Ba,Cd,Cr,Cu,Ni,Pb,Zn), $TNRS, MOIST

APPL Sample Receipt Form

ARF# **66922**

Sample	Container Type	Count	pH	Sample	Container Type	Count	pH
AY54360	20 4oz Jar	4	NA				

Camp Stanley Storage Activity Chain Of Custody

66922
62 (R) 12

COC ID:	020812APPFA	Relinquish_Date:	2/8/2012 2/9/12	Cooler ID:	A
Project Location:	CSSA	Relinquished_By:	EWR (DR)	LabCode:	APPF
Job Number:	748402.01000	Relinquish_Time:	3:00 PM	Carrier:	FedEx
Creation Date:	2/8/2012	Collection Team:	EWR	Airbill Carrier:	876436443149
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	3 Day TAT

Sampler(s): Elisa Rice
ERice

LOCID: **AOC65-WC03** LOGDATE: **2/8/2012** MATRIX: **SO** TBLOT:
SBD: **0** LOGTIME: **10:34** SACODE: **N** SMCODE: **G** ABLOT:
SED: **0** FLDSAMPID **AOC65-WC03_020812_N1034** EBLOT: Containers: **4**
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	*TCLP - Silver (Ag)
SW6010B	*TCLP - Arsenic (As)	SW6010B	*TCLP - Barium (Ba)
SW6010B	*TCLP - Beryllium (Be)	SW6010B	*TCLP - Cadmium (Cd)
SW6010B	*TCLP - Chromium (Cr)	SW6010B	*TCLP - Nickel (Ni)
SW6010B	*TCLP - Lead (Pb)	SW6010B	*TCLP - Antimony (Sb)
SW6010B	*TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	*TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

* Please hold TCLP analysis until further notice.

12

Relinquished by: DRice Date: 2/9/12 Time: 1800
Recieved by: _____ Date: 2/10/12 Time: 0950

Relinquished by: _____ Date: _____ Time: _____
Recieved by: _____ Date: _____ Time: _____

Relinquished by: _____ Date: _____ Time: _____
Recieved by: _____ Date: _____ Time: _____

COOLER RECEIPT FORM

1) Project: 748402.01000 CSSA AOC65 Date Received: 2/10/12

2) Coolers: Number of Coolers: 1

3) YES NO Were coolers and samples screened for radioactivity?

4) YES NO Were custody seals on outside of cooler? How many? 2 Date on seal? 2/9/10

5) Name on seal? See label

6) YES NO NA Were custody seals unbroken and intact at the time of arrival?

7) YES NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex

8) Shipping slip numbers: 1) 8764 3644 3149 2) 3)

9) YES NO NA Was the shipping slip scanned into the database?

10) YES NO NA If cooler belongs to APPL, has it been logged into the ice chest database?

11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.): bubble bag in wet ice

12) YES NO NA For hand delivered samples was sufficient ice present to start the cooling process?

13) YES NO Was a temperature blank included in the cooler?

14) Serial number of certified NIST thermometer used: A39267 Correction factor: 0

15) Cooler temp(s): 1) 1.5°C 2) 3) 4) 5) 6) 7) 8)

Chain of custody:

16) YES NO Was a chain of custody received?

17) YES NO Were the custody papers signed in the appropriate places?

18) YES NO Was the project identifiable from custody papers?

19) YES NO Did the chain of custody include date and time of sampling?

20) YES NO Is location where sample was taken listed on the chain of custody?

Sample Labels:

21) YES NO Were container labels in good condition?

22) YES NO Was the client ID on the label?

23) YES NO Was the date of sampling on the label?

24) YES NO Was the time of sampling on the label?

25) YES NO Did all container labels agree with custody papers?

Sample Containers:

26) YES NO Were all containers sealed in separate bags?

27) YES NO Did all containers arrive unbroken?

28) YES NO Was there any leakage from samples?

29) YES NO Were any of the lids cracked or broken?

30) YES NO Were correct containers used for the tests indicated?

31) YES NO Was a sufficient amount of sample sent for tests indicated?

32) YES NO NA Were bubbles present in volatile samples? If yes, the following were received with air bubbles:

Larger than a pea:

Smaller than a pea:

Preservation & Hold time:

33) YES NO NA Was a sufficient amount of holding time remaining to analyze the samples?

34) YES NO NA Do the sample containers contain the same preservative as what is stated on the COC?

35) YES NO NA Was the pH taken of all non-VOA preserved samples and written on the sample container?

36) YES NO NA Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples > 12?

37) YES NO NA Unpreserved VOA Vials received?

38) YES NO NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?

Lab notified if pH was not adequate:

Deficiencies:

Signature of personnel receiving samples: Yang Zu Second reviewer:

Signature of project manager notified: Date and Time of notification:

Name of client notified: Date and Time of notification:

Information given to client:

by whom (Initials):

CUSTODY SEAL

APPL, Inc. (559) 275-2175

Initials: Date 2-9-12

TNRCC Method 1005
Total Petroleum Hydrocarbons

TNRCC Method 1005
Total Petroleum Hydrocarbons
QC Summary

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: TX1005
AAB #: 120210A-163844
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: ug/kg
Method Blank ID: 120210A-BLK
Initial Calibration ID: 120207

Analyte	Method Blank	RL	Q
C28-C36	< RL	50000	U
C6-C28	< RL	50000	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1-CHLOROOCTANE (S	86.3	70-130	
SURROGATE: ORTHO-TERPHENYL (	91.5	70-130	

Comments: ARF: 66922, Sample: AY54360

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 66922

Case No: 66922 Date Analyzed: 02/10/12

Matrix: SOIL Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: 1-CHLOROOCTANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120210A-BLK	Blank	70-130	86.3		70-130	91.5	
120210A-LCS	Lab Control Spike	70-130	106		70-130	104	
AY54360	AOC65-WC03	70-130	84.4		70-130	91.6	

Comments: Batch: #TNRS-120210A

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: TX1005
AAB #: 120210A-163844
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120210A LCS
Initial Calibration ID: 120207
Concentration Units: ug/kg

Analyte	Expected	Found	% R	Control Limits	Q
C6-C28	100000.0	104430.6	104	75-125	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1-CHLOROOCTANE (S)	106	70-130	
SURROGATE: ORTHO-TERPHENYL (S)	104	70-130	

Comments: ARF: 66922, QC Sample ID: AY54360

TX1005

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 66922

Case No: 66922 Date Analyzed: 02/10/12

Matrix: SOIL Instrument: Apollo

Blank ID: 120210A-BLK Time Analyzed: 2348

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120210A-BLK	Blank	210024	02/10/12 2348
120210A-LCS	Lab Control Spike	210025	02/11/12 0012
AY54360	AOC65-WC03	210026	02/11/12 0035

Comments: Batch: #TNRS-120210A

Printed: 02/20/12 11:21:30 AM

Form 4, Blank Summary

TNRCC Method 1005
Total Petroleum Hydrocarbons
Sample Data

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TX1005 Preparatory Method: TX1005 AAB #: 120210A-163844

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-WC03 Lab Sample ID: AY54360 Matrix: Soil

% Solids: 81.3 Initial Calibration ID: 120207

Date Received: 10-Feb-12 Date Prepared: 10-Feb-12 Date Analyzed: 11-Feb-12

Concentration Units: ug/kg

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
C28-C36	14500.0	50000	14500.0	1		U
C6-C28	14500.0	50000	14500.0	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1-CHLOROOCTANE (S)	84.4	70-130	
SURROGATE: ORTHO-TERPHENYL (S)	91.6	70-130	

Comments:

ARF: 66922

AFCEE FORM O-2

TNRCC Method 1005
Total Petroleum Hydrocarbons
Calibration Data

TPH Extractables
TNRCC207

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 66922
Case No: Initial Cal. Date: 02/07/12
Matrix: Water Instrument: APOLLO
Initials: LAC

			207035.D	207036.D	207037.D	207038.D	207039.D	207040.D								
		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	C6-C28	333860	348504	334793	331460	343444	321358					335570	2.8	HATM	
2	HATM	C28-C36	333860	348504	334793	331460	343444	321358					335570	2.8	HATM	
3	sa	Ortho-Terphenol	252932	267809	263478	265694	262695	246880					259915	3.1	sa	
4	sa	1-Chloro-octane	295074	312967	300593	300816	313532	288488					301912	3.3	sa	
5																
6																
7																
8																
9																
10																
11																
12																
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24																
25																
26																
27																
28																
29																
30																
31																
32																
33																
34																
35																

0.3452119

TPH Extractables
TNRCC207

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No: 66922
Date Analyzed: 02/08/12
Instrument: Apollo
Initial Cal. Date: 02/07/12
Data File: 207041.D

		Compound	MEAN	CCRF	%D	%Drift	
1	HATM	C6-C28	335570	382575	14	HATM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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24							
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26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			14.0		

TPH Extractables
TNRCC207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 66922
Date Analyzed: 02/10/12
Instrument: Apollo
Initial Cal. Date: 02/07/12
Data File: 210023.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	C6-C28	335570	388855	16	HATM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			16.0		

TPH Extractables
TNRCC207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 66922
Date Analyzed: 02/11/12
Instrument: Apollo
Initial Cal. Date: 02/07/12
Data File: 210027.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	C6-C28	335570	390799	16	HATM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
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22							
23							
24							
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26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			16.0		

TNRCC Method 1005
Total Petroleum Hydrocarbons
Raw Data

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: TX1005
Lab Name: APPL, Inc
Concentration Units: ug/kg
Initial Calibration ID: 120207

AAB #: 120210A-163844
Contract #: *G012
Method Blank ID: 120210A-BLK

Analyte	Method Blank	RL	Q
C28-C36	< RL	50000	U
C6-C28	< RL	50000	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1-CHLOROOCTANE (S	86.3	70-130	
SURROGATE: ORTHO-TERPHENYL (	91.5	70-130	

Comments: ARF: 66922, Sample: AY54360

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: TX1005
Lab Name: APPL, Inc
LCS ID: 120210A LCS
Concentration Units: ug/kg

AAB #: 120210A-163844
Contract #: *G012
Initial Calibration ID: 120207

Analyte	Expected	Found	% R	Control Limits	Q
C6-C28	100000.0	104430.6	104	75-125	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1-CHLOROOCTANE (S)	106	70-130	
SURROGATE: ORTHO-TERPHENYL (S)	104	70-130	

Comments: ARF: 66922, QC Sample ID: AY54360

_MSE017

Organic Extraction Worksheet

Method	TPH Soil by TNRCC method 1005	Extraction Set	120210A	Extraction Method	MSE017	Units	mL

Spiked ID 1	TNRCC SPIKE 1000 PPM 02/06/12 EX 03/06/12		Surrogate ID 1	TNRCC Surrogate 50,000 PPM 02/06/12 EX 03/06/12	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:		
Spiked ID 8			Ext. End Time:		
			GC Requires Extract By:	02/13/12 0:00	

pH1			Water Bath Temp Criteria	NA °C
pH2				
pH3				

Spiked By: DL **Date** 02/10/12 **Witnessed By:** GH **Date** 02/10/12

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	120210A Blk				1	1 equip	10.00g	10	NA	02/10/12 15:45	
2	120210A LCS-1		1	1	NA	NA equip	10.00g	10	NA	02/10/12 15:45	
3	AY54360	AY54360S04			1	1 equip	10.04g	10	NA	02/10/12 15:45	66922- 3 DAY RUSH -- 4oz Jar

DRA 2/10/12

Solvent and Lot#	
Pentane	J04E19
Ottowa Sand	TH12EZEMS

Extraction COC Transfer	
Extraction lab employee Initials	DRA
GC analyst's initials	
Date	2/10/12
Time	1620
Refrigerator	HOBART

	Technician's Initials
Scanned By	GH
Sample Preparation	GH
Extraction	GH
Concentration	GH

Modified	02/10/12 12:33:18 PM

Reviewed By: DRA 30 **Date** 02/10/12

Injection Log

Directory: G:\APOLLO\DATA\120207\120210

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	35	207035.D	1	TNRCC 50/1000 2/8/12	Water	2-8-12 8:42:21
2	36	207036.D	1	TNRCC 100/1000	Water	2-8-12 9:05:49
3	37	207037.D	1	TNRCC 400/1000	Water	2-8-12 9:29:23
4	38	207038.D	1	TNRCC 600/1000	Water	2-8-12 9:53:03
5	39	207039.D	1	TNRCC 800/1000	Water	2-8-12 10:16:50
6	40	207040.D	1	TNRCC 1000/1000	Water	2-8-12 10:40:39
7	41	207041.D	1	TNRCC 2ND SRC 400/1000 2/8/12	Water	2-8-12 11:55:53
8	23	210023.D	1	TNRCC 400/1000 2/10/12	Mix(D)	2-10-12 23:24:42
9	24	210024.D	1000	120210A BLK 10/10.00G	Soil	2-10-12 23:48:25
10	25	210025.D	1000	120210A LCS-1 10/10.00G	Soil	2-11-12 0:12:10
11	26	210026.D	996.016	AY54360S04 10/10.04G	Soil	2-11-12 0:35:50
12	27	210027.D	1	TNRCC 400/1000 2/10/12	Mix(D)	2-11-12 0:59:29

EPA METHOD 8260B
Volatile Organic Compounds

APPL, INC.

EPA METHOD 8260B
Volatile Organic Compounds
QC Summary

APPL, INC.

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
AAB #: 120213BN-163930
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: mg/kg
Method Blank ID: 120213BN-BLK
Initial Calibration ID: N120210

Analyte	Method Blank	RL	Q
1,1,1,2-TETRACHLOROETHANE	< RL	0.003	U
1,1,1-TCA	< RL	0.004	U
1,1,2,2-TETRACHLOROETHANE	< RL	0.002	U
1,1,2-TCA	< RL	0.005	U
1,1-DCA	< RL	0.002	U
1,1-DCE	< RL	0.006	U
1,1-DICHLOROPROPENE	< RL	0.005	U
1,2,3-TRICHLOROBENZENE	< RL	0.004	U
1,2,3-TRICHLOROPROPANE	< RL	0.020	U
1,2,4-TRICHLOROBENZENE	< RL	0.004	U
1,2,4-TRIMETHYLBENZENE	< RL	0.007	U
1,2-DCA	< RL	0.003	U
1,2-DCB	< RL	0.002	U
1,2-DIBROMO-3-CHLOROPROPANE	< RL	0.010	U
1,2-DICHLOROPROPANE	< RL	0.002	U
1,2-EDB	< RL	0.003	U
1,3,5-TRIMETHYLBENZENE	< RL	0.003	U
1,3-DCB	< RL	0.006	U
1,3-DICHLOROPROPANE	< RL	0.002	U
1,4-DCB	< RL	0.002	U
1-CHLOROHEXANE	< RL	0.003	U
2,2-DICHLOROPROPANE	< RL	0.020	U
2-CHLOROTOLUENE	< RL	0.002	U
4-CHLOROTOLUENE	< RL	0.003	U
BENZENE	< RL	0.002	U
BROMOBENZENE	< RL	0.002	U
BROMOCHLOROMETHANE	< RL	0.002	U
BROMODICHLOROMETHANE	< RL	0.004	U
BROMOFORM	< RL	0.006	U
BROMOMETHANE	< RL	0.005	U
CARBON TETRACHLORIDE	< RL	0.010	U
CHLOROBENZENE	< RL	0.002	U
CHLOROETHANE	< RL	0.005	U
CHLOROFORM	< RL	0.002	U
CHLOROMETHANE	< RL	0.007	U
CIS-1,2-DCE	< RL	0.006	U
CIS-1,3-DICHLOROPROPENE	< RL	0.005	U
DIBROMOCHLOROMETHANE	< RL	0.003	U
DIBROMOMETHANE	< RL	0.010	U
DICHLORODIFLUOROMETHANE	< RL	0.005	U
ETHYLBENZENE	< RL	0.003	U

Comments: ARF: 66922, Sample: AY54360

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
AAB #: 120213BN-163930
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: mg/kg
Method Blank ID: 120213BN-BLK
Initial Calibration ID: N120210

Analyte	Method Blank	RL	Q
HEXACHLOROBUTADIENE	< RL	0.005	U
ISOPROPYLBENZENE	< RL	0.008	U
M&P-XYLENE	< RL	0.007	U
METHYLENE CHLORIDE	< RL	0.005	U
N-BUTYLBENZENE	< RL	0.005	U
N-PROPYLBENZENE	< RL	0.002	U
NAPHTHALENE	< RL	0.020	U
O-XYLENE	< RL	0.005	U
P-ISOPROPYLTOLUENE	< RL	0.006	U
SEC-BUTYLBENZENE	< RL	0.007	U
STYRENE	< RL	0.002	U
TCE	< RL	0.010	U
TERT-BUTYLBENZENE	< RL	0.007	U
TETRACHLOROETHENE	< RL	0.007	U
TOLUENE	< RL	0.005	U
TRANS-1,2-DCE	< RL	0.003	U
TRANS-1,3-DICHLOROPROPENE	< RL	0.005	U
TRICHLOROFLUOROMETHANE	< RL	0.004	U
VINYL CHLORIDE	< RL	0.009	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHAN	102	52-149	
SURROGATE: 4-BROMOFLUOROBE	103	65-135	
SURROGATE: DIBROMOFLUOROME	111	65-135	
SURROGATE: TOLUENE-D8 (S)	112	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 66922, Sample: AY54360

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 66922

Case No: 66922 Date Analyzed: 02/14/12

Matrix: SOIL Instrument: Neo

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120213BN-LCS	Lab Control Spike	52-149	115		65-135	117	
120213BN-BLK	Blank	52-149	102		65-135	103	
AY54360	AOC65-WC03	52-149	107		65-135	96.5	

Comments: Batch: #826AF-120213BN

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 66922

Case No: 66922 Date Analyzed: 02/14/12

Matrix: SOIL Instrument: Neo

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120213BN-LCS	Lab Control Spike	65-135	121		65-135	115	
120213BN-BLK	Blank	65-135	111		65-135	112	
AY54360	AOC65-WC03	65-135	115		65-135	116	

Comments: Batch: #826AF-120213BN

Printed: 02/16/12 4:15:20 PM

Form 2 & 8, Surrogate Recovery Summary

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
AAB #: 120213BN-163930
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120213BN LCS
Initial Calibration ID: N120210
Concentration Units: mg/kg

Analyte	Expected	Found	% R	Control Limits	Q
1,1,1,2-TETRACHLOROETHANE	0.0500	0.0563	113	62-125	
1,1,1-TCA	0.0500	0.0604	121	65-135	
1,1,2,2-TETRACHLOROETHANE	0.0500	0.0510	102	64-135	
1,1,2-TCA	0.0500	0.0554	111	65-135	
1,1-DCA	0.0500	0.0571	114	62-135	
1,1-DCE	0.0500	0.0596	119	65-135	
1,1-DICHLOROPROPENE	0.0500	0.0593	119	65-135	
1,2,3-TRICHLOROBENZENE	0.0500	0.0485	97.0	65-147	
1,2,3-TRICHLOROPROPANE	0.050	0.051	102	65-135	
1,2,4-TRICHLOROBENZENE	0.0500	0.0463	92.6	65-145	
1,2,4-TRIMETHYLBENZENE	0.0500	0.0514	103	65-135	
1,2-DCA	0.0500	0.0537	107	58-137	
1,2-DCB	0.0500	0.0507	101	65-135	
1,2-DIBROMO-3-CHLOROPROPANE	0.050	0.051	102	49-135	
1,2-DICHLOROPROPANE	0.0500	0.0542	108	60-135	
1,2-EDB	0.0500	0.0548	110	65-135	
1,3,5-TRIMETHYLBENZENE	0.0500	0.0529	106	62-135	
1,3-DCB	0.0500	0.0494	98.8	65-135	
1,3-DICHLOROPROPANE	0.0500	0.0508	102	65-135	
1,4-DCB	0.0500	0.0507	101	65-135	
1-CHLOROHEXANE	0.0500	0.0601	120	65-135	
2,2-DICHLOROPROPANE	0.050	0.059	118	65-135	
2-CHLOROTOLUENE	0.0500	0.0498	99.6	63-135	
4-CHLOROTOLUENE	0.0500	0.0501	100	64-135	
BENZENE	0.0500	0.0560	112	65-135	
BROMOBENZENE	0.0500	0.0516	103	65-135	
BROMOCHLOROMETHANE	0.0500	0.0536	107	63-135	
BROMODICHLOROMETHANE	0.0500	0.0564	113	65-135	
BROMOFORM	0.0500	0.0588	118	65-135	
BROMOMETHANE	0.0500	0.0500	100	62-135	
CARBON TETRACHLORIDE	0.050	0.056	112	52-135	
CHLOROBENZENE	0.0500	0.0571	114	65-135	
CHLOROETHANE	0.0500	0.0579	116	55-135	
CHLOROFORM	0.0500	0.0562	112	64-135	
CHLOROMETHANE	0.0500	0.0543	109	65-135	
CIS-1,2-DCE	0.0500	0.0551	110	65-135	
CIS-1,3-DICHLOROPROPENE	0.0500	0.0544	109	64-135	
DIBROMOCHLOROMETHANE	0.0500	0.0551	110	63-135	
DIBROMOMETHANE	0.050	0.053	106	59-137	
DICHLORODIFLUOROMETHANE	0.0500	0.0589	118	65-135	

Comments: ARF: 66922, QC Sample ID: AY54360

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
LCS ID: 120213BN LCS
Concentration Units: mg/kg

AAB #: 120213BN-163930
Contract #: *G012
Initial Calibration ID: N120210

Analyte	Expected	Found	% R	Control Limits	Q
ETHYLBENZENE	0.0500	0.0590	118	65-135	
HEXACHLOROBUTADIENE	0.0500	0.0582	116	65-135	
ISOPROPYLBENZENE	0.0500	0.0533	107	65-135	
M&P-XYLENE	0.1000	0.1186	119	65-135	
METHYLENE CHLORIDE	0.0500	0.0591	118	65-135	
N-BUTYLBENZENE	0.0500	0.0521	104	65-135	
N-PROPYLBENZENE	0.0500	0.0531	106	65-135	
NAPHTHALENE	0.0500	0.0477	95.4	65-135	
O-XYLENE	0.0500	0.0568	114	65-135	
P-ISOPROPYLTOLUENE	0.0500	0.0529	106	65-135	
SEC-BUTYLBENZENE	0.0500	0.0544	109	65-135	
STYRENE	0.0500	0.0546	109	65-135	
TCE	0.0500	0.0588	118	61-135	
TERT-BUTYLBENZENE	0.0500	0.0528	106	65-135	
TETRACHLOROETHENE	0.0500	0.0586	117	61-135	
TOLUENE	0.0500	0.0568	114	64-135	
TRANS-1,2-DCE	0.0500	0.0586	117	65-135	
TRANS-1,3-DICHLOROPROPENE	0.0500	0.0555	111	56-135	
TRICHLOROFLUOROMETHANE	0.0500	0.0590	118	57-135	
VINYL CHLORIDE	0.0500	0.0550	110	36-144	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	117	52-149	
SURROGATE: 4-BROMOFLUOROBENZ	115	65-135	
SURROGATE: DIBROMOFLUOROMETH	121	65-135	
SURROGATE: TOLUENE-D8 (S)	118	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 66922, QC Sample ID: AY54360

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 66922

Case No: 66922 Date Analyzed: 02/14/12

Matrix: SOIL Instrument: Neo

Blank ID: 120213BN-BLK Time Analyzed: 0135

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120213BN-LCS	Lab Control Spike	0213N25	02/14/12 0019
120213BN-BLK	Blank	0213N27	02/14/12 0135
AY54360	AOC65-WC03	0213N39	02/14/12 0906

Comments: Batch: #826AF-120213BN

Printed: 02/16/12 4:15:11 PM

Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 66922
Matrix: Soil
ID: 25ug/mL BFB Std 01-12-11A

SDG No: 66922
Date Analyzed: 02/13/12
Instrument: Neo
Time Analyzed: 22:26

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/kg Vol Std 02-1	0213N24S.D	02/13/12 23:42
2	Lab Control Spike	120213B LCS-1SN	0213N25S.D	02/14/12 0:19
3	Blank	120213B BLK-1SN	0213N27S.D	02/14/12 1:35
4	AOC65-WC03	AY54360S01 5.011	0213N39S.D	02/14/12 9:06
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	25.4
75	30 - 60% of mass 95	49.3
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.6
173	0 - 2% of mass 174	0.5
174	50 - 100% of mass 95	72.9
175	5 - 9% of mass 174	7.5
176	95 - 101% of mass 174	97.7
177	5 - 9% of mass 176	6.4

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: *G012

Lab Code: SDG No.: 66922

Lab File ID (Standard): 0210N08S.D Date Analyzed: 02/10/12

Instrument ID: Neo Time Analyzed: 16:04

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	321024	13.28	236352	18.44	108192	22.64
	UPPER LIMIT	642048	13.78	472704	18.94	216384	23.14
	LOWER LIMIT	160512	12.78	118176	17.94	54096	22.14
	SAMPLE NO.						
01	50ug/kg Vol Std 02-13-1	379968	13.29	261696	18.46	121720	22.65
02	120213B LCS-1SN	355008	13.28	252928	18.45	118072	22.64
03	120213B BLK-1SN	348160	13.29	240000	18.45	104856	22.65
04	AY54360S01 5.011	306496	13.27	201216	18.45	70792	22.64
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA METHOD 8260B
Volatile Organic Compounds
Sample Data

APPL, INC.

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120213BN-163930
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC03 Lab Sample ID: AY54360 Matrix: Soil
% Solids: 81.3 Initial Calibration ID: N120210
Date Received: 10-Feb-12 Date Prepared: 14-Feb-12 Date Analyzed: 14-Feb-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0008	0.003	0.0008	1		U
1,1,1-TCA	0.0009	0.004	0.0009	1		U
1,1,2,2-TETRACHLOROETHANE	0.0009	0.002	0.0009	1		U
1,1,2-TCA	0.0009	0.005	0.0009	1		U
1,1-DCA	0.0010	0.002	0.0010	1		U
1,1-DCE	0.0011	0.006	0.0011	1		U
1,1-DICHLOROPROPENE	0.0012	0.005	0.0012	1		U
1,2,3-TRICHLOROBENZENE	0.0010	0.004	0.0010	1		U
1,2,3-TRICHLOROPROPANE	0.001	0.020	0.001	1		U
1,2,4-TRICHLOROBENZENE	0.0010	0.004	0.0010	1		U
1,2,4-TRIMETHYLBENZENE	0.0011	0.007	0.0011	1		U
1,2-DCA	0.0010	0.003	0.0010	1		U
1,2-DCB	0.0010	0.002	0.0010	1		U
1,2-DIBROMO-3-CHLOROPROPANE	0.002	0.010	0.002	1		U
1,2-DICHLOROPROPANE	0.0007	0.002	0.0007	1		U
1,2-EDB	0.0013	0.003	0.0013	1		U
1,3,5-TRIMETHYLBENZENE	0.0011	0.003	0.0011	1		U
1,3-DCB	0.0011	0.006	0.0011	1		U
1,3-DICHLOROPROPANE	0.0007	0.002	0.0007	1		U
1,4-DCB	0.0008	0.002	0.0008	1		U
1-CHLOROHEXANE	0.0009	0.003	0.0009	1		U
2,2-DICHLOROPROPANE	0.001	0.020	0.001	1		U
2-CHLOROTOLUENE	0.0013	0.002	0.0013	1		U
4-CHLOROTOLUENE	0.0011	0.003	0.0011	1		U
BENZENE	0.0009	0.002	0.0009	1		U
BROMOBENZENE	0.0009	0.002	0.0009	1		U
BROMOCHLOROMETHANE	0.0008	0.002	0.0008	1		U
BROMODICHLOROMETHANE	0.0009	0.004	0.0009	1		U
BROMOFORM	0.0011	0.006	0.0011	1		U
BROMOMETHANE	0.0007	0.005	0.0007	1		U
CARBON TETRACHLORIDE	0.001	0.010	0.001	1		U
CHLOROBENZENE	0.0007	0.002	0.0007	1		U
CHLOROETHANE	0.0015	0.005	0.0015	1		U
CHLOROFORM	0.0007	0.002	0.0007	1		U
CHLOROMETHANE	0.0015	0.007	0.0015	1		U

Comments:

ARF: 66922

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120213BN-163930
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC03 Lab Sample ID: AY54360 Matrix: Soil
% Solids: 81.3 Initial Calibration ID: N120210
Date Received: 10-Feb-12 Date Prepared: 14-Feb-12 Date Analyzed: 14-Feb-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
CIS-1,2-DCE	0.0008	0.006	0.0008	1		U
CIS-1,3-DICHLOROPROPENE	0.0009	0.005	0.0009	1		U
DIBROMOCHLOROMETHANE	0.0009	0.003	0.0009	1		U
DIBROMOMETHANE	0.001	0.010	0.001	1		U
DICHLORODIFLUOROMETHANE	0.0018	0.005	0.0018	1		U
ETHYLBENZENE	0.0010	0.003	0.0010	1		U
HEXACHLOROBUTADIENE	0.0011	0.005	0.0011	1		U
ISOPROPYLBENZENE	0.0010	0.008	0.0010	1		U
M&P-XYLENE	0.0018	0.007	0.0018	1		U
METHYLENE CHLORIDE	0.0013	0.005	0.0013	1		U
N-BUTYLBENZENE	0.0010	0.005	0.0010	1		U
N-PROPYLBENZENE	0.0012	0.002	0.0012	1		U
NAPHTHALENE	0.0010	0.020	0.0010	1		U
O-XYLENE	0.0007	0.005	0.0007	1		U
P-ISOPROPYLTOLUENE	0.0012	0.006	0.0012	1		U
SEC-BUTYLBENZENE	0.0011	0.007	0.0011	1		U
STYRENE	0.0009	0.002	0.0009	1		U
TCE	0.0012	0.010	0.0012	1		U
TERT-BUTYLBENZENE	0.0012	0.007	0.0012	1		U
TETRACHLOROETHENE	0.0008	0.007	0.0008	1		U
TOLUENE	0.0010	0.005	0.0010	1		U
TRANS-1,2-DCE	0.0008	0.003	0.0008	1		U
TRANS-1,3-DICHLOROPROPENE	0.0009	0.005	0.0009	1		U
TRICHLOROFLUOROMETHANE	0.0013	0.004	0.0013	1		U
VINYL CHLORIDE	0.0013	0.009	0.0013	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	107	52-149	
SURROGATE: 4-BROMOFLUOROBENZE	96.5	65-135	
SURROGATE: DIBROMOFLUOROMETH	115	65-135	
SURROGATE: TOLUENE-D8 (S)	116	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 66922

AFCEE FORM O-2

EPA METHOD 8260B
Volatile Organic Compounds
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 66922
Case No: Initial Cal. Date: 02/10/12
Matrix: Soil Instrument: Neo
Initials:

			0210N04S.D	0210N05S.D	0210N06S.D	0210N07S.D	0210N08S.D	0210N09S.D	0210N10S.D							
		Compound	2	5	10	20	50	100	200				Avg	%RSD		r
1	I	Fluorobenzene (iS)	ISTD													
2	TML	Dichlorodifluoromethane	0.5036	0.9396	0.9068	1.081	0.9418	0.9814	1.139				0.93	22	TML	0.997
3	TM**	Chloromethane	2.031	1.888	1.798	1.869	1.788	1.826	1.832				1.9	4.4	TM**	
4	TM*	Vinyl chloride		0.3569	0.3413	0.3321	0.3516	0.3546	0.3770				0.35	4.3	TM*	
5	TML	Bromomethane	0.5573	0.3068	0.4126	0.4523	0.5441	0.6409	0.7107				0.52	27	TML	0.998
6	TM	Chloroethane		0.6814	0.7288	0.7902	0.7744	0.7949	0.7796				0.76	5.9	TM	
7	TM	Dichlorofluoromethane	2.068	2.110	2.208	2.352	2.505	2.560	2.457				2.3	8.5	TM	
8	TML	Trichlorofluoromethane	0.6024	0.9443	0.9464	1.052	0.9662	1.012	1.123				0.95	17	TML	0.998
9	TM	Acrolein	0.1334	0.1105	0.1198	0.1232	0.1247	0.1229	0.1270				0.12	5.7	TM	
10	TML	Acetone	1.062	0.6381	0.4832	0.4471	0.3566	0.3478	0.3411				0.53	49	TML	1.000
11	TM	Freon-113	0.5098	0.7162	0.7098	0.7850	0.7267	0.8511	0.8230				0.73	15	TM	
12	TM*	1,1-DCE		0.7478	0.6510	0.7160	0.7264	0.7614	0.7621				0.73	5.7	TM*	
13	TM	t-Butanol													TM	
14	TML	Methyl Acetate	1.968	1.557	1.589	1.609	1.200	1.168	1.086				1.5	22	TML	0.999
15	TML	Iodomethane	0.5214	0.3068	0.4120	0.4839	0.6028	0.6461	0.7358				0.53	27	TML	0.998
16	TM	Acrylonitrile	0.3725	0.2847	0.3361	0.3649	0.3629	0.3740	0.3743				0.35	9.3	TM	
17	TML	Methylene chloride	1.699	1.308	1.180	1.135	1.240	1.165	1.045				1.3	17	TML	0.998
18	TM	Carbon disulfide	3.520	3.289	3.103	3.390	3.265	3.435	3.365				3.3	4.0	TM	
19	TM	Methyl t-butyl ether (MtBE)	2.687	2.437	2.437	2.389	2.660	2.714	2.557				2.6	5.3	TM	
20	TM	Trans-1,2-DCE	0.8424	0.8418	0.8325	0.8930	0.9284	0.9525	0.9229				0.89	5.5	TM	
21	TM	Diisopropyl Ether	4.754	4.715	4.908	5.066	5.265	5.419	4.871				5.0	5.3	TM	
22	TM**	1,1-DCA	1.680	1.873	1.898	1.994	2.107	2.148	1.974				2.0	8.0	TM**	
23	TM	Vinyl Acetate	4.058	3.617	3.994	4.055	4.308	4.391	3.988				4.1	6.2	TM	
24	TM	Ethyl tert Butyl Ether	3.691	3.407	3.454	3.458	3.816	3.838	3.555				3.6	5.0	TM	
25	TM	MEK (2-Butanone)	1.040	0.9047	0.9186	0.9136	0.9792	0.9326	0.8822				0.94	5.7	TM	
26	TM	Cis-1,2-DCE	0.9683	1.018	1.015	1.012	1.097	1.061	1.019				1.0	4.0	TM	
27	TM	2,2-Dichloropropane	1.154	1.092	1.229	1.224	1.292	1.380	1.342				1.2	8.2	TM	
28	TM*	Chloroform	1.860	1.700	1.678	1.696	1.824	1.838	1.768				1.8	4.3	TM*	
29	TM	Bromochloromethane	0.3656	0.3651	0.3424	0.3309	0.3560	0.3334	0.3341				0.35	4.4	TM	
30	S	Dibromofluoromethane(S)	1.035	1.001	0.9822	0.9524	0.9094	0.9651	0.9353				0.97	4.3	S	
31	TM	1,1,1-TCA	1.039	1.117	1.195	1.286	1.268	1.363	1.296				1.2	9.2	TM	
32	TM	Cyclohexane	1.120	1.463	1.459	1.719	1.525	1.747	1.677				1.5	14	TM	
33	TM	1,1-Dichloropropene	1.002	1.196	1.130	1.245	1.262	1.362	1.272				1.2	9.6	TM	
34	S	1,2-DCA-D4(S)	1.333	1.135	1.083	1.102	1.008	1.081	1.047				1.1	9.5	S	
35	TML	Carbon Tetrachloride	0.7011	0.7506	0.9105	0.9859	0.9682	1.079	1.037				0.92	16	TML	0.999

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 66922
Case No: Initial Cal. Date: 02/10/12
Matrix: Soil Instrument: Neo
Initials:

		Compound	2	5	10	20	50	100	200				Avg	%RSD		r
36	TM	Tert Amyl Methyl Ether	2.855	2.672	2.715	2.698	2.963	2.840	2.778				2.8	3.7	TM	
37	TM	1,2-DCA	1.271	1.218	1.247	1.255	1.369	1.339	1.285				1.3	4.1	TM	
38	TM	Benzene	3.738	3.719	3.634	3.838	3.858	4.117	3.716				3.8	4.2	TM	
39	TM	TCE	0.7506	0.8970	0.8227	0.8680	0.9075	0.9621	0.9094				0.87	7.9	TM	
40	TM	2-Pentanone	1.014	0.8846	0.9556	0.9237	0.9922	0.8857	0.9095				0.94	5.4	TM	
41	TM*	1,2-Dichloropropane	1.127	1.109	1.114	1.144	1.221	1.221	1.154				1.2	4.1	TM*	
42	TM	Bromodichloromethane	1.366	1.278	1.274	1.331	1.424	1.440	1.333				1.3	4.8	TM	
43	TM	Dibromomethane	0.6518	0.6210	0.6071	0.5917	0.6421	0.6447	0.5957				0.62	4.0	TM	
44	TM	Methyl Cyclohexane	0.8265	1.117	1.064	1.290	1.142	1.339	1.290				1.2	15	TM	
45	TM	2-Chloroethyl vinyl ether	0.5380	0.5037	0.5638	0.5439	0.6033	0.5886	0.5472				0.56	6.0	TM	
46	TM	1-Bromo-2-chloroethane	1.427	1.367	1.342	1.408	1.488	1.525	1.374				1.4	4.7	TM	
47	TM	Cis-1,3-Dichloropropene	1.583	1.573	1.632	1.663	1.753	1.747	1.673				1.7	4.3	TM	
48	TM*	Toluene	3.645	3.545	3.455	3.713	3.688	3.644	3.456				3.6	3.0	TM*	
49	TM	Trans-1,3-Dichloropropene	1.494	1.261	1.339	1.290	1.473	1.432	1.354				1.4	6.6	TM	
50	TM	1,1,2-TCA	0.6986	0.5721	0.6745	0.6573	0.7149	0.7126	0.6569				0.67	7.4	TM	
51	I	Chlorobenzene-D5 (IS)	ISTD													
52	SL	Toluene-D8(S)	6.285	4.222	4.140	4.398	3.514	4.042	3.964				4.4	20	SL	0.999
53	TM	1,2-EDB	1.159	1.004	1.035	1.113	1.107	1.129	1.066				1.1	5.0	TM	
54	TM	Tetrachloroethene		0.7358	0.7031	0.8739	0.7766	0.8323	0.7810				0.78	7.9	TM	
55	TM	1-Chlorohexane	1.591	1.588	1.528	1.788	1.621	1.813	1.773				1.7	6.9	TM	
56	TM	1,1,1,2-Tetrachloroethane	1.036	1.147	1.033	1.090	1.136	1.127	1.075				1.1	4.3	TM	
57	TM	m&p-Xylene	1.974	1.909	1.681	1.872	1.772	1.881	1.762				1.8	5.5	TM	
58	TM	o-Xylene	2.089	1.925	1.754	1.888	1.904	1.778	1.774				1.9	6.3	TM	
59	TM	Styrene	1.943	1.977	1.915	1.877	2.031	1.895	1.859				1.9	3.1	TM	
60	SL	4-Bromofluorobenzene(S)	2.577	1.709	1.501	1.539	1.351	1.443	1.485				1.7	25	SL	0.999
61	TM	2-Hexanone	1.431	1.121	1.083	1.189	1.134	1.143	1.096				1.2	10	TM	
62	TM	1,3-Dichloropropane	2.332	1.850	1.813	1.942	1.943	1.933	1.857				2.0	9.0	TM	
63	TM	Dibromochloromethane	1.326	1.142	1.162	1.341	1.338	1.348	1.262				1.3	6.9	TM	
64	TM**	Chlorobenzene	3.206	2.972	2.836	2.942	3.023	2.925	2.946				3.0	3.9	TM**	
65	TM*	Ethylbenzene	5.876	5.413	4.803	5.518	5.368	5.714	5.369				5.4	6.2	TM*	
66	TM**	Bromoform	0.8379	0.6865	0.7274	0.7589	0.7983	0.7989	0.7950				0.77	6.6	TM**	
67	I	1,4-Dichlorobenzene-D (IS)	ISTD													
68	TM	MIBK (methyl isobutyl ketone)	5.170	4.324	4.277	4.031	3.455	3.755	3.773				4.1	14	TM	
69	TM	Isopropylbenzene	10.4	11.8	9.946	10.5	9.766	10.8	11.2				11	6.7	TM	
70	TM**	1,1,2,2-Tetrachloroethane	3.508	3.372	3.210	3.347	3.010	3.328	3.228				3.3	4.8	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Soil

SDG No: 66922
Initial Cal. Date: 02/10/12
Instrument: Neo

Initials:

		Compound	2	5	10	20	50	100	200				Avg	%RSD		r
71	TM	1,2,3-Trichloropropane	0.8558	0.7363	0.7001	0.6586	0.6649						0.72	11	TM	
72	TM	t-1,4-Dichloro-2-Butene	1.281	1.024	1.033	0.9289	0.9132	0.9962	1.030				1.0	12	TM	
73	TM	Bromobenzene	2.940	2.976	2.723	2.600	2.400	2.745	2.761				2.7	7.2	TM	
74	TM	n-Propylbenzene	15.0	15.3	14.0	14.8	12.6	14.4	15.0				14	6.4	TM	
75	TM	2-Chlorotoluene	10.5	11.0	9.487	9.472	8.553	9.449	9.924				9.8	8.2	TM	
76	TM	1,3,5-Trimethylbenzene	9.638	9.292	8.410	8.945	7.933	8.669	8.953				8.8	6.4	TM	
77	TM	4-Chlorotoluene	9.536	8.964	8.847	8.568	7.969	8.406	8.143				8.6	6.2	TM	
78	TM	Tert-Butylbenzene	8.680	9.187	7.825	8.212	7.468	8.275	8.373				8.3	6.7	TM	
79	TM	1,2,4-Trimethylbenzene	9.885	10.0	8.730	8.730	8.128	9.114	8.957				9.1	7.4	TM	
80	TM	Sec-Butylbenzene	11.4	12.8	11.2	12.0	10.7	12.2	12.0				12	5.9	TM	
81	TM	p-Isopropyltoluene	8.004	9.699	8.528	8.971	7.697	8.713	8.971				8.7	7.7	TM	
82	TM	Benzyl Chloride	6.147	5.724	4.641	4.881	4.448	4.691	4.659				5.0	13	TM	
83	TM	1,3-DCB	5.497	4.937	4.903	4.815	4.235	4.458	4.438				4.8	8.9	TM	
84	TM	1,4-DCB	4.912	5.377	4.722	4.665	4.147	4.532	4.511				4.7	8.1	TM	
85	TM	n-Butylbenzene	10.4	10.3	9.541	9.576	8.642	9.361	9.871				9.7	6.1	TM	
86	TM	1,2-DCB	5.509	4.711	4.302	4.402	3.911	4.201	4.211				4.5	12	TM	
87	TM	1,2-Dibromo-3-chloropropane	0.4145	0.3969	0.3737	0.3756	0.3817	0.4085	0.4224				0.40	5.0	TM	
88	TM	1,2,4-Trichlorobenzene	3.406	3.070	2.894	2.757	2.414	2.605	2.644				2.8	12	TM	
89	TM	Hexachlorobutadiene	1.901	1.865	1.619	1.640	1.527	1.722	1.792				1.7	7.9	TM	
90	TM	Naphthalene	6.679	6.134	5.578	5.486	4.937	5.300	5.360				5.6	10	TM	
91	TM	1,2,3-Trichlorobenzene	3.020	2.725	2.573	2.459	2.262	2.281	2.354				2.5	11	TM	
92																
93																
94																
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 66922
Date Analyzed: 02/10/12
Instrument: Neo
Initial Cal. Date: 02/10/12
Data File: 0210N16S.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TML	Dichlorodifluoromethane	0.9277	1.105	19	TML	4.8
3	TM**	Chloromethane	1.862	1.899	2.0	TM**	
4	TM*	Vinyl chloride	0.3523	0.3853	9.4	TM*	
5	TML	Bromomethane	0.5178	0.6079	17	TML	4.0
6	TM	Chloroethane	0.7582	0.8180	7.9	TM	
7	TM	Dichlorofluoromethane	2.323	2.401	3.4	TM	
8	TML	Trichlorofluoromethane	0.9495	1.113	17	TML	5.2
9	TM	Acrolein	0.1231	0.1137	7.6	TM	
10	TML	Acetone	0.5251	0.3187	39	TML	14
11	TM	Freon-113	0.7317	0.7810	6.7	TM	
12	TM*	1,1-DCE	0.7275	0.7644	5.1	TM*	
13	TM	t-Butanol	0.0000	0.0171	0.00	TM	
14	TML	Methyl Acetate	1.454	0.9950	32	TML	18
15	TML	Iodomethane	0.5298	0.6739	27	TML	1.9
16	TM	Acrylonitrile	0.3528	0.3424	2.9	TM	
17	TML	Methylene chloride	1.253	1.035	17	TML	8.4
18	TM	Carbon disulfide	3.338	3.292	1.4	TM	
19	TM	Methyl t-butyl ether (MtBE)	2.554	2.521	1.3	TM	
20	TM	Trans-1,2-DCE	0.8876	0.9325	5.0	TM	
21	TM	Diisopropyl Ether	5.000	4.954	0.92	TM	
22	TM**	1,1-DCA	1.953	2.028	3.8	TM**	
23	TM	Vinyl Acetate	4.059	3.969	2.2	TM	
24	TM	Ethyl tert Butyl Ether	3.603	3.500	2.9	TM	
25	TM	MEK (2-Butanone)	0.9387	0.8581	8.6	TM	
26	TM	Cis-1,2-DCE	1.027	1.059	3.1	TM	
27	TM	2,2-Dichloropropane	1.245	1.337	7.4	TM	
28	TM*	Chloroform	1.766	1.734	1.9	TM*	
29	TM	Bromochloromethane	0.3468	0.3392	2.2	TM	
30	S	Dibromofluoromethane(S)	0.9686	0.9069	6.4	S	
31	TM	1,1,1-TCA	1.223	1.304	6.6	TM	
32	TM	Cyclohexane	1.530	1.690	10	TM	
33	TM	1,1-Dichloropropene	1.210	1.274	5.3	TM	
34	S	1,2-DCA-D4(S)	1.113	1.086	2.4	S	
35	TML	Carbon Tetrachloride	0.9188	0.9928	8.1	TML	3.1
36	TM	Tert Amyl Methyl Ether	2.789	2.669	4.3	TM	
37	TM	1,2-DCA	1.283	1.205	6.1	TM	
38	TM	Benzene	3.803	3.863	1.6	TM	
39	TM	TCE	0.8739	0.8907	1.9	TM	
40	TM	2-Pentanone	0.9379	0.9142	2.5	TM	
		Average			7.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 66922
Date Analyzed: 02/10/12
Instrument: Neo
Cal. Date: 02/10/12
Data File: 0210N16S.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM*	1,2-Dichloropropane	1.155	1.160	0.36	TM*	
42	TM	Bromodichloromethane	1.349	1.340	0.70	TM	
43	TM	Dibromomethane	0.6220	0.5974	4.0	TM	
44	TM	Methyl Cyclohexane	1.153	1.249	8.4	TM	
45	TM	2-Chloroethyl vinyl ether	0.5555	0.5619	1.2	TM	
46	TM	1-Bromo-2-chloroethane	1.419	1.370	3.4	TM	
47	TM	Cis-1,3-Dichloropropene	1.660	1.661	0.05	TM	
48	TM*	Toluene	3.592	3.518	2.1	TM*	
49	TM	Trans-1,3-Dichloropropene	1.378	1.395	1.3	TM	
50	TM	1,1,2-TCA	0.6696	0.6602	1.4	TM	
51	I	Chlorobenzene-D5 (IS)	ISTD			I	
52	SL	Toluene-D8(S)	4.366	3.677	16	SL	7.5
53	TM	1,2-EDB	1.088	1.110	2.0	TM	
54	TM	Tetrachloroethene	0.7838	0.8122	3.6	TM	
55	TM	1-Chlorohexane	1.672	1.709	2.2	TM	
56	TM	1,1,1,2-Tetrachloroethane	1.092	1.074	1.6	TM	
57	TM	m&p-Xylene	1.836	1.877	2.2	TM	
58	TM	o-Xylene	1.873	1.834	2.1	TM	
59	TM	Styrene	1.928	1.892	1.9	TM	
60	SL	4-Bromofluorobenzene(S)	1.658	1.393	16	SL	5.0
61	TM	2-Hexanone	1.171	1.128	3.7	TM	
62	TM	1,3-Dichloropropane	1.953	1.905	2.5	TM	
63	TM	Dibromochloromethane	1.274	1.262	0.93	TM	
64	TM**	Chlorobenzene	2.978	3.020	1.4	TM**	
65	TM*	Ethylbenzene	5.437	5.642	3.8	TM*	
66	TM**	Bromoform	0.7718	0.7566	2.0	TM**	
67	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
68	TM	MIBK (methyl isobutyl ketone)	4.112	4.034	1.9	TM	
69	TM	Isopropylbenzene	10.6	11.6	8.9	TM	
70	TM**	1,1,2,2-Tetrachloroethane	3.286	3.471	5.6	TM**	
71	TM	1,2,3-Trichloropropane	0.7231	0.7656	5.9	TM	
72	TM	t-1,4-Dichloro-2-Butene	1.030	1.030	0.03	TM	
73	TM	Bromobenzene	2.735	2.908	6.3	TM	
74	TM	n-Propylbenzene	14.5	15.9	9.9	TM	
75	TM	2-Chlorotoluene	9.769	10.6	8.3	TM	
76	TM	1,3,5-Trimethylbenzene	8.834	9.978	13	TM	
77	TM	4-Chlorotoluene	8.633	9.391	8.8	TM	
78	TM	Tert-Butylbenzene	8.289	9.149	10	TM	
79	TM	1,2,4-Trimethylbenzene	9.080	9.741	7.3	TM	
80	TM	Sec-Butylbenzene	11.7	13.2	13	TM	
		Average			4.8		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 66922
Date Analyzed: 02/10/12
Instrument: Neo
Cal. Date: 02/10/12
Data File: 0210N16S.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	p-Isopropyltoluene	8.655	9.638	11	TM	
82	TM	Benzyl Chloride	5.027	4.683	6.9	TM	
83	TM	1,3-DCB	4.755	4.966	4.5	TM	
84	TM	1,4-DCB	4.695	4.804	2.3	TM	
85	TM	n-Butylbenzene	9.662	10.4	7.9	TM	
86	TM	1,2-DCB	4.464	4.710	5.5	TM	
87	TM	1,2-Dibromo-3-chloropropane	0.3962	0.4423	12	TM	
88	TM	1,2,4-Trichlorobenzene	2.827	2.905	2.8	TM	
89	TM	Hexachlorobutadiene	1.724	1.941	13	TM	
90	TM	Naphthalene	5.639	6.084	7.9	TM	
91	TM	1,2,3-Trichlorobenzene	2.525	2.764	9.5	TM	
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120							
		Average			7.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 66922
Date Analyzed: 02/13/12
Instrument: Neo
Initial Cal. Date: 02/10/12
Data File: 0213N24S.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TML	Dichlorodifluoromethane	0.9277	1.169	26	TML	11
3	TM**	Chloromethane	1.862	1.862	0.03	TM**	
4	TM*	Vinyl chloride	0.3523	0.3461	1.7	TM*	
5	TML	Bromomethane	0.5178	0.5875	13	TML	6.8
6	TM	Chloroethane	0.7582	0.8285	9.3	TM	
7	TM	Dichlorofluoromethane	2.323	2.486	7.0	TM	
8	TML	Trichlorofluoromethane	0.9495	1.196	26	TML	13
9	TM	Acrolein	0.1231	0.1099	11	TM	
10	TML	Acetone	0.5251	0.3375	36	TML	8.1
11	TM	Freon-113	0.7317	0.8581	17	TM	
12	TM*	1,1-DCE	0.7275	0.7893	8.5	TM*	
13	TM	t-Butanol	0.0000	0.0143	0.00	TM	
14	TML	Methyl Acetate	1.454	0.9638	34	TML	20
15	TML	Iodomethane	0.5298	0.6654	26	TML	0.75
16	TM	Acrylonitrile	0.3528	0.3307	6.3	TM	
17	TML	Methylene chloride	1.253	1.175	6.3	TML	4.9
18	TM	Carbon disulfide	3.338	3.466	3.8	TM	
19	TM	Methyl t-butyl ether (MtBE)	2.554	2.488	2.6	TM	
20	TM	Trans-1,2-DCE	0.8876	0.9408	6.0	TM	
21	TM	Diisopropyl Ether	5.000	4.837	3.3	TM	
22	TM**	1,1-DCA	1.953	2.031	4.0	TM**	
23	TM	Vinyl Acetate	4.059	3.898	4.0	TM	
24	TM	Ethyl tert Butyl Ether	3.603	3.464	3.8	TM	
25	TM	MEK (2-Butanone)	0.9387	0.8399	11	TM	
26	TM	Cis-1,2-DCE	1.027	1.047	2.0	TM	
27	TM	2,2-Dichloropropane	1.245	1.354	8.8	TM	
28	TM*	Chloroform	1.766	1.840	4.2	TM*	
29	TM	Bromochloromethane	0.3468	0.3438	0.86	TM	
30	S	Dibromofluoromethane(S)	0.9686	1.011	4.4	S	
31	TM	1,1,1-TCA	1.223	1.389	14	TM	
32	TM	Cyclohexane	1.530	1.768	16	TM	
33	TM	1,1-Dichloropropene	1.210	1.338	11	TM	
34	S	1,2-DCA-D4(S)	1.113	1.122	0.80	S	
35	TML	Carbon Tetrachloride	0.9188	1.080	18	TML	5.3
36	TM	Tert Amyl Methyl Ether	2.789	2.711	2.8	TM	
37	TM	1,2-DCA	1.283	1.277	0.52	TM	
38	TM	Benzene	3.803	3.954	4.0	TM	
39	TM	TCE	0.8739	0.9318	6.6	TM	
40	TM	2-Pentanone	0.9379	0.8443	10.0	TM	
		Average			9.5		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 66922
Date Analyzed: 02/13/12
Instrument: Neo
Cal. Date: 02/10/12
Data File: 0213N24S.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM*	1,2-Dichloropropane	1.155	1.129	2.3	TM*	
42	TM	Bromodichloromethane	1.349	1.407	4.3	TM	
43	TM	Dibromomethane	0.6220	0.6228	0.13	TM	
44	TM	Methyl Cyclohexane	1.153	1.290	12	TM	
45	TM	2-Chloroethyl vinyl ether	0.5555	0.5333	4.0	TM	
46	TM	1-Bromo-2-chloroethane	1.419	1.293	8.9	TM	
47	TM	Cis-1,3-Dichloropropene	1.660	1.634	1.6	TM	
48	TM*	Toluene	3.592	3.829	6.6	TM*	
49	TM	Trans-1,3-Dichloropropene	1.378	1.457	5.8	TM	
50	TM	1,1,2-TCA	0.6696	0.6920	3.3	TM	
51	I	Chlorobenzene-D5 (IS)	ISTD			I	
52	SL	Toluene-D8(S)	4.366	4.233	3.1	SL	6.6
53	TM	1,2-EDB	1.088	1.079	0.84	TM	
54	TM	Tetrachloroethene	0.7838	0.8439	7.7	TM	
55	TM	1-Chlorohexane	1.672	1.987	19	TM	
56	TM	1,1,1,2-Tetrachloroethane	1.092	1.229	13	TM	
57	TM	m&p-Xylene	1.836	2.042	11	TM	
58	TM	o-Xylene	1.873	2.068	10	TM	
59	TM	Styrene	1.928	2.080	7.9	TM	
60	SL	4-Bromofluorobenzene(S)	1.658	1.572	5.1	SL	7.2
61	TM	2-Hexanone	1.171	1.099	6.2	TM	
62	TM	1,3-Dichloropropane	1.953	1.888	3.3	TM	
63	TM	Dibromochloromethane	1.274	1.338	5.0	TM	
64	TM**	Chlorobenzene	2.978	3.254	9.2	TM**	
65	TM*	Ethylbenzene	5.437	6.341	17	TM*	
66	TM**	Bromoform	0.7718	0.8458	9.6	TM**	
67	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
68	TM	MIBK (methyl isobutyl ketone)	4.112	3.291	20	TM	
69	TM	Isopropylbenzene	10.6	11.2	5.3	TM	
70	TM**	1,1,2,2-Tetrachloroethane	3.286	3.083	6.2	TM**	
71	TM	1,2,3-Trichloropropane	0.7231	0.6670	7.8	TM	
72	TM	t-1,4-Dichloro-2-Butene	1.030	0.9482	7.9	TM	
73	TM	Bromobenzene	2.735	2.749	0.50	TM	
74	TM	n-Propylbenzene	14.5	14.8	2.0	TM	
75	TM	2-Chlorotoluene	9.769	9.805	0.37	TM	
76	TM	1,3,5-Trimethylbenzene	8.834	9.265	4.9	TM	
77	TM	4-Chlorotoluene	8.633	8.590	0.50	TM	
78	TM	Tert-Butylbenzene	8.289	8.603	3.8	TM	
79	TM	1,2,4-Trimethylbenzene	9.080	9.145	0.71	TM	
80	TM	Sec-Butylbenzene	11.7	12.1	3.2	TM	
		Average			6.3		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 66922
Date Analyzed: 02/13/12
Instrument: Neo
Cal. Date: 02/10/12
Data File: 0213N24S.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	p-Isopropyltoluene	8.655	8.939	3.3	TM	
82	TM	Benzyl Chloride	5.027	4.391	13	TM	
83	TM	1,3-DCB	4.755	4.741	0.28	TM	
84	TM	1,4-DCB	4.695	4.704	0.20	TM	
85	TM	n-Butylbenzene	9.662	9.568	0.98	TM	
86	TM	1,2-DCB	4.464	4.373	2.0	TM	
87	TM	1,2-Dibromo-3-chloropropane	0.3962	0.3840	3.1	TM	
88	TM	1,2,4-Trichlorobenzene	2.827	2.550	9.8	TM	
89	TM	Hexachlorobutadiene	1.724	1.969	14	TM	
90	TM	Naphthalene	5.639	5.136	8.9	TM	
91	TM	1,2,3-Trichlorobenzene	2.525	2.363	6.4	TM	
92							
93							
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120							
		Average			5.6		

EPA METHOD 8260B
Volatile Organic Compounds
Raw Data

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
Concentration Units: mg/kg
Initial Calibration ID: N120210

AAB #: 120213BN-163930
Contract #: *G012
Method Blank ID: 120213BN-BLK

Analyte	Method Blank	RL	Q
1,1,1,2-TETRACHLOROETHANE	< RL	0.003	U
1,1,1-TCA	< RL	0.004	U
1,1,2,2-TETRACHLOROETHANE	< RL	0.002	U
1,1,2-TCA	< RL	0.005	U
1,1-DCA	< RL	0.002	U
1,1-DCE	< RL	0.006	U
1,1-DICHLOROPROPENE	< RL	0.005	U
1,2,3-TRICHLOROBENZENE	< RL	0.004	U
1,2,3-TRICHLOROPROPANE	< RL	0.020	U
1,2,4-TRICHLOROBENZENE	< RL	0.004	U
1,2,4-TRIMETHYLBENZENE	< RL	0.007	U
1,2-DCA	< RL	0.003	U
1,2-DCB	< RL	0.002	U
1,2-DIBROMO-3-CHLOROPROPANE	< RL	0.010	U
1,2-DICHLOROPROPANE	< RL	0.002	U
1,2-EDB	< RL	0.003	U
1,3,5-TRIMETHYLBENZENE	< RL	0.003	U
1,3-DCB	< RL	0.006	U
1,3-DICHLOROPROPANE	< RL	0.002	U
1,4-DCB	< RL	0.002	U
1-CHLOROHEXANE	< RL	0.003	U
2,2-DICHLOROPROPANE	< RL	0.020	U
2-CHLOROTOLUENE	< RL	0.002	U
4-CHLOROTOLUENE	< RL	0.003	U
BENZENE	< RL	0.002	U
BROMOBENZENE	< RL	0.002	U
BROMOCHLOROMETHANE	< RL	0.002	U
BROMODICHLOROMETHANE	< RL	0.004	U
BROMOFORM	< RL	0.006	U
BROMOMETHANE	< RL	0.005	U
CARBON TETRACHLORIDE	< RL	0.010	U
CHLOROBENZENE	< RL	0.002	U
CHLOROETHANE	< RL	0.005	U
CHLOROFORM	< RL	0.002	U
CHLOROMETHANE	< RL	0.007	U
CIS-1,2-DCE	< RL	0.006	U
CIS-1,3-DICHLOROPROPENE	< RL	0.005	U
DIBROMOCHLOROMETHANE	< RL	0.003	U
DIBROMOMETHANE	< RL	0.010	U
DICHLORODIFLUOROMETHANE	< RL	0.005	U
ETHYLBENZENE	< RL	0.003	U

Comments: ARF: 66922, Sample: AY54360

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
Concentration Units: mg/kg
Initial Calibration ID: N120210

AAB #: 120213BN-163930
Contract #: *G012
Method Blank ID: 120213BN-BLK

Analyte	Method Blank	RL	Q
HEXACHLOROBUTADIENE	< RL	0.005	U
ISOPROPYLBENZENE	< RL	0.008	U
M&P-XYLENE	< RL	0.007	U
METHYLENE CHLORIDE	< RL	0.005	U
N-BUTYLBENZENE	< RL	0.005	U
N-PROPYLBENZENE	< RL	0.002	U
NAPHTHALENE	< RL	0.020	U
O-XYLENE	< RL	0.005	U
P-ISOPROPYLTOLUENE	< RL	0.006	U
SEC-BUTYLBENZENE	< RL	0.007	U
STYRENE	< RL	0.002	U
TCE	< RL	0.010	U
TERT-BUTYLBENZENE	< RL	0.007	U
TETRACHLOROETHENE	< RL	0.007	U
TOLUENE	< RL	0.005	U
TRANS-1,2-DCE	< RL	0.003	U
TRANS-1,3-DICHLOROPROPENE	< RL	0.005	U
TRICHLOROFLUOROMETHANE	< RL	0.004	U
VINYL CHLORIDE	< RL	0.009	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHAN	102	52-149	
SURROGATE: 4-BROMOFLUOROBE	103	65-135	
SURROGATE: DIBROMOFLUOROME	111	65-135	
SURROGATE: TOLUENE-D8 (S)	112	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 66922, Sample: AY54360

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
AAB #: 120213BN-163930
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120213BN LCS
Initial Calibration ID: N120210
Concentration Units: mg/kg

Analyte	Expected	Found	% R	Control Limits	Q
1,1,1,2-TETRACHLOROETHANE	0.0500	0.0563	113	62-125	
1,1,1-TCA	0.0500	0.0604	121	65-135	
1,1,2,2-TETRACHLOROETHANE	0.0500	0.0510	102	64-135	
1,1,2-TCA	0.0500	0.0554	111	65-135	
1,1-DCA	0.0500	0.0571	114	62-135	
1,1-DCE	0.0500	0.0596	119	65-135	
1,1-DICHLOROPROPENE	0.0500	0.0593	119	65-135	
1,2,3-TRICHLOROBENZENE	0.0500	0.0485	97.0	65-147	
1,2,3-TRICHLOROPROPANE	0.050	0.051	102	65-135	
1,2,4-TRICHLOROBENZENE	0.0500	0.0463	92.6	65-145	
1,2,4-TRIMETHYLBENZENE	0.0500	0.0514	103	65-135	
1,2-DCA	0.0500	0.0537	107	58-137	
1,2-DCB	0.0500	0.0507	101	65-135	
1,2-DIBROMO-3-CHLOROPROPANE	0.050	0.051	102	49-135	
1,2-DICHLOROPROPANE	0.0500	0.0542	108	60-135	
1,2-EDB	0.0500	0.0548	110	65-135	
1,3,5-TRIMETHYLBENZENE	0.0500	0.0529	106	62-135	
1,3-DCB	0.0500	0.0494	98.8	65-135	
1,3-DICHLOROPROPANE	0.0500	0.0508	102	65-135	
1,4-DCB	0.0500	0.0507	101	65-135	
1-CHLOROHEXANE	0.0500	0.0601	120	65-135	
2,2-DICHLOROPROPANE	0.050	0.059	118	65-135	
2-CHLOROTOLUENE	0.0500	0.0498	99.6	63-135	
4-CHLOROTOLUENE	0.0500	0.0501	100	64-135	
BENZENE	0.0500	0.0560	112	65-135	
BROMOBENZENE	0.0500	0.0516	103	65-135	
BROMOCHLOROMETHANE	0.0500	0.0536	107	63-135	
BROMODICHLOROMETHANE	0.0500	0.0564	113	65-135	
BROMOFORM	0.0500	0.0588	118	65-135	
BROMOMETHANE	0.0500	0.0500	100	62-135	
CARBON TETRACHLORIDE	0.050	0.056	112	52-135	
CHLOROBENZENE	0.0500	0.0571	114	65-135	
CHLOROETHANE	0.0500	0.0579	116	55-135	
CHLOROFORM	0.0500	0.0562	112	64-135	
CHLOROMETHANE	0.0500	0.0543	109	65-135	
CIS-1,2-DCE	0.0500	0.0551	110	65-135	
CIS-1,3-DICHLOROPROPENE	0.0500	0.0544	109	64-135	
DIBROMOCHLOROMETHANE	0.0500	0.0551	110	63-135	
DIBROMOMETHANE	0.050	0.053	106	59-137	
DICHLORODIFLUOROMETHANE	0.0500	0.0589	118	65-135	

Comments: ARF: 66922, QC Sample ID: AY54360

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
LCS ID: 120213BN LCS
Concentration Units: mg/kg

AAB #: 120213BN-163930
Contract #: *G012
Initial Calibration ID: N120210

Analyte	Expected	Found	% R	Control Limits	Q
ETHYLBENZENE	0.0500	0.0590	118	65-135	
HEXACHLOROBUTADIENE	0.0500	0.0582	116	65-135	
ISOPROPYLBENZENE	0.0500	0.0533	107	65-135	
M&P-XYLENE	0.1000	0.1186	119	65-135	
METHYLENE CHLORIDE	0.0500	0.0591	118	65-135	
N-BUTYLBENZENE	0.0500	0.0521	104	65-135	
N-PROPYLBENZENE	0.0500	0.0531	106	65-135	
NAPHTHALENE	0.0500	0.0477	95.4	65-135	
O-XYLENE	0.0500	0.0568	114	65-135	
P-ISOPROPYLTOLUENE	0.0500	0.0529	106	65-135	
SEC-BUTYLBENZENE	0.0500	0.0544	109	65-135	
STYRENE	0.0500	0.0546	109	65-135	
TCE	0.0500	0.0588	118	61-135	
TERT-BUTYLBENZENE	0.0500	0.0528	106	65-135	
TETRACHLOROETHENE	0.0500	0.0586	117	61-135	
TOLUENE	0.0500	0.0568	114	64-135	
TRANS-1,2-DCE	0.0500	0.0586	117	65-135	
TRANS-1,3-DICHLOROPROPENE	0.0500	0.0555	111	56-135	
TRICHLOROFLUOROMETHANE	0.0500	0.0590	118	57-135	
VINYL CHLORIDE	0.0500	0.0550	110	36-144	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	117	52-149	
SURROGATE: 4-BROMOFLUOROBENZ	115	65-135	
SURROGATE: DIBROMOFLUOROMETH	121	65-135	
SURROGATE: TOLUENE-D8 (S)	118	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

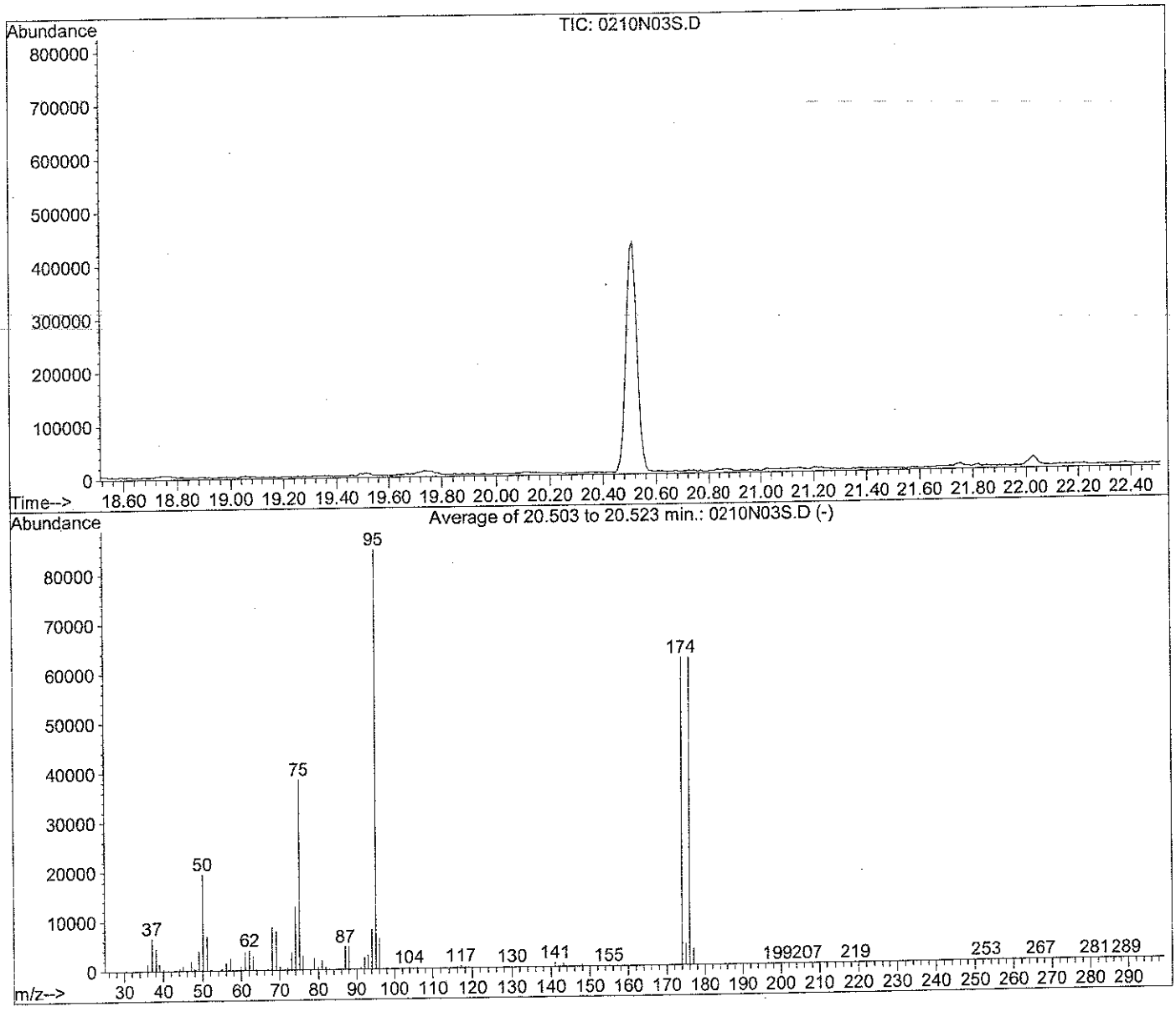
Comments: ARF: 66922, QC Sample ID: AY54360

BFB

Data File : M:\NEO\DATA\N120210\0210N03S.D
Acq On : 10 Feb 12 12:54
Sample : 25ug/mL BFB Std 01-12-11A
Misc : 2ul

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Method : M:\NEO\DATA\N120210\NALLS.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 20.503 to 20.523 min.

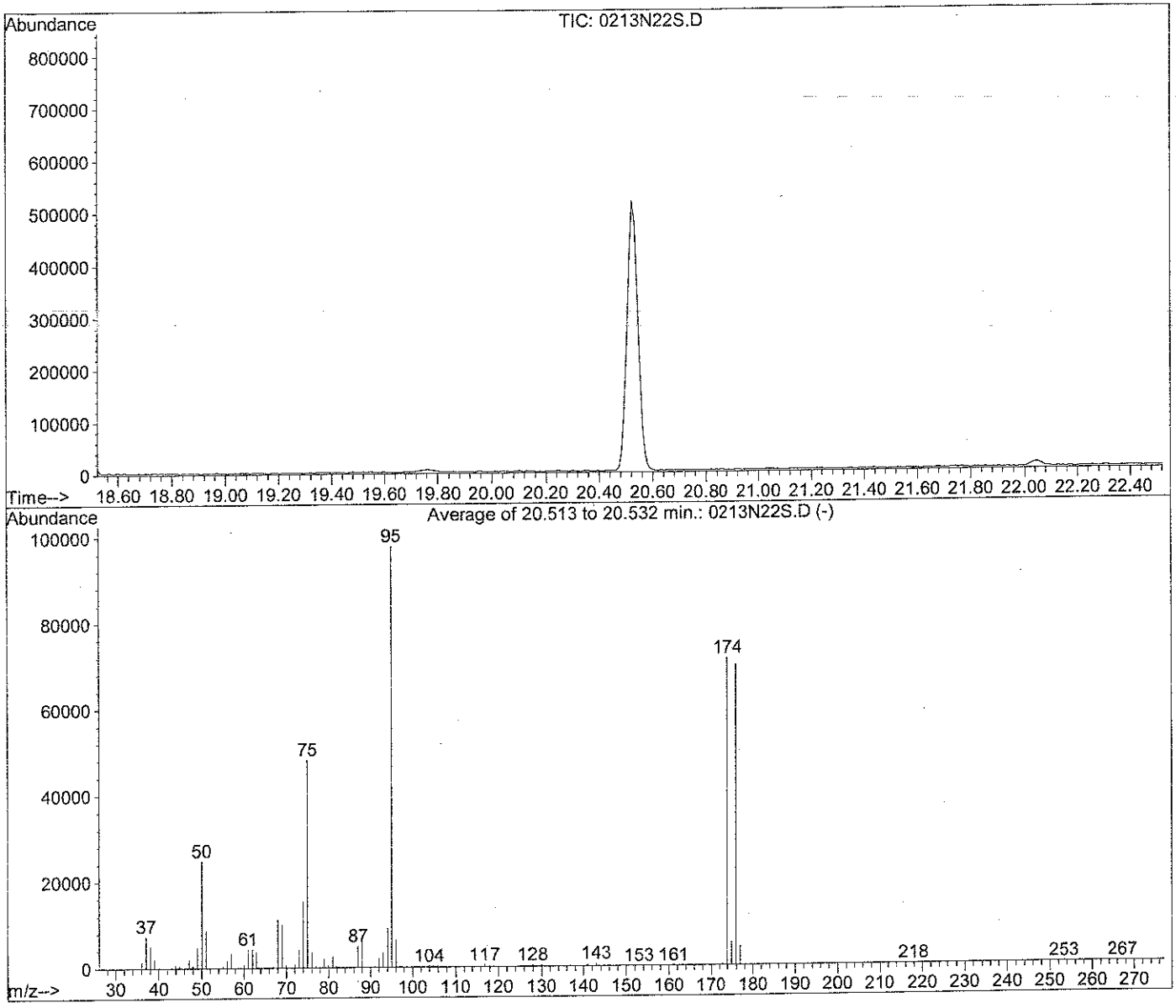
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.0	19485	PASS
75	95	30	60	45.3	38435	PASS
95	95	100	100	100.0	84752	PASS
96	95	5	9	7.2	6090	PASS
173	174	0.00	2	0.3	156	PASS
174	95	50	100	73.4	62171	PASS
175	174	5	9	7.1	4402	PASS
176	174	95	101	100.0	62165	PASS
177	176	5	9	5.4	3344	PASS

BFB

Data File : M:\NEO\DATA\N120210\0213N22S.D
Acq On : 13 Feb 12 22:26
Sample : 25ug/mL BFB Std 01-12-11A
Misc : 2ul

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Method : M:\NEO\DATA\N120210\NALLS.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 20.513 to 20.532 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.4	24800	PASS
75	95	30	60	49.3	48178	PASS
95	95	100	100	100.0	97803	PASS
96	95	5	9	6.6	6443	PASS
173	174	0.00	2	0.5	332	PASS
174	95	50	100	72.9	71288	PASS
175	174	5	9	7.5	5328	PASS
176	174	95	101	97.7	69667	PASS
177	176	5	9	6.4	4477	PASS

Injection Log

Directory: M:\NEO\DATA\N120210\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0210N03S.D	1	25ug/mL BFB Std 01-12-11A	2ul	10 Feb 12 12:54
2	1	0210N04S.D	1	2.0ug/kg Vol Std 02-10-12	Soil 5mL w/ IS:01-28-12F	10 Feb 12 13:32
3	1	0210N05S.D	1	5.0ug/kg Vol Std 02-10-12	Soil 5mL w/ IS:01-28-12F	10 Feb 12 14:10
4	1	0210N06S.D	1	10ug/kg Vol Std 02-10-12	Soil 5mL w/ IS:01-28-12F	10 Feb 12 14:48
5	1	0210N07S.D	1	20ug/kg Vol Std 02-10-12	Soil 5mL w/ IS:01-28-12F	10 Feb 12 15:26
6	1	0210N08S.D	1	50ug/kg Vol Std 02-10-12	Soil 5mL w/ IS:01-28-12F	10 Feb 12 16:04
7	1	0210N09S.D	1	100ug/kg Vol Std 02-10-12	Soil 5mL w/ IS:01-28-12F	10 Feb 12 16:42
8	1	0210N10S.D	1	200ug/kg Vol Std 02-10-12	Soil 5mL w/ IS:01-28-12F	10 Feb 12 17:20
9	1	0210N16S.D	1	120210A LCS-1SN (SS)	Soil 5mL w/ IS&S:01-28 F&H	10 Feb 12 21:10
10	1	0213N22S.D	1	25ug/mL BFB Std 01-12-11A	2ul	13 Feb 12 22:26
11	1	0213N24S.D	1	50ug/kg Vol Std 02-13-12	Soil 5mL w/ IS&S:01-28 F&H	13 Feb 12 23:42
12	1	0213N25S.D	1	120213B LCS-1SN	Soil 5mL w/ IS&S:01-28 F&H	14 Feb 12 00:19
13	1	0213N27S.D	1	120213B BLK-1SN	Soil 5mL w/ IS&S:01-28 F&H	14 Feb 12 1:35
14	1	0213N39S.D	0.997805	AY54360S01 5.011	Soil 5mL w/ IS&S:01-28 F&H	14 Feb 12 9:06

METALS

APPL, INC.

METALS
QC Summary

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
Concentration Units: mg/kg
Initial Calibration ID: 120213A

AAB #: 120213A-163887
Contract #: *G012
Method Blank ID: 120213A-BLK
30509 RDS 2/15/12

Analyte	Method Blank	RL	Q
ARSENIC (AS)	< RL	40.0	U
BARIUM (BA)	< RL	1.0	U
CADMIUM (CD)	< RL	0.50	U
CHROMIUM (CR)	< RL	20.0	U
COPPER (CU)	< RL	2.0	U
LEAD (PB)	< RL	10.0	U
NICKEL (NI)	< RL	2.0	U
ZINC (ZN)	< RL	5.0	U

Comments: ARF: 66922, Sample: AY54360

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 7471B
AAB #: 120213A-163852
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: mg/kg
Method Blank ID: 120213A-BLK
Initial Calibration ID: 120213A

Analyte	Method Blank	RL	Q
MERCURY (HG)	< RL	0.1	U

Comments: ARF: 66922, Sample: AY54360

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 6010B
AAB #: 120213A-163887
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120213A_LCS
Initial Calibration ID: 120213A
3050a 205 a 1.5.12
Concentration Units: mg/kg

Analyte	Expected	Found	% R	Control Limits	Q
ARSENIC (AS)	25.0	26.7	107	75-125	
BARIUM (BA)	25.0	25.6	102	75-125	
CADMIUM (CD)	5.00	5.47	109	75-125	
CHROMIUM (CR)	25.0	27.9	112	75-125	
COPPER (CU)	25.00	25.95	104	75-125	
LEAD (PB)	25.00	27.39	110	75-125	
NICKEL (NI)	25.00	28.36	113	75-125	
ZINC (ZN)	50.0	54.1	108	75-125	

Comments: ARF: 66922, Sample: AY54360

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 7471B
Lab Name: APPL, Inc
LCS ID: 120213A LCS
Concentration Units: mg/kg

AAB #: 120213A-163852
Contract #: *G012
Initial Calibration ID: 120213A

Analyte	Expected	Found	% R	Control Limits	Q
MERCURY (HG)	0.67	0.74	110	77-120	

Comments: ARF: 66922, Sample: AY54360

METALS
Sample Data

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3050B AAB #: 120213A-163887
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC03 Lab Sample ID: AY54360 Matrix: Soil
% Solids: 81.3 Initial Calibration ID: 120213A
Date Received: 10-Feb-12 Date Prepared: 13-Feb-12 Date Analyzed: 13-Feb-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ARSENIC (AS)	0.2	40.0	9.5	1	F
BARIUM (BA)	0.1	1.0	102.1	1	J
CADMIUM (CD)	0.03	0.50	0.03	1	U
CHROMIUM (CR)	0.1	20.0	32.0	1	
COPPER (CU)	0.19	2.0	14.76	1	
LEAD (PB)	0.18	10.0	66.42	1	
NICKEL (NI)	0.12	2.0	14.76	1	
ZINC (ZN)	0.6	5.0	45.5	1	

Comments: ARF: 66922

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7471B Preparatory Method: 7471B AAB #: 120213A-163852
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC03 Lab Sample ID: AY54360 Matrix: Soil
% Solids: 81.3 Initial Calibration ID: 120213A
Date Received: 10-Feb-12 Date Prepared: 13-Feb-12 Date Analyzed: 13-Feb-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.01	0.1	0.06	1	F

Comments: ARF: 66922

METALS
Calibration Data

APPL, INC.

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 66922 SDG: 66922

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 02/13/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 10:28	%R(1)	True CCV1	Found 12:13	%R(1)	True CCV1	Found 15:21	%R(1)	
Arsenic (As)	1000	989.9	99.0	1000	1053	105	1000	1096	110	P
Barium (Ba)	1000	1010	101	1000	1057	106	1000	1090	109	P
Cadmium (Cd)	1000	1063	106	1000	1073	107	1000	1097	110	P
Chromium (Cr)	1000	1071	107	1000	1055	106	1000	1087	109	P
Copper (Cu)	1000	1028	103	1000	1039	104	1000	1079	108	P
Nickel (Ni)	1000	1074	107	1000	1066	107	1000	1095	110	P
Lead (Pb)	1000	1067	107	1000	1069	107	1000	1093	109	P
Zinc (Zn)	1000	1067	107	1000	1073	107	1000	1093	109	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 66922 SDG: 66922

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 02/13/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 10:28	%R(1)	True CCV2	Found 16:10	%R(1)	True CCV1	Found 17:17	%R(1)	
Arsenic (As)	1000	989.9	99.0	750	807.2	108	1000	1104	110	P
Barium (Ba)	1000	1010	101	750	800.2	107	1000	1068	107	P
Cadmium (Cd)	1000	1063	106	750	817.9	109	1000	1093	109	P
Chromium (Cr)	1000	1071	107	750	798.3	106	1000	1063	106	P
Copper (Cu)	1000	1028	103	750	776.7	104	1000	1041	104	P
Nickel (Ni)	1000	1074	107	750	812	108	1000	1083	108	P
Lead (Pb)	1000	1067	107	750	816.8	109	1000	1093	109	P
Zinc (Zn)	1000	1067	107	750	820.4	109	1000	1098	110	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 66922 SDG: 66922

Preparation Blank Matrix (soil/water): soil

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

Analysis Date: 02/13/12

Analyte	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
	11:52		12:21		15:30		16:20		15:43		
Arsenic (As)	400.00	U	.97	J	400.00	U	1.70	J	40.00	U	P
Barium (Ba)	10.00	U	10.00	U	10.00	U	10.00	U	1.00	U	P
Cadmium (Cd)	5.00	U	5.00	U	5.00	U	5.00	U	.50	U	P
Chromium (Cr)	200.00	U	200.00	U	200.00	U	200.00	U	20.00	U	P
Copper (Cu)	20.00	U	1.47	J	1.16	J	20.00	U	.18	J	P
Nickel (Ni)	20.00	U	20.00	U	20.00	U	20.00	U	2.00	U	P
Lead (Pb)	100.00	U	100.00	U	100.00	U	100.00	U	10.00	U	P
Zinc (Zn)	50.00	U	50.00	U	50.00	U	50.00	U	5.00	U	P

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 66922 SDG: 66922

Preparation Blank Matrix (soil/water): soil

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

Analysis Date: 02/13/12

Analyte	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
	11:52		17:25						15:43		
Arsenic (As)	400.00	U	1.93	J					40.00	U	P
Barium (Ba)	10.00	U	10.00	U					1.00	U	P
Cadmium (Cd)	5.00	U	5.00	U					.50	U	P
Chromium (Cr)	200.00	U	200.00	U					20.00	U	P
Copper (Cu)	20.00	U	20.00	U					.18	J	P
Nickel (Ni)	20.00	U	20.00	U					2.00	U	P
Lead (Pb)	100.00	U	100.00	U					10.00	U	P
Zinc (Zn)	50.00	U	50.00	U					5.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 66922 SDG: 66922

ICP ID Number: Phoebe ICS Source: Environmental Express

Analysis Date: 02/13/12 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 12:02	Sol AB 12:06	%R(1)
Aluminum (Al)	200000	200000	207100	208200	104
Arsenic (As)		500	ND	484.5	96.9
Barium (Ba)		500	0.603	476.9	95.4
Calcium (Ca)	200000	200000	203400	204800	102
Cadmium (Cd)		1000	0.023	958.9	95.9
Chromium (Cr)		500	0.418	498.7	99.7
Copper (Cu)		500	ND	505.1	101
Iron (Fe)	200000	200000	185900	185600	92.8
Magnesium (Mg)	200000	200000	195800	196900	98.5
Nickel (Ni)		1000	0.69	960.2	96.0
Lead (Pb)		1000	0.041	965.2	96.5
Zinc (Zn)		1000	0.061	933.1	93.3

(1) Control Limits: Metals 80-120

Parsons

Hg BY METHOD 7471B ARF#66922
QCG 120213A-7471GROSS
ANALYSIS DATE: 02/13/12

R=0.99994

NAME	TRUE	RESULT	% RECOVERY
ICV	4.17ppb	4.353	104.4%
ICB	0ppb	0.074	
CCV-1	5.208ppb	5.296	101.7%
CCB-1	0ppb	0.091	
CCV-2	5.208ppb	5.537	106.3%
CCB-2	0ppb	0.104	

A.P.P.L. INC.

5B

POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.

AOC65-WC03

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 66922 SDG: 66922

Analysis Date: 02/13/12 Concentration Units: mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic (As)	75-125	46.71		7.74		40.650	95.9		
Barium (Ba)	75-125	111.5		82.66		40.650	71.0		M
Cadmium (Cd)	75-125	6.558		ND		8.130	80.7		
Chromium (Cr)	75-125	61		25.61		40.650	87.1		
Copper (Cu)	75-125	50.31		11.58		40.650	95.3		
Nickel (Ni)	75-125	47.42		11.8		40.650	87.6		
Lead (Pb)	75-125	85.41		54.44		40.650	76.2		
Zinc (Zn)	75-125	104.1		37.49		81.301	81.9		

Comments:

02/13/12 15:53 AY54360S04

02/13/12 17:04 AY54360S04-A

A.P.P.L. INC.
9
ICP SERIAL DILUTION

CLIENT SAMPLE NO.
AOC65-WC03

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 66922 SDG: 66922

Matrix: soil

Analysis Date: 02/13/12 Concentration Units: mg/kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Barium (Ba)	82.66		103.9		25.7		M
Chromium (Cr)	25.61		33.33		30.1		M
Copper (Cu)	11.58		14.01		21.0		M
Nickel (Ni)	11.8		15.47		31.1		M
Lead (Pb)	54.44		73.94		35.8		M
Zinc (Zn)	37.49		50.72		35.3		M

Comments:

02/13/12 15:53 AY54360S04

02/13/12 17:10 AY54360S04-1/5

METALS
Raw Data

APPL, INC.

_M3050GRO

Metals Digestion Worksheet

Method Name 3050B Digestion (GROSS UP) **Prep Method** M3050GROSSa **Set** 120213A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT# #1032278-30261
Spiked ID 2	LCSW LOT# #1032271-30259
Spiked ID 3	
Spiked ID 4	
Spiked By	LO Date: 02/13/12 11:55:00 AM
Witnessed By	NM Date: 02/13/12 11:55:00 AM

Starting Temp:	95 C
Ending Temp:	95 C
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	YES
End Date/Time	02/13/12 14:40

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120213A Blk				1.00g	100mL	02/13/12 11:55	equip: Modblock1
2	120213A LCS		1mL	1+2	1.00g	100mL	02/13/12 11:55	equip: Modblock1
3	AY54360	AY54360S04			1.23g	100mL	02/13/12 11:55	equip: Modblock1
4	AY54360 MS	AY54360S04	2mL	1+2	1.23g	100mL	02/13/12 11:55	equip: Modblock1
5	AY54360 MSD	AY54360S04	2mL	1+2	1.23g	100mL	02/13/12 11:55	equip: Modblock1

Solvent and Lot#
1:1 HNO3 2-13-12
HNO3 J.T.B K23022 0136
H2O2 EMD K41800098 129
HCL J.T.B. K43032 0137

Sample COC Transfer	
Sample prep employee Initials	LO
Analyst's initials	EK
Date	2-13-12
Time	14:40
Moved to	Metals

Technician's Initials	
Scanned By	NM
Sample Preparation	NM
Digestion	NM
Bring up to volume	LO
Modified	02/13/12 4:03:07 PM

Reviewed By: EK **Date:** 2-13-12

Mercury Digestion Worksheet

Method Name 7471A Mercury Digestion (GROSS UP **Prep Method** M7471GRO **Set** 120213A **Units** mL

Spikes			
Spiked ID 1	Hg WORKING STANDARD prep 02-13-12		
Spiked ID 2	Hg WORKING ICV prep 02-13-12		
Spiked ID 3			
Spiked ID 4			
Spiked By	LO	Date:	02/13/12 12:05:00 PM
Witnessed By	NM	Date:	02/13/12 12:05:00 PM

Starting Temp:	96 C
Ending Temp:	96 C
Temp Type:	Modblock3
End Date/Time	02/13/12 12:40:00 PM

Mercury Calibration

Sample	Spike Amount	Spike ID	Final Volume
0 ppb		1	96 ml
0.2 ppb	0.4 ml	1	96 ml
0.5 ppb	1 ml	1	96 ml
1 ppb	2 ml	1	96 ml
2 ppb	4 ml	1	96 ml
5 ppb	10 ml	1	96 ml
5 ppb	10 ml	1	96 ml
10 ppb	20 ml	1	96 ml
ICV	8 ml	2	96 ml

Start Date/Time of Calibration 02/13/12 12:05

Sufficient Vol for Matrix QC:	YES

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120213A Blk				0.60g	96mL	02/13/12 12:05	equip: Modblock3
2	120213A LCS		8mL	1	0.60g	96mL	02/13/12 12:05	equip: Modblock3
3	AY54360	AY54360S04			0.74g	96mL	02/13/12 12:05	equip: Modblock3
4	AY54360 MS	AY54360S04	8mL	1	0.74g	96mL	02/13/12 12:05	equip: Modblock3
5	AY54360 MSD	AY54360S04	8mL	1	0.74g	96mL	02/13/12 12:05	equip: Modblock3

Solvent and Lot#
AQUAREGIA 11-15-11
KMnO4 12-15-11
DECOLORIZER 12-14-11

Sample COC Transfer	
Sample prep employee Initials	LO
Analyst's initials	CA
Date	2-13-12
Time	12:46
Moved to	Metals

Technician's Initials	
Scanned By	NM
Sample Preparation	NM
Digestion	NM
Bring up to volume	LO
Modified	02/13/12 3:42:15 PM

Reviewed By: CA **Date:** 2-13-12

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	13 Feb 2012	10:10	CalBlk 120213EA I:PB O:EA		120213A6010	1.
2	13 Feb 2012	10:15	STD 1 120213EA I:PB O:EA		120213A6010	1.
3	13 Feb 2012	10:20	STD 2 120213EA I:PB O:EA		120213A6010	1.
4	13 Feb 2012	10:24	STD 3 120213EA I:PB O:EA		120213A6010	1.
5	13 Feb 2012	10:28	ICV 120213EA I:PB O:EA		120213A6010	1.
7	13 Feb 2012	11:52	ICB 120213EA I:PB O:EA		120213A6010	1.
9	13 Feb 2012	12:02	ICSA 120213EA I:PB O:EA		120213A6010	1.
10	13 Feb 2012	12:06	ICSAB 120213EA I:PB O:EA		120213A6010	1.
11	13 Feb 2012	12:13	CCV1 120213EA I:PB O:EA		120213A6010	1.
12	13 Feb 2012	12:21	CCB 120213EA I:PB O:EA		120213A6010	1.
37	13 Feb 2012	15:21	CCV1 120213EA I:PB O:EA		120213A6010	1.
38	13 Feb 2012	15:30	CCB 120213EA I:PB O:EA		120213A6010	1.
39	13 Feb 2012	15:43	120213A-3050G-BLK		120213A6010	1.
40	13 Feb 2012	15:47	120213A-3050G-LCS		120213A6010	1.
41	13 Feb 2012	15:53	AY54360S04		120213A6010	1.
42	13 Feb 2012	16:10	CCV2 120213EA I:PB O:EA		120213A6010	1.
43	13 Feb 2012	16:20	CCB 120213EA I:PB O:EA		120213A6010	1.
48	13 Feb 2012	17:04	AY54360S04-A		120213A6010	1.
49	13 Feb 2012	17:10	AY54360S04-1/5		120213A6010	5.
50	13 Feb 2012	17:17	CCV1 120213EA I:PB O:EA		120213A6010	1.
51	13 Feb 2012	17:25	CCB 120213EA I:PB O:EA		120213A6010	1.

Sample_ID	EL	Date	Time	Mean_SA	Units	Batch_ID	Wt	Dilu
Calib Blank	Hg	02/13/12	12:46:27		µg/L			
0.2083 02-13-12 LO	Hg	02/13/12	12:47:40		µg/L			
0.520833	Hg	02/13/12	12:48:53		µg/L			
1.041667	Hg	02/13/12	12:50:06		µg/L			
2.083333	Hg	02/13/12	12:52:08		µg/L			
5.208	Hg	02/13/12	12:54:11		µg/L			
10.417	Hg	02/13/12	12:56:14		µg/L			
ICV 02-13-12 LO	Hg	02/13/12	13:02:15	4.353461	µg/L			
ICB 02-13-12 LO	Hg	02/13/12	13:04:17	0.074362	µg/L			
CCV 02-13-12 LO	Hg	02/13/12	13:05:32	5.295926	µg/L			
CCB 02-13-12 LO	Hg	02/13/12	13:07:35	0.090581	µg/L			
120213A BLK	Hg	02/13/12	13:08:48	0.016119	mg/kg	120213A-7471A	0.6	
120213A BLK	Hg	02/13/12	13:10:01	0.016956	mg/kg	120213A-7471GROSS	0.6	
120213A LCS	Hg	02/13/12	13:11:14	0.717671	mg/kg	120213A-7471A	0.6	
120213A LCS	Hg	02/13/12	13:13:15	0.744999	mg/kg	120213A-7471GROSS	0.6	
AY54360S04	Hg	02/13/12	13:15:16	0.046273	mg/kg	120213A-7471GROSS	0.74	
AY54360S04 MS	Hg	02/13/12	13:16:29	0.643648	mg/kg	120213A-7471GROSS	0.74	
AY54360S04 MSD	Hg	02/13/12	13:18:31	0.626589	mg/kg	120213A-7471GROSS	0.74	
AY54532S02	Hg	02/13/12	13:20:34	0.025841	mg/kg	120213A-7471A	0.63	
AY54533S02	Hg	02/13/12	13:21:49	0.025722	mg/kg	120213A-7471A	0.61	
AY54534S02	Hg	02/13/12	13:23:02	0.021796	mg/kg	120213A-7471A	0.61	
CCV 02-13-12 LO	Hg	02/13/12	13:24:15	5.536631	µg/L			
CCB 02-13-12 LO	Hg	02/13/12	13:26:17	0.104184	µg/L			
AY54535S02	Hg	02/13/12	13:27:32	0.027342	mg/kg	120213A-7471A	0.61	
AY54536S02	Hg	02/13/12	13:28:45	0.026474	mg/kg	120213A-7471A	0.58	
AY54537S02	Hg	02/13/12	13:29:59	0.026644	mg/kg	120213A-7471A	0.58	
AY54538S02	Hg	02/13/12	13:31:12	0.027011	mg/kg	120213A-7471A	0.62	
AY54539S02	Hg	02/13/12	13:32:25	0.033034	mg/kg	120213A-7471A	0.61	
AY54540S02	Hg	02/13/12	13:33:40	0.029935	mg/kg	120213A-7471A	0.58	
AY54541S02	Hg	02/13/12	13:34:54	0.02935	mg/kg	120213A-7471A	0.62	
AY54542S02	Hg	02/13/12	13:36:07	0.032594	mg/kg	120213A-7471A	0.6	
AY54542S02 MS	Hg	02/13/12	13:37:20	0.764198	mg/kg	120213A-7471A	0.6	
AY54542S02 MSD	Hg	02/13/12	13:39:21	0.764293	mg/kg	120213A-7471A	0.6	
CCV 02-13-12 LO	Hg	02/13/12	13:41:23	5.649793	µg/L			
CCB 02-13-12 LO	Hg	02/13/12	13:43:26	0.171643	µg/L			

R=0.99994

Wetlab Results

ARF: 66922

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Parsons
8000 Centre Park Drive Ste 200
Austin, TX 78754

Attn: Tammy Chang

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
APPL ID: AY54360	-Client Sample ID: AOC65-WC03		-Sample Collection Date: 02/08/12		Project: 748402.01000 CSSA	
CLP MOIST	MOISTURE	18.7	2.0	%	02/10/12	02/10/12

Printed: 02/20/12 11:20:21 AM

WETLAB

Sample/Sample Duplicate Results

Parsons
8000 Centre Park Drive Ste 200
Austin, TX 78754

Attn: Tammy Chang
Project: 748402.01000 CSSA

Sample ID: AY54360
Client ID: AOC65-WC03

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

ARF: 66922

Method	Analyte	Sample ID	Sample Result	Sample Dup Result	RPD	RPD Max	PQL	Units	Sample Extract Date	Sample Analysis Date	Sample Dup Extract Date	Sample Dup Analysis Date
CLP MOIS	MOISTURE	AY54360	18.7	18.9	1.1	20	2.0	%	02/10/12	02/10/12	02/10/12	02/10/12

88

Printed: 02/20/12 11:20:14 AM

Rec 3/1/12

Laboratory Report

Parsons

#3

CSSA

Project #: 748402.01000 CSSA

ARF: 66981

Sample collected: February 13, 2012

APPL, Inc.

Summary Package

for

Project #: 748402.01000 CSSA

ARF 66981

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

CASE NARRATIVE

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Case Narrative

ARF: 66981

Project: 748402.01000 CSSA

California State Certification Number: CA1312 (DW & WW)

NELAP Certification number: 05233CA (HW)

Texas Certificate Number: T104704242-10-3

Results in this report apply to the sample analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sample Receipt Information:

The sample was received February 16, 2012, at 2.5°C. The sample was assigned Analytical Request Form (ARF) number 66981. The sample number and requested analyses were compared to the chain of custody. No exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
AOC65-WC04	AY54831	SOIL	02/13/2012	02/16/2012

Percent moisture was determined using CLP 4.0.

Total Petroleum Hydrocarbons
TX1005

Sample Preparation:

The sample was extracted according to TX1005. All holding times were met.

Sample Analysis Information:

The sample was analyzed according to TX1005 using a Hewlett Packard Gas Chromatograph with a flame ionization detector. All holding times were met.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was used for quality assurance. All recoveries were acceptable.

No sample was designated by the client for MS/MSD analysis.

Surrogates

Surrogate recoveries are summarized on the form 2 & 8. All surrogate recoveries were acceptable.

Method blanks

No target analyte was detected above the reporting limit.

Calibration

Initial and continuing calibrations were analyzed according to the method. All calibration criteria were met.

Summary:

No analytical exception is noted. All data are acceptable.

EPA Methods 6010B and 7470A
TCLP Metals

Digestion Information:

The soil sample was leached according to EPA method 1311, and the leachate was digested according to EPA methods 3010A and 7470A. No exceptions were encountered. All holding times were met.

Analysis Information:

Samples:

The sample was analyzed according to EPA method 6010B using a Perkin Elmer Optima 5300DV ICP and according to EPA method 7470A using a Perkin Elmer AAnalyst 300.

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard. All calibration acceptance criteria were met.

Blanks:

No target metal was detected above the reporting limit (RL) in the method blanks.

Spikes:

Laboratory Control Spikes were used for quality assurance. All LCS acceptance criteria were met.

No sample was designated by the client for MS/MSD analysis.

Summary:

No analytical exception is noted.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

2-29-12

Sharon Dehmlow, Laboratory Director / Date

CHAIN OF CUSTODY

AND ARF

APPL - Analysis Request Form 66981

Client: **Parsons**
Address: **8000 Centre Park Drive Ste 200**
Austin, TX 78754
Attn: **Tammy Chang**
Phone: **512-719-6092** Fax: **512-719-6099**
Job: **748402.01000 CSSA**
PO #: **748336.30000-00 (prime *G012)**
Chain of Custody (Y/N): **Y** # **021512APPFA**
RAD Screen (Y/N): **Y** pH (Y/N): **N**
Turn Around Type: **7 DAYS**

Received by: **TBV**
Date Received: **02/16/12** Time: **11:15**
Delivered by: **FED EX**
Shuttle Custody Seals (Y/N): **Y** Time Zone:
Chest Temp(s): **2.5°C**
Color: **H-PUGRN**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Diane Anderson**
QC Report Type: **DVP3/AFCEE/ERPIMS/TX**
Due Date: **02/23/12**

Comments:
df ARF to Tammy & Pam; send 2 DVP3 to Tammy
Data screening project: analyze samples ONCE; report deficiencies; do NOT re-analyze
Case Narrative. CSSA + AFCEE 3.1 QAPP. Only report MS/MSD when requested.
Use AFCEE forms with AFCEE flagging to report sample & QC data only.
PPL forms for everything else and APPL DVP3.
EDD: ERPIMS 4 Lab PC4 checked TXF to Pam.Ford@parsons.com

Sample Distribution:
IC: 1-$TNRS
Extractions: 1-_MSE017
Metals: 1-$60LP(Ag,As,Ba,Be,Cd,Cr,Ni,Pb,Sb,Se), 1-$HGT
Wetlab: 1-MOIST
Other: 1-_M3010TCLP, 1-_M7470TCLP

Charges:

Invoice To:
BOA 748336.30000 TO# 3
8000 Centre Park Drive Ste 200
Austin, TX 78754-5140
Attn: Ellen Felfe

	Client ID	APPL ID	Sampled	Analyses Requested
1.	AOC65-WC04	AY54831S	02/13/12 09:34	$60LP(Ag,As,Ba,Be,Cd,Cr,Ni,Pb,Sb,Se), $HGT, $TNRS, MOIST

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in:

APPL Sample Receipt Form

ARF# **66981**

Sample	Container Type	Count	pH	Sample	Container Type	Count	pH
AY54831	20 4oz Jar	3	NA				

Camp Stanley Storage Activity Chain Of Custody

COC ID:	021512APPFA	Relinquish_Date:	2/15/2012	Cooler ID:	A
Project Location:	CSSA	Relinquished_By:	EWR	LabCode:	APPF
Job Number:	748402.01000	Relinquish_Time:	5:00 PM	Carrier:	FedEx
Creation Date:	2/15/2012	Collection Team:	EWR	Airbill Carrier:	876436443127
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	7 Day TAT

Sampler(s): Elisa W. Rice
Elisa W Rice

LOCID: **AOC65-WC04** LOGDATE: 2/13/2012 MATRIX: SO TBLOT:
SBD: 0 LOGTIME: 9:34 SACODE: N SMCODE: CS ABLOT:
SED: 0 FLDSAMPID AOC65-WC04_021312_N0934 EBLOT: Containers: 3
Remarks:

Analysis Required:

SW6010B	TCLP - Silver (Ag)	SW6010B	TCLP - Arsenic (As)
SW6010B	TCLP - Barium (Ba)	SW6010B	TCLP - Beryllium (Be)
SW6010B	TCLP - Cadmium (Cd)	SW6010B	TCLP - Chromium (Cr)
SW6010B	TCLP - Nickel (Ni)	SW6010B	TCLP - Lead (Pb)
SW6010B	TCLP - Antimony (Sb)	SW6010B	TCLP - Selenium (Se)
SW7470A	TCLP - Mercury (Hg)	TX1005	TOTAL PETROLEUM HY

Relinquished by: EWRice Date 2/15/12 Time 1700
Recieved by: Date 2/16/12 Time 1115

Relinquished by:____ Date____ Time____
Recieved by:____ Date____ Time____

Relinquished by:____ Date____ Time____
Recieved by:____ Date____ Time____

COOLER RECEIPT FORM

1) Project: 748402.01000 AC065 CSSA Date Received: 2/16/12

2) Coolers: Number of Coolers: 1

3) YES NO Were coolers and samples screened for radioactivity?

4) YES NO Were custody seals on outside of cooler? How many? 1 Date on seal? 2/15/12

5) Name on seal? See Label

6) YES NO NA Were custody seals unbroken and intact at the time of arrival?

7) YES NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex

8) Shipping slip numbers: 1) 8764 3644 3127 2) 3)

9) YES NO NA Was the shipping slip scanned into the database?

10) YES NO NA If cooler belongs to APPL, has it been logged into the ice chest database?

11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.): bubble bag in Ziploc in wet ice

12) YES NO NA For hand delivered samples was sufficient ice present to start the cooling process?

13) YES NO Was a temperature blank included in the cooler?

14) Serial number of certified NIST thermometer used: A39262 Correction factor: 0

15) Cooler temp(s): 1) 2.5°C 2) 3) 4) 5) 6) 7) 8)

Chain of custody:

16) YES NO Was a chain of custody received?

17) YES NO Were the custody papers signed in the appropriate places?

18) YES NO Was the project identifiable from custody papers?

19) YES NO Did the chain of custody include date and time of sampling?

20) YES NO Is location where sample was taken listed on the chain of custody?

Sample Labels:

21) YES NO Were container labels in good condition?

22) YES NO Was the client ID on the label?

23) YES NO Was the date of sampling on the label?

24) YES NO Was the time of sampling on the label?

25) YES NO Did all container labels agree with custody papers?

Sample Containers:

26) YES NO Were all containers sealed in separate bags?

27) YES NO Did all containers arrive unbroken?

28) YES NO Was there any leakage from samples?

29) YES NO Were any of the lids cracked or broken?

30) YES NO Were correct containers used for the tests indicated?

31) YES NO Was a sufficient amount of sample sent for tests indicated?

32) YES NO NA Were bubbles present in volatile samples? If yes, the following were received with air bubbles:

Larger than a pea:

Smaller than a pea:

Preservation & Hold time:

33) YES NO NA Was a sufficient amount of holding time remaining to analyze the samples?

34) YES NO NA Do the sample containers contain the same preservative as what is stated on the COC?

35) YES NO NA Was the pH taken of all non-VOA preserved samples and written on the sample container?

36) YES NO NA Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples > 12?

37) YES NO NA Unpreserved VOA Vials received?

38) YES NO NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?

Lab notified if pH was not adequate:

Deficiencies:

Signature of personnel receiving samples: Jenny Lo Second reviewer:

Signature of project manager notified: Date and Time of notification:

Name of client notified: Date and Time of notification:

Information given to client:

by whom (Initials):

CUSTODY SEAL

APPL, Inc.
(559) 275-2175

Initials: EOR

Date: 2-15-12

TNRCC Method 1005
Total Petroleum Hydrocarbons

TNRCC Method 1005
Total Petroleum Hydrocarbons
QC Summary

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: TX1005
Lab Name: APPL, Inc
Concentration Units: ug/kg
Initial Calibration ID: 120207

AAB #: 120222A-164166
Contract #: *G012
Method Blank ID: 120222A-BLK

Analyte	Method Blank	RL	Q
C28-C36	< RL	50000	U
C6-C28	< RL	50000	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1-CHLOROOCTANE (S	84.2	70-130	
SURROGATE: ORTHO-TERPHENYL (	78.5	70-130	

Comments: ARF: 66981, Sample: AY54831

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: TX1005
Lab Name: APPL, Inc
LCS ID: 120222A LCS
Concentration Units: ug/kg

AAB #: 120222A-164166
Contract #: *G012
Initial Calibration ID: 120207

Analyte	Expected	Found	% R	Control Limits	Q
C6-C28	100000.0	92880.8	92.9	75-125	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1-CHLOROOCTANE (S)	93.9	70-130	
SURROGATE: ORTHO-TERPHENYL (S)	95.0	70-130	

Comments: ARF: 66981, QC Sample ID: AY54831

TX1005

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 66981

Case No: 66981 Date Analyzed: 02/23/12

Matrix: SOIL Instrument: Apollo

Blank ID: 120222A-BLK Time Analyzed: 1343

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120222A-BLK	Blank	222049	02/23/12 1343
120222A-LCS	Lab Control Spike	222050	02/23/12 1407
AY54831	AOC65-WC04	222051	02/23/12 1431

Comments: Batch: #TNRS-120222A

Printed: 02/29/12 10:04:24 AM

Form 4, Blank Summary

TNRCC Method 1005
Total Petroleum Hydrocarbons
Sample Data

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: TX1005 Preparatory Method: TX1005 AAB #: 120222A-164166

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-WC04 Lab Sample ID: AY54831 Matrix: Soil

% Solids: 81.2 Initial Calibration ID: 120207

Date Received: 16-Feb-12 Date Prepared: 22-Feb-12 Date Analyzed: 23-Feb-12

Concentration Units: ug/kg

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
C28-C36	18000.0	62000	18000.0	1		U
C6-C28	18000.0	62000	18000.0	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1-CHLOROOCTANE (S)	80.0	70-130	
SURROGATE: ORTHO-TERPHENYL (S)	74.9	70-130	

Comments: ARF: 66981 The RL and MDL were Moisture Corrected on this form.

TNRCC Method 1005
Total Petroleum Hydrocarbons
Calibration Data

APPL, INC.

TPH Extractables
TNRCC207

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No: 69981
Initial Cal. Date: 02/07/12
Instrument: APOLLO

Initials: LAC

			207035.D	207036.D	207037.D	207038.D	207039.D	207040.D								
		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	C6-C28	333860	348504	334793	331460	343444	321358					335570	2.8	HATM	
2	HATM	C28-C36	333860	348504	334793	331460	343444	321358					335570	2.8	HATM	
3	sa	Ortho-Terphenol	252932	267809	263478	265694	262695	246880					259915	3.1	sa	
4	sa	1-Chloro-octane	295074	312967	300593	300816	313532	288488					301912	3.3	sa	
5																
6																
7																
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35																

0.3452119

TPH Extractables
TNRCC207

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No: 66981
Date Analyzed: 02/08/12
Instrument: Apollo
Initial Cal. Date: 02/07/12
Data File: 207041.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	C6-C28	335570	382575	14	HATM	
2							
3							
4							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			14.0		

TPH Extractables
TNRCC207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 66981
Date Analyzed: 02/23/12
Instrument: Apollo
Initial Cal. Date: 02/07/12
Data File: 222048.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	C6-C28	335570	403143	20	HATM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			20.0		

TPH Extractables
TNRCC207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 66981
Date Analyzed: 02/23/12
Instrument: Apollo
Initial Cal. Date: 02/07/12
Data File: 222052.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	C6-C28	335570	401295	20	HATM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			20.0		

TNRCC Method 1005
Total Petroleum Hydrocarbons
Raw Data

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: TX1005
Lab Name: APPL, Inc
Concentration Units: ug/kg
Initial Calibration ID: 120207

AAB #: 120222A-164166
Contract #: *G012
Method Blank ID: 120222A-BLK

Analyte	Method Blank	RL	Q
C28-C36	< RL	50000	U
C6-C28	< RL	50000	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1-CHLOROOCTANE (S	84.2	70-130	
SURROGATE: ORTHO-TERPHENYL (	78.5	70-130	

Comments: ARF: 66981, Sample: AY54831

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: TX1005
Lab Name: APPL, Inc
LCS ID: 120222A LCS
Concentration Units: ug/kg

AAB #: 120222A-164166
Contract #: *G012
Initial Calibration ID: 120207

Analyte	Expected	Found	% R	Control Limits	Q
C6-C28	100000.0	92880.8	92.9	75-125	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1-CHLOROOCTANE (S)	93.9	70-130	
SURROGATE: ORTHO-TERPHENYL (S)	95.0	70-130	

Comments: ARF: 66981, QC Sample ID: AY54831

_MSE017

Organic Extraction Worksheet

Method	TPH Soil by TNRCC method 1005	Extraction Set	120222A	Extraction Method	MSE017	Units	mL

Spiked ID 1	TNRCC SPIKE 1000 PPM 02/06/12 EX 03/06/12		Surrogate ID 1	TNRCC Surrogate 50,000 PPM 02/06/12 EX 03/06/12	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:		
Spiked ID 8			Ext. End Time:		
			GC Requires Extract By:	02/23/12 0:00	

pH1			Water Bath Temp Criteria	NA °C
pH2				
pH3				

Spiked By: GH **Date** 02/22/12 **Witnessed By:** IC **Date** 02/22/12

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	120222A Blk				1	1 equip	10.00g	10	NA	02/22/12 18:00	
2	120222A LCS-1		1	1	NA	NA equip	10.00g	10	NA	02/22/12 18:00	
3	AY54831	AY54831S01			1	1 equip	10.02g	10	NA	02/22/12 18:00	66981-7 DAY RUSH -- 4oz Jar

DRA 2/23/12

Solvent and Lot#	
Pentane	JTB JO4E19
Ottowa Sand	TH12EZEMS

Extraction COC Transfer	
Extraction lab employee Initials	DRA
GC analyst's initials	LA
Date	2/23/12
Time	1140
Refrigerator	Hobart

	Technician's Initials
Scanned By	GH
Sample Preparation	GH
Extraction	GH
Concentration	GH

Modified	02/21/12 12:35:10 PM

Reviewed By: DRA **Date** 02/23/12

Injection Log

Directory: G:\APOLLO\DATA\120207\120222

ine	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
	35	207035.D	1	TNRCC 50/1000 2/8/12	Water	2-8-12 8:42:21
	36	207036.D	1	TNRCC 100/1000	Water	2-8-12 9:05:49
	37	207037.D	1	TNRCC 400/1000	Water	2-8-12 9:29:23
	38	207038.D	1	TNRCC 600/1000	Water	2-8-12 9:53:03
	39	207039.D	1	TNRCC 800/1000	Water	2-8-12 10:16:50
	40	207040.D	1	TNRCC 1000/1000	Water	2-8-12 10:40:39
	41	207041.D	1	TNRCC 2ND SRC 400/1000 2/8/12	Water	2-8-12 11:55:53
	48	222048.D	1	TNRCC 400/1000 2/23/12	Mix(B)	2-23-12 11:55:17
	49	222049.D	1000	120222A BLK 10/10.00G	Soil	2-23-12 13:43:05
0	50	222050.D	1000	120222A LCS-1 10/10.00G	Soil	2-23-12 14:07:03
1	51	222051.D	998.004	AY54831S01 10/10.02G	Soil	2-23-12 14:31:18
2	52	222052.D	1	TNRCC 400/1000 2/23/12	Mix(B)	2-23-12 14:55:36

Wetlab Results

ARF: 66981

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Parsons
8000 Centre Park Drive Ste 200
Austin, TX 78754

Attn: Tammy Chang

Method	Analyte	Result	PQL	Units	Prep Date	Analysis Date
APPL ID: AY54831	-Client Sample ID: AOC65-WC04		-Sample Collection Date: 02/13/12		Project: 748402.01000 CSSA	
CLP MOIST	MOISTURE	18.8	2.0	%	02/16/12	02/16/12

Printed: 02/29/12 10:58:56 AM

METALS

APPL, INC.

METALS
QC Summary

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
Concentration Units: mg/L
Initial Calibration ID: 120220A

AAB #: 120217A-164087
Contract #: *G012
Method Blank ID: 120217A-BLK P05 3010T 2/22/12

Analyte	Method Blank	RL	Q
ANTIMONY (SB)	< RL	0.05	U
ARSENIC (AS)	< RL	0.03	U
BARIUM (BA)	< RL	0.005	U
BERYLLIUM (BE)	< RL	0.005	U
CADMIUM (CD)	< RL	0.007	U
CHROMIUM (CR)	< RL	0.01	U
LEAD (PB)	< RL	0.025	U
NICKEL (NI)	< RL	0.01	U
SELENIUM (SE)	< RL	0.03	U
SILVER (AG)	< RL	0.01	U

Comments: ARF: 66981, Sample: AY54831

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 7470A
Lab Name: APPL, Inc
Concentration Units: mg/L
Initial Calibration ID: 120217A

AAB #: 120217A-164003
Contract #: *G012
Method Blank ID: 120217A-BLK

Analyte	Method Blank	RL	Q
MERCURY (HG)	< RL	0.002	U

Comments: ARF: 66981, Sample: AY54831

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
LCS ID: 120217A LCS
Concentration Units: mg/L

AAB #: 120217A-164087
Contract #: *G012
Initial Calibration ID: 120220A

Analyte	Expected	Found	% R	Control Limits	Q
ANTIMONY (SB)	0.250	0.274	110	75-125	
ARSENIC (AS)	0.250	0.262	105	75-125	
BARIUM (BA)	0.2500	0.2324	93.0	75-125	
BERYLLIUM (BE)	0.0500	0.0444	88.8	75-125	
CADMIUM (CD)	0.0500	0.0475	95.0	75-125	
CHROMIUM (CR)	0.250	0.250	100	75-125	
LEAD (PB)	0.2500	0.2339	93.6	75-125	
NICKEL (NI)	0.250	0.248	99.2	75-125	
SELENIUM (SE)	0.250	0.272	109	75-125	
SILVER (AG)	0.1000	0.0781	78.1	75-125	

Comments: ARF: 66981, Sample: AY54831

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 7470A
Lab Name: APPL, Inc
LCS ID: 120217A LCS
Concentration Units: mg/L

AAB #: 120217A-164003
Contract #: *G012
Initial Calibration ID: 120217A

Analyte	Expected	Found	% R	Control Limits	Q
MERCURY (HG)	0.0040	0.0044	110	85-115	

Comments: ARF: 66981, Sample: AY54831

METALS
Sample Data

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: EPA 1311 EBT 2/22/12 AAB #: 120217A-164087
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC04 Lab Sample ID: AY54831 Matrix: Soil
% Solids: NA Initial Calibration ID: 120220A
Date Received: 16-Feb-12 Date Prepared: 17-Feb-12 Date Analyzed: 20-Feb-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	0.001	0.05	0.001	1	U
ARSENIC (AS)	0.002	0.03	0.002	1	U
BARIUM (BA)	0.0003	0.005	0.3700	1	
BERYLLIUM (BE)	0.0002	0.005	0.0002	1	U
CADMIUM (CD)	0.0003	0.007	0.0003	1	U
CHROMIUM (CR)	0.001	0.01	0.001	1	U
LEAD (PB)	0.0012	0.025	0.0012	1	U
NICKEL (NI)	0.001	0.01	0.001	1	U
SELENIUM (SE)	0.002	0.03	0.002	1	U
SILVER (AG)	0.0002	0.01	0.0052	1	F

Comments: ARF: 66981

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: AAB #: 120217A-164003
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC04 Lab Sample ID: AY54831 Matrix: Soil
% Solids: NA Initial Calibration ID: 120217A
Date Received: 16-Feb-12 Date Prepared: 17-Feb-12 Date Analyzed: 17-Feb-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.0001	0.002	0.0002	1	F

Comments: ARF: 66981

METALS
Calibration Data

APPL, INC.

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 66981 SDG: 66981

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 02/20/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 10:14	%R(1)	True CCV1	Found 11:48	%R(1)	True CCV1	Found 15:05	%R(1)	
Silver (Ag)	500	478.1	95.6	500	505.6	101	500	477.1	95.4	P
Arsenic (As)	1000	992.1	99.2	1000	1032	103	1000	1007	101	P
Barium (Ba)	1000	1004	100	1000	1020	102	1000	979.3	97.9	P
Beryllium (Be)	1000	1033	103	1000	1045	105	1000	974.5	97.5	P
Cadmium (Cd)	1000	1068	107	1000	1051	105	1000	1029	103	P
Chromium (Cr)	1000	1071	107	1000	1023	102	1000	975.1	97.5	P
Nickel (Ni)	1000	1078	108	1000	1043	104	1000	997	99.7	P
Lead (Pb)	1000	1060	106	1000	1052	105	1000	1020	102	P
Selenium (Se)	1000	1052	105	1000	1047	105	1000	1041	104	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 66981 SDG: 66981

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 02/20/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 10:14	%R(1)	True CCV2	Found 16:22	%R(1)	True	Found	%R(1)	
Silver (Ag)	500	478.1	95.6	375	352.4	94.0				P
Arsenic (As)	1000	992.1	99.2	750	746.3	99.5				P
Barium (Ba)	1000	1004	100	750	726.4	96.9				P
Beryllium (Be)	1000	1033	103	750	719.6	95.9				P
Cadmium (Cd)	1000	1068	107	750	765.8	102				P
Chromium (Cr)	1000	1071	107	750	721.9	96.3				P
Nickel (Ni)	1000	1078	108	750	743.1	99.1				P
Lead (Pb)	1000	1060	106	750	749.6	99.9				P
Selenium (Se)	1000	1052	105	750	762	102				P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 66981 SDG: 66981

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 02/20/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 10:09	%R(1)	True CCV1	Found 11:48	%R(1)	True CCV1	Found 15:05	%R(1)	
Antimony (Sb)	1000	969.1	96.9	1000	1074	107	1000	1096	110	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 66981 SDG: 66981

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 02/20/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 10:09	%R(1)	True CCV2	Found 16:22	%R(1)	True	Found	%R(1)	
Antimony (Sb)	1000	969.1	96.9	750	817.1	109				P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.

3

BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 66981 SDG: 66981

Preparation Blank Matrix (soil/water): water

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

Analysis Date: 02/20/12

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)								Preparation Blank		M
		C	1	C	2	C	3	C		C			
	10:24		11:55		15:10		16:30				15:35		
Silver (Ag)	10.00	U	10.00	U	10.00	U	10.00	U			.0100	U	P
Arsenic (As)	30.00	U	30.00	U	30.00	U	30.00	U			.0300	U	P
Barium (Ba)	5.00	U	5.00	U	5.00	U	5.00	U			.0050	U	P
Beryllium (Be)	5.00	U	5.00	U	5.00	U	5.00	U			.0050	U	P
Cadmium (Cd)	7.00	U	7.00	U	7.00	U	7.00	U			.0070	U	P
Chromium (Cr)	10.00	U	10.00	U	10.00	U	10.00	U			.0100	U	P
Nickel (Ni)	10.00	U	10.00	U	.65	J	10.00	U			.0100	U	P
Lead (Pb)	25.00	U	25.00	U	25.00	U	25.00	U			.0250	U	P
Antimony (Sb)	50.00	U	50.00	U	2.14	J	50.00	U			.0500	U	P
Selenium (Se)	30.00	U	30.00	U	30.00	U	30.00	U			.0300	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 66981 SDG: 66981

ICP ID Number: Phoebe ICS Source: Environmental Express

Analysis Date: 02/20/12 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 11:37	Sol AB 11:43	%R(1)
Silver (Ag)		1000	ND	896.8	89.7
Aluminum (Al)	200000	200000	205200	200900	100
Arsenic (As)		500	ND	459	91.8
Barium (Ba)		500	0.579	451.1	90.2
Beryllium (Be)		500	0.126	466.2	93.2
Calcium (Ca)	200000	200000	200100	198100	99.0
Cadmium (Cd)		1000	0.013	923.1	92.3
Chromium (Cr)		500	1.009	475.2	95.0
Iron (Fe)	200000	200000	181800	180900	90.5
Magnesium (Mg)	200000	200000	192900	192600	96.3
Nickel (Ni)		1000	0.528	925.1	92.5
Lead (Pb)		1000	ND	936.9	93.7
Antimony (Sb)		500	ND	522.7	105
Selenium (Se)		500	3.317	484.6	96.9

(1) Control Limits: Metals 80-120

Parsons

Hg BY METHOD 7470A ARF 66981
QCG: 120217A-7470TCLP
ANALYSIS DATE: 02/17/12

R=0.99997

NAME	TRUE	RESULT	% RECOVERY
ICV	4.00ppb	4.178	104.5%
ICB	0ppb	0.164	
CCV-1	5.00ppb	5.220	104.4%
CCB-1	0ppb	0.177	
CCV-2	5.00ppb	5.251	105.0%
CCB-2	0ppb	0.286	

METALS
Raw Data

APPL, INC.

_M3010TCL

Metals Digestion Worksheet

Method Name 3010A Digestion (TCLP) **Prep Method** M3010TCLP T **Set** 120217A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT# 1032278-30261
Spiked ID 2	LCSW LOT# 1032271-30259
Spiked ID 3	
Spiked ID 4	
Spiked By	NM Date: 02/17/12 8:40:00 AM
Witnessed By	RJS Date: 02/17/12 8:40:00 AM

Starting Temp:	95 c
Ending Temp:	95 c
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	Yes
End Date/Time	02/17/12 13:30

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120217A Blk				50mL	50mL	02/17/12 8:40	equip: Modblock2 Tumble Start Time 2-16-12 @ 14:15
2	120217A LCS		500uL	1+2	50mL	50mL	02/17/12 8:40	equip: Modblock2 Tumble End Time 2-17-12 @ 08:15
3	AY54831	AY54831S01			50mL	50mL	02/17/12 8:40	equip: Modblock2 Fluid # 1
4	AY54831 MS	AY54831S01	500uL	1+2	50mL	50mL	02/17/12 8:40	equip: Modblock2
5	AY54831 MSD	AY54831S01	500uL	1+2	50mL	50mL	02/17/12 8:40	equip: Modblock2

Solvent and Lot#
HNO3 J.T.B K47023 0138
1:1 HCL 2-16-12

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	EA
Date	2-17-12
Time	13:30
Moved to	METALS

Technician's Initials	
Scanned By	nm
Sample Preparation	nm
Digestion	lo
Bring up to volume	lo
Modified	02/17/12 8:33:19 AM

Reviewed By: EA **Date:** 2-17-12

Mercury Digestion Worksheet

Method Name 7470 Mercury Digestion (TCLP) **Prep Method** M7470TCLP **Set** 120217A **Units** mL

Spikes			
Spiked ID 1	Hg WORKING STANDARD prep 2-17-12		
Spiked ID 2	Hg WORKING ICV prep 2-17-12		
Spiked ID 3			
Spiked ID 4			
Spiked By	NM	Date:	02/17/12 9:00:00 AM
Witnessed By	LO	Date:	02/17/12 9:00:00 AM

Starting Temp:	95 c
Ending Temp:	95 c
Temp Type:	Modblock1 Tumble Start Time 2-16-12 @ 14:15
End Date/Time	02/17/12 11:00:00 AM

Mercury Calibration

Sample	Spike Amount	Spike ID	Final Volume
0 ppb		1	144.5 ml
0.2 ppb	0.4 ml	1	144.5 ml
0.5 ppb	1 ml	1	144.5 ml
1 ppb	2 ml	1	144.5 ml
2 ppb	4 ml	1	144.5 ml
5 ppb	10 ml	1	144.5 ml
5 ppb	10 ml	1	144.5 ml
10 ppb	20 ml	1	144.5 ml
ICV	8 ml	2	144.5 ml

Start Date/Time of Calibration 02/17/12 9:00

Sufficient Vol for Matrix QC:	Yes

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120217A Blk				50mL	72.25mL	02/17/12 9:00	equip: Modblock1 Tumble Start Time 2-16-12 @ 14:15
2	120217A LCS		4mL	1	50mL	72.25mL	02/17/12 9:00	equip: Modblock1 Tumble End Time 2-17-12 @ 08:15
3	AY54831	AY54831S01			50mL	72.25mL	02/17/12 9:00	equip: Modblock1 Fluid # 1
4	AY54831 MS	AY54831S01	4mL	1	50mL	72.25mL	02/17/12 9:00	equip: Modblock1
5	AY54831 MSD	AY54831S01	4mL	1	50mL	72.25mL	02/17/12 9:00	equip: Modblock1

Solvent and Lot#
HNO3 J.T.B K47023 0138
H2SO4 JTB J32024 0112
KMnO4 1-11-12
K2S2O8 1-30-12
Decolorizer 2-9-12

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	
Date	
Time	
Moved to	

Technician's Initials	
Scanned By	nm
Sample Preparation	nm
Digestion	lo
Bring up to volume	lo
Modified	02/17/12 8:48:07 AM

Reviewed By: **Date:**

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	20 Feb 2012	09:51	CalBlk 120220EA I:PB O:EA		120220A6010	1.
2	20 Feb 2012	09:56	STD 1 120220EA I:PB O:EA		120220A6010	1.
3	20 Feb 2012	10:00	STD 2 120220EA I:PB O:EA		120220A6010	1.
4	20 Feb 2012	10:04	STD 3 120220EA I:PB O:EA		120220A6010	1.
5	20 Feb 2012	10:09	ICV SB 120220EA I:PB O:E		120220A6010	1.
6	20 Feb 2012	10:14	ICV 120220EA I:PB O:EA		120220A6010	1.
7	20 Feb 2012	10:24	ICB 120220EA I:PB O:EA		120220A6010	1.
9	20 Feb 2012	11:37	ICSA 120220EA I:PB O:EA		120220A6010	1.
10	20 Feb 2012	11:43	ICSAB 120220EA I:PB O:EA		120220A6010	1.
11	20 Feb 2012	11:48	CCV1 120220EA I:PB O:EA		120220A6010	1.
12	20 Feb 2012	11:55	CCB 120220EA I:PB O:EA		120220A6010	1.
35	20 Feb 2012	15:05	CCV1 120220EA I:PB O:EA		120220A6010	1.
36	20 Feb 2012	15:10	CCB 120220EA I:PB O:EA		120220A6010	1.
40	20 Feb 2012	15:35	120217A-3010T-BLK		120220A6010	1.
41	20 Feb 2012	15:41	120217A-3010T-LCS		120220A6010	1.
42	20 Feb 2012	15:47	AY54831S01		120220A6010	1.
47	20 Feb 2012	16:22	CCV2 120220EA I:PB O:EA		120220A6010	1.
48	20 Feb 2012	16:30	CCB 120220EA I:PB O:EA		120220A6010	1.

Sample_ID	EL	Date	Time	Mean_SA	Units	Batch_ID	Wt	Dilu
Calib. Blank	Hg	02/17/12	13:15:41		µg/L			
0.2 02-17-12 NM	Hg	02/17/12	13:16:54		µg/L			
0.5	Hg	02/17/12	13:18:07		µg/L			
1	Hg	02/17/12	13:20:13		µg/L			
2	Hg	02/17/12	13:22:20		µg/L			
5	Hg	02/17/12	13:24:28		µg/L			
10	Hg	02/17/12	13:26:37		µg/L			
ICV 02-17-12 NM	Hg	02/17/12	13:29:50	4.178087	µg/L			
ICB 02-17-12 NM	Hg	02/17/12	13:31:57	0.164218	µg/L			
CCV 02-17-12 NM	Hg	02/17/12	13:33:13	5.220264	µg/L			
CCB 02-17-12 NM	Hg	02/17/12	13:35:20	0.176936	µg/L			
120217A BLK	Hg	02/17/12	13:36:35	0.159056	µg/L	120217A-7470TCLP		
120217A LCS	Hg	02/17/12	13:37:48	4.395616	µg/L	120217A-7470TCLP		
AY54831S01	Hg	02/17/12	13:39:55	0.203207	µg/L	120217A-7470TCLP		
~~AY54831S01 MS~~	~~Hg~~	~~02/17/12~~	~~13:41:08~~	~~4.509093~~	~~µg/L~~	~~120217A-7470TCLP~~	~~—~~	~~—~~
~~AY54831S01 MSD~~	~~Hg~~	~~02/17/12~~	~~13:43:14~~	~~4.398977~~	~~µg/L~~	~~120217A-7470TCLP~~	~~—~~	~~—~~
CCV 02-17-12 NM	Hg	02/17/12	13:45:22	5.251324	µg/L			
CCB 02-17-12 NM	Hg	02/17/12	13:47:29	0.285778	µg/L			

R=0.99997

Laboratory Report

Parsons

Project #: 748402.01000 CSSA

ARF: 67098

Samples collected: February 29, 2012

APPL, Inc.

Data Validatable Package
for
Project #: 748402.01000 CSSA
ARF 67098
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

CASE NARRATIVE

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Case Narrative

ARF: 67098

Project: 748402.01000 CSSA AOC-65

California State Certification Number: CA1312 (DW & WW)

NELAP Certification number: 05233CA (HW)

Texas Certificate Number: T104704242-10-3

Results in this report apply to the sample analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sample Receipt Information:

The sample group was received March 1, 2012, at 2.0°C. The samples were assigned Analytical Request Form (ARF) number 67098. The sample numbers and requested analyses were compared to the chain of custody and email communications. The report for VOC and total metals for samples AOC65-WC05 and AOC65-WC09 was changed from screening data to definitive data, as requested; all other data are reported as screening data. No other exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
AOC65-WC05	AY56028	SOIL	02/29/12	03/01/12
TB-1	AY56029	WATER	02/29/12	03/01/12
AOC65-WC06	AY56030	SOIL	02/29/12	03/01/12
AOC65-WC07	AY56031	SOIL	02/29/12	03/01/12
AOC65-WC08	AY56032	SOIL	02/29/12	03/01/12
AOC65-WC09	AY56033	SOIL	02/29/12	03/01/12

Percent moisture was determined using CLP 4.0.

Volatile Organic Compounds
EPA Method 8260B

Sample Preparation:

The water sample was purged according to EPA method 5030B and the soil samples were purged according to EPA method 5035. All holding times were met.

Sample Analysis Information:

The samples were analyzed according to EPA method 8260B using a Hewlett Packard Gas Chromatograph with a mass spectrometer detector. All holding times were met. Samples AOC65-WC05 and AOC65-WC09 were designated for definitive data.

Quality Control/Assurance:

Spike Recovery:

A Laboratory Control Spike (LCS) was used for quality assurance. A second-source standard was used for the LCS. All LCS criteria were met.

No sample was designated by the client for MS/MSD analysis.

Surrogates:

Surrogate recoveries are summarized on Form 2 & 8. All surrogate recoveries met acceptance criteria.

Method blanks:

No target compound was detected above its reporting limit in the method blank.

Calibration:

Initial and continuing calibrations were analyzed according to the method. All calibration criteria were met.

Tuning:

The instrument was tuned using BFB. All method criteria were met.

Internal Standards:

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All acceptance criteria were met.

Summary:

No analytical exception was noted. All data generated are acceptable.

EPA Methods 6010B
Total and TCLP Metals

Digestion Information:

The soil samples were digested according to EPA methods 3050B. Designated soil samples were leached according to EPA method 1311, and the leachates were digested according to EPA method 3010A. All holding times were met.

Analysis Information:

Samples:

The samples were analyzed according to EPA method 6010B using a Perkin Elmer Optima 5300DV ICP. Total metals samples AOC65-WC05 and AOC65-WC09 were designated for definitive data.

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard.

Blanks:

No target metal was detected above the reporting limit (RL) in the method blanks.

Spikes:

Laboratory Control Spikes (LCS), Post Digestion Spike (PDS) and serial dilution were used for quality assurance. All LCS acceptance criteria were met.

Sample AOC65-WC09 was selected by the laboratory as the QC sample for the analytical batch. The dilution test was applicable to barium, chromium and lead; chromium and lead exceeded the 10% deviation limit. The PDS was applicable to arsenic, cadmium, chromium, copper, nickel, lead, and zinc. Three analytes recovered below the 75% lower limit: cadmium at 58%, lead at 73.8%, and zinc at 70.4%. Cadmium, lead and zinc are flagged with a "J" in all associated samples, in accordance with CSSA QAPP guidelines.

Summary:

No other analytical exception is noted.

EPA Methods 7470A & 7471B
Total and TCLP Mercury

Digestion Information:

The soil samples were digested according to EPA method 7471B. Designated soil samples were leached according to EPA method 1311, and the leachates were digested according to EPA method 7470A. No exceptions were encountered. All holding times were met.

Analysis Information:

Samples:

The samples were analyzed according to EPA methods 7470A and 7471B using a Perkin Elmer Aanalyst 300. Total metals samples AOC65-WC05 and AOC65-WC09 were designated for definitive data.

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard. All calibration acceptance criteria were met.

Blanks:

No target metal was detected above the reporting limit (RL) in the method blanks.

Spikes:

Laboratory Control Spikes (LCS) were used for quality assurance. All acceptance criteria were met in the LCS.

No sample was designated by the client for MS/MSD analysis.

Summary:

No other analytical exception is noted.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

3/15/12

Sharon Dehmlow, Laboratory Director / Date

CHAIN OF CUSTODY

AND ARF

APPL - Analysis Request Form

67098

Client: **Parsons**
Address: **8000 Centre Park Drive Ste 200**
Austin, TX 78754
Attn: **Tammy Chang**
Phone: **512-719-6092** Fax: **512-719-6099**
Job: **748402.01000 CSSA AOC-65**
PO #: **748336.30000-00 (prime *G012)**
Chain of Custody (Y/N): **Y** # **022912APPFA**
RAD Screen (Y/N): **Y** pH (Y/N): **N**
Turn Around Type: **3 DAYS**

Received by: **TBV**
Date Received: **03/01/12** Time: **10:00**
Delivered by: **FED EX**
Shuttle Custody Seals (Y/N): **Y** Time Zone:
Chest Temp(s): **2.0°C**
Color: **VOA,G-BLUE**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Diane Anderson**
QC Report Type: **DVP3/AFCEE/ERPIMS/TX**
Due Date: **03/05/12**

Comments:
pdf ARF to Tammy & Pam; send 2 DVP3 to Tammy
Data screening project: analyze samples ONCE; report deficiencies; do NOT re-analyze
Case Narrative. CSSA + AFCEE 3.1 QAPP. Only report MS/MSD when requested.
Use AFCEE forms with AFCEE flagging to report sample & QC data only.
APPL forms for everything else and APPL DVP3.
EDD: ERPIMS 4 Lab PC4 checked TXF to Pam.Ford@parsons.com
CHANGE IN ARF: AY56028 & 56033 changed to definitive data (DVP4) for VOCs and total metals only; re-analyze as needed to meet QC acceptance criteria. 3-8-12 rp

Sample Distribution:
GC: 5-$TNRS
Extractions: 5-_MSE017
VOA: 5-$826AF, 1-$826AW, 1-$826AFME
Metals: 5-$60LP(Ag,As,Ba,Be,Cd,Cr,Ni,Pb,Sb,Se), 5-$HGAFBS, 5-$HGT, 5-$MTAFS(As,Ba,Cd,Cr,Cu,Ni,Pb,Zn)
Wetlab: 5-MOIST
Other: 5-_M3010TCLP, 5-_M3050GROSS, 5-_M7470TCLP, 5-_M7471GROSS

Charges:

Invoice To:
BOA 748336.30000 TO# 3
8000 Centre Park Drive Ste 200
Austin, TX 78754-5140
Attn: Ellen Felfe

	Client ID	APPL ID	Sampled	Analyses Requested
1.	AOC65-WC05	AY56028S	02/29/12 15:00	$60LP(Ag,As,Ba,Be,Cd,Cr,Ni,Pb,Sb,Se), $826AF, $HGAFBS, $HGT, $MTAFS(As,Ba,Cd,Cr,Cu,Ni,Pb,Zn), $TNRS, MOIST -- definitive data total metals & VOCs
2.	TB-1	AY56029W	02/29/12 15:00	$826AW
3.	AOC65-WC06	AY56030S	02/29/12 15:10	$60LP(Ag,As,Ba,Be,Cd,Cr,Ni,Pb,Sb,Se), $826AF, $826AFME, $HGAFBS, $HGT, $MTAFS(As,Ba,Cd,Cr,Cu,Ni,Pb,Zn), $TNRS, MOIST

4.	AOC65-WC07	AY56031S 02/29/12	15:20	$60LP(Ag,As,Ba,Be,Cd,Cr,Ni,Pb,Sb,Se), $826AF, $HGAFBS, $HGT, $MTAFS(As,Ba,Cd,Cr,Cu,Ni,Pb,Zn), $TNRS, MOIST
5.	AOC65-WC08	AY56032S 02/29/12	15:30	$60LP(Ag,As,Ba,Be,Cd,Cr,Ni,Pb,Sb,Se), $826AF, $HGAFBS, $HGT, $MTAFS(As,Ba,Cd,Cr,Cu,Ni,Pb,Zn), $TNRS, MOIST
6.	AOC65-WC09	AY56033S 02/29/12	15:40	$60LP(Ag,As,Ba,Be,Cd,Cr,Ni,Pb,Sb,Se), $826AF, $HGAFBS, $HGT, $MTAFS(As,Ba,Cd,Cr,Cu,Ni,Pb,Zn), $TNRS, MOIST -- definitive data total metals & VOCs

APPL Sample Receipt Form

ARF# **67098**

Sample	Container Type	Count	pH
AY56028	20 4oz Jar	4	NA
AY56029	13 VOAs - HCL	2	NA
AY56030	20 4oz Jar	4	NA
AY56031	20 4oz Jar	4	NA
AY56032	20 4oz Jar	4	NA
AY56033	20 4oz Jar	4	NA

Sample	Container Type	Count	pH

Renee Patterson

From: Chang, Tammy [Tammy.Chang@parsons.com]
Sent: Thursday, March 08, 2012 10:37 AM
To: Diane Anderson; Sharon Dehmlow; Renee Patterson
Cc: de las Fuentes, Sandra; Rice, Ken R
Subject: AY56028S and AY56033S (in SDG 67098)

Follow Up Flag: Follow up
Flag Status: Flagged

Ladies:

Upon CSSA's request, we would like to receive VOC and metal results as definitive data for these two samples. The TCLP and TPH analyses may remain as screening data, if they have already be analyzed. If not, we would like to cancel them.

Parsons is willing to pay any fee for this late request, if all QC for the analyses met the criteria. If not, please rerun these analyses for these two soil samples.

Let me know if this is doable or not. Thanks.

Tammy

Renee Patterson

From: de las Fuentes, Sandra [Sandra.delasFuentes@parsons.com]
Sent: Thursday, March 01, 2012 9:33 AM
To: Renee Patterson
Cc: Sharon Dehmlow; Chang, Tammy
Subject: RE: CSSA shipment
Attachments: SKMBT_C452E12030112200.pdf

Here you go Renee and thanks!

Sandra

From: Chang, Tammy
Sent: Thursday, March 01, 2012 11:22 AM
To: Renee Patterson
Cc: de las Fuentes, Sandra; 'Sharon Dehmlow'
Subject: RE: CSSA shipment

Thank you.

Sandra:
Will you make a note on the CoC and email back to Renee. Thanks

Tammy

From: Renee Patterson [mailto:rpatterson@applinc.com]
Sent: Thursday, March 01, 2012 11:16 AM
To: Chang, Tammy
Cc: de las Fuentes, Sandra; 'Sharon Dehmlow'
Subject: RE: CSSA shipment

Tammy,

We should be able to provide soil VOC & total CSSA 9 metal results within 3-day TAT -- results Tuesday March 6.

Renée

From: Chang, Tammy [mailto:Tammy.Chang@parsons.com]
Sent: Thursday, March 01, 2012 8:58 AM
To: Renée Patterson
Cc: de las Fuentes, Sandra
Subject: FW: CSSA shipment

Renee:
These are the ones I talked to you earlier. Ken wants to know if he can change the total metals (CSSA 9 metals) and VOC (excluding the TB) to 3 business days TAT.

Tammy

Camp Stanley Storage Activity Chain Of Custody

COC ID:	022912APPFA	Relinquish_Date:	2/29/2012	Cooler ID:	A		
Project Location:	CSSA AOC-65	Relinquished_By:	KRR	LabCode:	APPF	Sampler(s):	
Job Number:	748402.01000	Relinquish_Time:	6:00 PM	Carrier:	FedEx		
Creation Date:	2/29/2012	Collection Team:	KRR	Airbill Carrier:	876436443230		
Task Manager:	Ken Rice	Sample Data Type	Screening	TAT:	7 Day TAT *		

Ken Rice / KRR

LOCID: **AOC65-WC05** LOGDATE: 2/29/2012 MATRIX: SO TBLOT: 29021201
SBD: 0 LOGTIME: 15:00 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-WC05_022912_N1500 EBLOT: Containers: 4
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	TCLP - Silver (Ag)
SW6010B	TCLP - Arsenic (As)	SW6010B	TCLP - Barium (Ba)
SW6010B	TCLP - Beryllium (Be)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Nickel (Ni)
SW6010B	TCLP - Lead (Pb)	SW6010B	TCLP - Antimony (Sb)
SW6010B	TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

LOCID: **TB-1** LOGDATE: 2/29/2012 MATRIX: WQ TBLOT:
SBD: 0 LOGTIME: 15:00 SACODE: TB SMCODE: NA ABLOT:
SED: 0 FLDSAMPID TB-1_022912_TB1500 EBLOT: Containers: 2
Remarks:

Analysis Required:

SW8260B	VOLATILE ORGANIC CO

LOCID: **AOC65-WC06** LOGDATE: 2/29/2012 MATRIX: SO TBLOT: 29021201
SBD: 0 LOGTIME: 15:10 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-WC06_022912_N1510 EBLOT: Containers: 4
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	TCLP - Silver (Ag)
SW6010B	TCLP - Arsenic (As)	SW6010B	TCLP - Barium (Ba)
SW6010B	TCLP - Beryllium (Be)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Nickel (Ni)
SW6010B	TCLP - Lead (Pb)	SW6010B	TCLP - Antimony (Sb)
SW6010B	TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

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LOCID: **AOC65-WC07** LOGDATE: 2/29/2012 MATRIX: SO TBLOT: 29021201
SBD: 0 LOGTIME: 15:20 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-WC07_022912_N1520 EBLOT: Containers: 4
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	TCLP - Silver (Ag)
SW6010B	TCLP - Arsenic (As)	SW6010B	TCLP - Barium (Ba)
SW6010B	TCLP - Beryllium (Be)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Nickel (Ni)
SW6010B	TCLP - Lead (Pb)	SW6010B	TCLP - Antimony (Sb)
SW6010B	TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

3 day TAT → VOCs, Total Metals

* 7 day TAT → TPH, TCLP - Metals

SN 3/1/12

Relinquished by: KRR Date 2/29/12 Time 1800 Relinquished by:____ Date____ Time____ Relinquished by:____ Date____ Time____

Recieved by:____ Date____ Time____ Recieved by:____ Date____ Time____ Recieved by:____ Date____ Time____

Camp Stanley Storage Activity Chain Of Custody

COC ID:	022912APPFA	Relinquish_Date:	2/29/2012	Cooler ID:	A		
Project Location:	CSSA AOC-65	Relinquished_By:	KRR	LabCode:	APPF	Sampler(s):	Ken Rice / [illegible]
Job Number:	748402.01000	Relinquish_Time:	6:00 PM	Carrier:	FedEx		
Creation Date:	2/29/2012	Collection Team:	KRR	Airbill Carrier:	876436443230		
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	7 Day TAT *		

LOCID: **AOC65-WC08** LOGDATE: 2/29/2012 MATRIX: SO TBLOT: 29021201
SBD: 0 LOGTIME: 15:30 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-WC08_022912_N1539 EBLOT: Containers: 4
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	TCLP - Silver (Ag)
SW6010B	TCLP - Arsenic (As)	SW6010B	TCLP - Barium (Ba)
SW6010B	TCLP - Beryllium (Be)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Nickel (Ni)
SW6010B	TCLP - Lead (Pb)	SW6010B	TCLP - Antimony (Sb)
SW6010B	TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

LOCID: **AOC65-WC09** LOGDATE: 2/29/2012 MATRIX: SO TBLOT: 29021201
SBD: 0 LOGTIME: 15:40 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-WC09_022912_N1540 EBLOT: Containers: 4
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	TCLP - Silver (Ag)
SW6010B	TCLP - Arsenic (As)	SW6010B	TCLP - Barium (Ba)
SW6010B	TCLP - Beryllium (Be)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Nickel (Ni)
SW6010B	TCLP - Lead (Pb)	SW6010B	TCLP - Antimony (Sb)
SW6010B	TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

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3 day TAT → VOCs, Total Metals

7 day TAT → TPH + TCLP - Metals

SC
3/1/12

Relinquished by [illegible] Date 2/24/12 Time 1800 Recieved by _____ Date _____ Time _____

Relinquished by _____ Date _____ Time _____ Recieved by _____ Date _____ Time _____

Relinquished by _____ Date _____ Time _____ Recieved by _____ Date _____ Time _____

Camp Stanley Storage Activity Chain Of Custody

67098
2.0

COC ID:	022912APPFA	Relinquish_Date:	2/29/2012	Cooler ID:	A
Project Location:	CSSA AOC-65	Relinquished_By:	KRR	LabCode:	APPF
Job Number:	748402.01000	Relinquish_Time:	6:00 PM	Carrier:	FedEx
Creation Date:	2/29/2012	Collection Team:	KRR	Airbill Carrier:	876436443230
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	7 Day TAT

Sampler(s): Ken Rice / KR

LOCID: **AOC65-WC05** LOGDATE: 2/29/2012 MATRIX: SO TBLOT: 29021201
SBD: 0 LOGTIME: 15:00 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-WC05_022912_N1500 EBLOT: Containers: 4
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	TCLP - Silver (Ag)
SW6010B	TCLP - Arsenic (As)	SW6010B	TCLP - Barium (Ba)
SW6010B	TCLP - Beryllium (Be)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Nickel (Ni)
SW6010B	TCLP - Lead (Pb)	SW6010B	TCLP - Antimony (Sb)
SW6010B	TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

LOCID: **TB-1** LOGDATE: 2/29/2012 MATRIX: WQ TBLOT:
SBD: 0 LOGTIME: 15:00 SACODE: TB SMCODE: NA ABLOT:
SED: 0 FLDSAMPID TB-1_022912_TB1500 EBLOT: Containers: 2
Remarks:

Analysis Required:

SW8260B	VOLATILE ORGANIC CO

LOCID: **AOC65-WC06** LOGDATE: 2/29/2012 MATRIX: SO TBLOT: 29021201
SBD: 0 LOGTIME: 15:10 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-WC06_022912_N1510 EBLOT: Containers: 4
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	TCLP - Silver (Ag)
SW6010B	TCLP - Arsenic (As)	SW6010B	TCLP - Barium (Ba)
SW6010B	TCLP - Beryllium (Be)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Nickel (Ni)
SW6010B	TCLP - Lead (Pb)	SW6010B	TCLP - Antimony (Sb)
SW6010B	TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

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LOCID: **AOC65-WC07** LOGDATE: 2/29/2012 MATRIX: SO TBLOT: 29021201
SBD: 0 LOGTIME: 15:20 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-WC07_022912_N1520 EBLOT: Containers: 4
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	TCLP - Silver (Ag)
SW6010B	TCLP - Arsenic (As)	SW6010B	TCLP - Barium (Ba)
SW6010B	TCLP - Beryllium (Be)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Nickel (Ni)
SW6010B	TCLP - Lead (Pb)	SW6010B	TCLP - Antimony (Sb)
SW6010B	TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

Relinquished by: KR Date 2/29/12 Time 1800
Recieved by: Date 3/1/12 Time 1000
3/1/12

Relinquished by:____ Date____ Time____
Recieved by:____ Date____ Time____

Relinquished by:____ Date____ Time____
Recieved by:____ Date____ Time____

Camp Stanley Storage Activity Chain Of Custody

COC ID:	022912APPFA	Relinquish_Date:	2/29/2012	Cooler ID:	A
Project Location:	CSSA AOC-65	Relinquished_By:	KRR	LabCode:	APPF
Job Number:	748402.01000	Relinquish_Time:	6:00 PM	Carrier:	FedEx
Creation Date:	2/29/2012	Collection Team:	KRR	Airbill Carrier:	876436443230
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	7 Day TAT

Sampler(s): Ken Rice / [signature]

LOCID: **AOC65-WC08** LOGDATE: **2/29/2012** MATRIX: **SO** TBLOT: **29021201**
SBD: **0** LOGTIME: **15:30** SACODE: **N** SMCODE: **G** ABLOT:
SED: **0** FLDSAMPID **AOC65-WC08_022912_N1530** EBLOT: Containers: **4**
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	TCLP - Silver (Ag)
SW6010B	TCLP - Arsenic (As)	SW6010B	TCLP - Barium (Ba)
SW6010B	TCLP - Beryllium (Be)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Nickel (Ni)
SW6010B	TCLP - Lead (Pb)	SW6010B	TCLP - Antimony (Sb)
SW6010B	TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

LOCID: **AOC65-WC09** LOGDATE: **2/29/2012** MATRIX: **SO** TBLOT: **29021201**
SBD: **0** LOGTIME: **15:40** SACODE: **N** SMCODE: **G** ABLOT:
SED: **0** FLDSAMPID **AOC65-WC09_022912_N1540** EBLOT: Containers: **4**
Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	TCLP - Silver (Ag)
SW6010B	TCLP - Arsenic (As)	SW6010B	TCLP - Barium (Ba)
SW6010B	TCLP - Beryllium (Be)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Nickel (Ni)
SW6010B	TCLP - Lead (Pb)	SW6010B	TCLP - Antimony (Sb)
SW6010B	TCLP - Selenium (Se)	SW6010B	ZINC
SW7470A	TCLP - Mercury (Hg)	SW7471	MERCURY
SW8260B	VOLATILE ORGANIC CO	TX1005	TOTAL PETROLEUM HY

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Relinquished by: [signature] Date 2/29/12 Time 1800
Recieved by: [signature] Date 3/1/12 Time 1000

Relinquished by:_____ Date_____ Time____
Recieved by:_____ Date_____ Time____

Relinquished by:_____ Date_____ Time____
Recieved by:_____ Date_____ Time____

COOLER RECEIPT FORM

1) Project: 748402.01000 CSSA AOC-65 Date Received: 3/1/12

2) Coolers: Number of Coolers: 1

3) YES NO Were coolers and samples screened for radioactivity?

4) YES NO Were custody seals on outside of cooler? How many? 2 Date on seal? 2/29/12

5) Name on seal? See Label

6) YES NO NA Were custody seals unbroken and intact at the time of arrival?

7) YES NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex

8) Shipping slip numbers: 1) 8764 3644 9230 2) 3)

9) YES NO NA Was the shipping slip scanned into the database?

10) YES NO NA If cooler belongs to APPL, has it been logged into the ice chest database?

11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.): bubble bag, Ziploc, in wet ice

12) YES NO NA For hand delivered samples was sufficient ice present to start the cooling process?

13) YES NO Was a temperature blank included in the cooler?

14) Serial number of certified NIST thermometer used: 439267 Correction factor: 0

15) Cooler temp(s): 1) 2.0°C 2) 3) 4) 5) 6) 7) 8)

Chain of custody:

16) YES NO Was a chain of custody received?

17) YES NO Were the custody papers signed in the appropriate places?

18) YES NO Was the project identifiable from custody papers?

19) YES NO Did the chain of custody include date and time of sampling?

20) YES NO Is location where sample was taken listed on the chain of custody?

Sample Kendrick (Signature) CUSTODY

2/29/12

Sample Labels:

21) YES NO Were container labels in good condition?

22) YES NO Was the client ID on the label?

23) YES NO Was the date of sampling on the label?

24) YES NO Was the time of sampling on the label?

25) YES NO Did all container labels agree with custody papers?

Sample Containers:

26) YES NO Were all containers sealed in separate bags?

27) YES NO Did all containers arrive unbroken?

28) YES NO Was there any leakage from samples?

29) YES NO Were any of the lids cracked or broken?

30) YES NO Were correct containers used for the tests indicated?

31) YES NO Was a sufficient amount of sample sent for tests indicated?

32) YES NO NA Were bubbles present in volatile samples? If yes, the following were received with air bubbles:

Larger than a pea: AY56029W02

Smaller than a pea: AY YZ 3/1/12

Preservation & Hold time:

33) YES NO NA Was a sufficient amount of holding time remaining to analyze the samples?

34) YES NO NA Do the sample containers contain the same preservative as what is stated on the COC?

35) YES NO NA Was the pH taken of all non-VOA preserved samples and written on the sample container?

36) YES NO NA Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples > 12?

37) YES NO NA Unpreserved VOA Vials received?

38) YES NO NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?

Lab notified if pH was not adequate:

Deficiencies:

Signature of personnel receiving samples: Second reviewer:

Signature of project manager notified: Date and Time of notification:

Name of client notified: Date and Time of notification:

Information given to client:

by whom (Initials):

EPA METHOD 8260B
Volatile Organic Compounds

APPL, INC.

EPA METHOD 8260B
Volatile Organic Compounds
AFCEE Forms

AFCEE
ORGANIC ANALYSES DATA PACKAGE

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
Base/Command: CSSA

AAB #: 120301AN-164502
Contract #: *G012
Prime Contractor: Parsons

Field Sample ID	Lab Sample ID
AOC65-WC05	AY56028
AOC65-WC09	AY56033

Comments: ARF: 67098

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Diane Anderson

Date: 8/15/12 Title: Project Manager

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ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120301AN-164502
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC05 Lab Sample ID: AY56028 Matrix: Soil
% Solids: 88 Initial Calibration ID: N120229
Date Received: 01-Mar-12 Date Prepared: 01-Mar-12 Date Analyzed: 01-Mar-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0009	0.003	0.0009	1		U
1,1,1-TCA	0.0010	0.004	0.0010	1		U
1,1,2,2-TETRACHLOROETHANE	0.0010	0.002	0.0010	1		U
1,1,2-TCA	0.0010	0.006	0.0010	1		U
1,1-DCA	0.0011	0.002	0.0011	1		U
1,1-DCE	0.0013	0.007	0.0013	1		U
1,1-DICHLOROPROPENE	0.0014	0.006	0.0014	1		U
1,2,3-TRICHLOROBENZENE	0.0011	0.004	0.0011	1		U
1,2,3-TRICHLOROPROPANE	0.001	0.023	0.001	1		U
1,2,4-TRICHLOROBENZENE	0.0011	0.004	0.0011	1		U
1,2,4-TRIMETHYLBENZENE	0.0013	0.008	0.0013	1		U
1,2-DCA	0.0011	0.003	0.0011	1		U
1,2-DCB	0.0011	0.002	0.0011	1		U
1,2-DIBROMO-3-CHLOROPROPANE	0.002	0.011	0.002	1		U
1,2-DICHLOROPROPANE	0.0008	0.002	0.0008	1		U
1,2-EDB	0.0015	0.003	0.0015	1		U
1,3,5-TRIMETHYLBENZENE	0.0013	0.003	0.0013	1		U
1,3-DCB	0.0013	0.007	0.0013	1		U
1,3-DICHLOROPROPANE	0.0008	0.002	0.0008	1		U
1,4-DCB	0.0009	0.002	0.0009	1		U
1-CHLOROHEXANE	0.0010	0.003	0.0010	1		U
2,2-DICHLOROPROPANE	0.001	0.023	0.001	1		U
2-CHLOROTOLUENE	0.0015	0.002	0.0015	1		U
4-CHLOROTOLUENE	0.0013	0.003	0.0013	1		U
BENZENE	0.0010	0.002	0.0010	1		U
BROMOBENZENE	0.0010	0.002	0.0010	1		U
BROMOCHLOROMETHANE	0.0009	0.002	0.0009	1		U
BROMODICHLOROMETHANE	0.0010	0.004	0.0010	1		U
BROMOFORM	0.0013	0.007	0.0013	1		U
BROMOMETHANE	0.0008	0.006	0.0008	1		U
CARBON TETRACHLORIDE	0.001	0.011	0.001	1		U
CHLOROBENZENE	0.0008	0.002	0.0008	1		U
CHLOROETHANE	0.0017	0.006	0.0017	1		U
CHLOROFORM	0.0008	0.002	0.0008	1		U
CHLOROMETHANE	0.0017	0.008	0.0017	1		U
CIS-1,2-DCE	0.0009	0.007	0.0009	1		U
CIS-1,3-DICHLOROPROPENE	0.0010	0.006	0.0010	1		U

Comments: ARF: 67098 The RL and MDL were Moisture Corrected on this form.

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120301AN-164502
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC05 Lab Sample ID: AY56028 Matrix: Soil
% Solids: 88 Initial Calibration ID: N120229
Date Received: 01-Mar-12 Date Prepared: 01-Mar-12 Date Analyzed: 01-Mar-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
DIBROMOCHLOROMETHANE	0.0010	0.003	0.0010	1		U
DIBROMOMETHANE	0.001	0.011	0.001	1		U
DICHLORODIFLUOROMETHANE	0.0020	0.006	0.0020	1		U
ETHYLBENZENE	0.0011	0.003	0.0011	1		U
HEXACHLOROBUTADIENE	0.0013	0.006	0.0013	1		U
ISOPROPYLBENZENE	0.0011	0.009	0.0011	1		U
M&P-XYLENE	0.0020	0.008	0.0020	1		U
METHYLENE CHLORIDE	0.0015	0.006	0.0058	1		F
N-BUTYLBENZENE	0.0011	0.006	0.0011	1		U
N-PROPYLBENZENE	0.0014	0.002	0.0014	1		U
NAPHTHALENE	0.0011	0.023	0.0011	1		U
O-XYLENE	0.0008	0.006	0.0008	1		U
P-ISOPROPYLTOLUENE	0.0014	0.007	0.0014	1		U
SEC-BUTYLBENZENE	0.0013	0.008	0.0013	1		U
STYRENE	0.0010	0.002	0.0010	1		U
TCE	0.0014	0.011	0.0014	1		U
TERT-BUTYLBENZENE	0.0014	0.008	0.0014	1		U
TETRACHLOROETHENE	0.0009	0.008	0.0009	1		U
TOLUENE	0.0011	0.006	0.0011	1		U
TRANS-1,2-DCE	0.0009	0.003	0.0009	1		U
TRANS-1,3-DICHLOROPROPENE	0.0010	0.006	0.0010	1		U
TRICHLOROFLUOROMETHANE	0.0015	0.004	0.0015	1		U
VINYL CHLORIDE	0.0015	0.010	0.0015	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	109	52-149	
SURROGATE: 4-BROMOFLUOROBENZ	110	65-135	
SURROGATE: DIBROMOFLUOROMET	105	65-135	
SURROGATE: TOLUENE-D8 (S)	114	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 67098 The RL and MDL were Moisture Corrected on this form.

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120301AN-164502
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC09 Lab Sample ID: AY56033 Matrix: Soil
% Solids: 88.7 Initial Calibration ID: N120229
Date Received: 01-Mar-12 Date Prepared: 01-Mar-12 Date Analyzed: 01-Mar-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0009	0.003	0.0009	1		U
1,1,1-TCA	0.0010	0.004	0.0010	1		U
1,1,2,2-TETRACHLOROETHANE	0.0010	0.002	0.0010	1		U
1,1,2-TCA	0.0010	0.006	0.0010	1		U
1,1-DCA	0.0011	0.002	0.0011	1		U
1,1-DCE	0.0012	0.007	0.0012	1		U
1,1-DICHLOROPROPENE	0.0014	0.006	0.0014	1		U
1,2,3-TRICHLOROBENZENE	0.0011	0.004	0.0011	1		U
1,2,3-TRICHLOROPROPANE	0.001	0.023	0.001	1		U
1,2,4-TRICHLOROBENZENE	0.0011	0.004	0.0011	1		U
1,2,4-TRIMETHYLBENZENE	0.0012	0.008	0.0012	1		U
1,2-DCA	0.0011	0.003	0.0011	1		U
1,2-DCB	0.0011	0.002	0.0011	1		U
1,2-DIBROMO-3-CHLOROPROPANE	0.002	0.011	0.002	1		U
1,2-DICHLOROPROPANE	0.0008	0.002	0.0008	1		U
1,2-EDB	0.0015	0.003	0.0015	1		U
1,3,5-TRIMETHYLBENZENE	0.0012	0.003	0.0012	1		U
1,3-DCB	0.0012	0.007	0.0012	1		U
1,3-DICHLOROPROPANE	0.0008	0.002	0.0008	1		U
1,4-DCB	0.0009	0.002	0.0009	1		U
1-CHLOROHEXANE	0.0010	0.003	0.0010	1		U
2,2-DICHLOROPROPANE	0.001	0.023	0.001	1		U
2-CHLOROTOLUENE	0.0015	0.002	0.0015	1		U
4-CHLOROTOLUENE	0.0012	0.003	0.0012	1		U
BENZENE	0.0010	0.002	0.0010	1		U
BROMOBENZENE	0.0010	0.002	0.0010	1		U
BROMOCHLOROMETHANE	0.0009	0.002	0.0009	1		U
BROMODICHLOROMETHANE	0.0010	0.004	0.0010	1		U
BROMOFORM	0.0012	0.007	0.0012	1		U
BROMOMETHANE	0.0008	0.006	0.0008	1		U
CARBON TETRACHLORIDE	0.001	0.011	0.001	1		U
CHLOROBENZENE	0.0008	0.002	0.0008	1		U
CHLOROETHANE	0.0017	0.006	0.0017	1		U
CHLOROFORM	0.0008	0.002	0.0008	1		U
CHLOROMETHANE	0.0017	0.008	0.0017	1		U
CIS-1,2-DCE	0.0009	0.007	0.0009	1		U
CIS-1,3-DICHLOROPROPENE	0.0010	0.006	0.0010	1		U

Comments: ARF: 67098 The RL and MDL were Moisture Corrected on this form.

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120301AN-164502
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC09 Lab Sample ID: AY56033 Matrix: Soil
% Solids: 88.7 Initial Calibration ID: N120229
Date Received: 01-Mar-12 Date Prepared: 01-Mar-12 Date Analyzed: 01-Mar-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
DIBROMOCHLOROMETHANE	0.0010	0.003	0.0010	1		U
DIBROMOMETHANE	0.001	0.011	0.001	1		U
DICHLORODIFLUOROMETHANE	0.0020	0.006	0.0020	1		U
ETHYLBENZENE	0.0011	0.003	0.0011	1		U
HEXACHLOROBUTADIENE	0.0012	0.006	0.0012	1		U
ISOPROPYLBENZENE	0.0011	0.009	0.0011	1		U
M&P-XYLENE	0.0020	0.008	0.0020	1		U
METHYLENE CHLORIDE	0.0015	0.006	0.0061	1		
N-BUTYLBENZENE	0.0011	0.006	0.0011	1		U
N-PROPYLBENZENE	0.0014	0.002	0.0014	1		U
NAPHTHALENE	0.0011	0.023	0.0011	1		U
O-XYLENE	0.0008	0.006	0.0008	1		U
P-ISOPROPYLTOLUENE	0.0014	0.007	0.0014	1		U
SEC-BUTYLBENZENE	0.0012	0.008	0.0012	1		U
STYRENE	0.0010	0.002	0.0010	1		U
TCE	0.0014	0.011	0.0014	1		U
TERT-BUTYLBENZENE	0.0014	0.008	0.0014	1		U
TETRACHLOROETHENE	0.0009	0.008	0.0026	1		F
TOLUENE	0.0011	0.006	0.0011	1		U
TRANS-1,2-DCE	0.0009	0.003	0.0009	1		U
TRANS-1,3-DICHLOROPROPENE	0.0010	0.006	0.0010	1		U
TRICHLOROFLUOROMETHANE	0.0015	0.004	0.0015	1		U
VINYL CHLORIDE	0.0015	0.010	0.0015	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	104	52-149	
SURROGATE: 4-BROMOFLUOROBENZ	107	65-135	
SURROGATE: DIBROMOFLUOROMET	105	65-135	
SURROGATE: TOLUENE-D8 (S)	112	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 67098 The RL and MDL were Moisture Corrected on this form.

APCHI
ORGANIC ANALYSIS DATA SHEET J
INITIAL MULTIPOINT CALIBRATION-GC/MS ANALYSIS

Analytical Method: METHOD 8260B — AAB #: 120301AN-164502

Lab Name: APPL, Inc. — Contract #: *G012

Instrument ID: Neo — Date of Initial Calibration: 29-Feb-12

Initial Calibration ID: M120229 — Concentration Units (ug/L or mg/kg): mg/kg

Analyte	Std 1	RF 1	Std 2	RF 2	Std 3	RF 3	Std 4	RF 4	Std 5	RF 5	Std 6	RF 6	Std 7	RF 7	Std 8	RF 8
1,1,1,2-Tetrachloroethane	0.005	1.085	0.002	1.051	0.020	1.010	0.100	1.081	0.050	1.027	0.200	1.048	0.010	0.937		
1,1,1-TCA	0.005	1.858	0.002	1.717	0.020	1.668	0.100	1.629	0.050	1.462	0.200	1.590	0.010	1.533		
1,1,2-TCA	0.005	0.635	0.002	0.540	0.020	0.587	0.100	0.607	0.050	0.674	0.200	0.575	0.010	0.534		
1,1-Dichloropropene	0.005	1.612	0.002	1.640	0.020	1.700	0.100	1.669	0.050	1.604	0.200	1.584	0.010	1.505		
1,2,1-Trichlorobenzene	0.005	2.347	0.002	2.589	0.020	2.295	0.100	2.178	0.050	2.101	0.200	2.242	0.010	2.498		
1,2,3-Trichloropropane	0.005	0.733	0.002	0.617	0.020	0.614	0.100	0.632	0.050	0.562	0.200	0.714	0.010	0.851		
1,2,4-Trichlorobenzene	0.005	2.725	0.002	3.262	0.020	2.688	0.100	2.592	0.050	2.548	0.200	2.723	0.010	2.889		
1,2,4-Trimethylbenzene	0.005	9.984	0.002	8.925	0.020	9.527	0.100	9.053	0.050	8.668	0.200	10.674	0.010	9.998		
1,2-DCA	0.005	1.292	0.002	1.233	0.020	1.214	0.100	1.221	0.050	1.328	0.200	1.187	0.010	1.135		
1,2-DCB	0.005	4.333	0.002	4.149	0.020	3.798	0.100	4.052	0.050	3.695	0.200	4.350	0.010	4.094		
1,3-Dibromo-2-chloropropane	0.005	0.468	0.002	0.370	0.020	0.391	0.100	0.395	0.050	0.310	0.200	0.490	0.010	0.342		
1,2-EDB	0.005	1.004	0.002	0.958	0.020	1.024	0.100	1.065	0.050	0.978	0.200	1.028	0.010	0.943		
1,3,5-Trimethylbenzene	0.005	9.875	0.002	8.684	0.020	9.292	0.100	9.320	0.050	9.005	0.200	10.783	0.010	10.241		
1,3-DCB	0.005	4.817	0.002	4.395	0.020	4.569	0.100	4.562	0.050	4.443	0.200	4.901	0.010	4.888		
1,3-Dichloropropane	0.005	1.760	0.002	1.564	0.020	1.754	0.100	1.820	0.050	1.791	0.200	1.763	0.010	1.678		
1,4-DCB	0.005	4.320	0.002	4.817	0.020	4.350	0.100	4.436	0.050	4.320	0.200	4.700	0.010	4.975		
1-Chlorobutane	0.005	2.215	0.002	2.068	0.020	2.407	0.100	2.367	0.050	1.933	0.200	2.432	0.010	2.149		
2,2-Dichloropropane	0.005	1.651	0.002	1.771	0.020	1.747	0.100	1.663	0.050	1.593	0.200	1.628	0.010	1.446		
2-Chlorotoluene	0.005	10.549	0.002	10.269	0.020	9.888	0.100	9.918	0.050	9.464	0.200	10.884	0.010	11.114		
4-Chlorotoluene	0.005	8.596	0.002	8.643	0.020	8.400	0.100	8.169	0.050	8.170	0.200	9.816	0.010	8.928		
Acetone	0.005	0.051	0.002	1.073	0.020	0.608	0.100	0.371	0.050	0.367	0.200	0.377	0.010	0.669		
Benzene	0.005	4.338	0.002	4.260	0.020	4.160	0.100	4.160	0.050	4.318	0.200	4.165	0.010	3.972		
Bromobenzene	0.005	2.521	0.002	2.542	0.020	2.360	0.100	2.393	0.050	2.485	0.200	2.680	0.010	2.672		
Bromochloromethane	0.005	0.400	0.002	0.413	0.020	0.362	0.100	0.318	0.050	0.345	0.200	0.309	0.010	0.343		
Bromodichloromethane	0.005	1.323	0.002	1.168	0.020	1.267	0.100	1.307	0.050	1.384	0.200	1.235	0.010	1.216		
Bromomethane	0.005	0.533	0.002	0.784	0.020	0.615	0.100	0.678	0.050	0.645	0.200	0.775	0.010	0.415		
Carbon Tetrachloride	0.005	1.234	0.002	1.019	0.020	1.313	0.100	1.339	0.050	1.223	0.200	1.331	0.010	1.106		
Chloroethane	0.005	0.970	0.002	1.008	0.020	1.006	0.100	0.913	0.050	0.689	0.200	0.928	0.010	0.932		
Cis-1,2-DCE	0.005	1.093	0.002	1.112	0.020	1.110	0.100	1.094	0.050	1.124	0.200	1.045	0.010	1.008		
Cis-1,3-Dichloropropene	0.005	1.554	0.002	1.570	0.020	1.495	0.100	1.610	0.050	1.729	0.200	1.535	0.010	1.384		
Dibromochloromethane	0.005	1.218	0.002	1.120	0.020	1.184	0.100	1.247	0.050	1.206	0.200	1.211	0.010	1.114		
Dibromomethane	0.005	0.625	0.002	0.589	0.020	0.648	0.100	0.569	0.050	0.605	0.200	0.542	0.010	0.541		
Dichlorodifluoromethane	0.005	2.051	0.002	1.931	0.020	1.870	0.100	1.731	0.050	1.507	0.200	1.748	0.010	1.733		
Hexachlorobutadiene	0.005	1.008	0.002	0.810	0.020	0.810	0.100		0.050	0.692	0.200		0.010	0.864		
Isopropylbenzene	0.005	12.556	0.002	12.053	0.020	12.108	0.100	12.188	0.050	10.667	0.200	13.047	0.010	13.088		
m&p-Xylene	0.005	2.200	0.002	2.218	0.020	2.113	0.100	2.117	0.050	1.924	0.200	2.192	0.010	2.121		
Methylene chloride	0.005	0.774	0.002		0.020	0.673	0.100	0.635	0.050	0.582	0.200	0.618	0.010	0.690		
Methyl t-butyl ether (MTBE)	0.005	2.281	0.002	2.242	0.020	2.255	0.100	2.303	0.050	2.493	0.200	2.197	0.010	2.010		
MEK (2-Butanone)	0.005	1.115	0.002	1.252	0.020	0.950	0.100	0.682	0.050	0.688	0.200	0.842	0.010	0.915		
MIBK (methyl isobutyl ketone)	0.005	3.655	0.002	3.722	0.020	3.311	0.100	3.421	0.050	3.254	0.200	3.810	0.010	3.664		
n-Butylbenzene	0.005	11.823	0.002	12.491	0.020	11.424	0.100	11.082	0.050	9.931	0.200	13.148	0.010	12.380		
n-Propylbenzene	0.005	17.045	0.002	15.419	0.020	18.280	0.100	18.281	0.050	14.321	0.200	18.577	0.010	18.709		
Naphthalene	0.005	5.105	0.002	5.047	0.020	5.031	0.100	4.888	0.050	4.487	0.200	5.059	0.010	5.283		
o-Xylene	0.005	2.002	0.002	1.990	0.020	1.901	0.100	1.992	0.050	1.883	0.200	1.659	0.010	1.961		
p-Isopropyltoluene	0.005	10.903	0.002	10.494	0.020	10.361	0.100	10.366	0.050	8.788	0.200	11.282	0.010	10.654		
Sec-Butylbenzene	0.005	14.062	0.002	13.419	0.020	13.664	0.100	13.399	0.050	11.763	0.200	15.074	0.010	15.065		
Styrene	0.005	2.125	0.002	2.048	0.020	1.969	0.100	1.988	0.050	1.934	0.200	1.869	0.010	1.916		
TCE	0.005	1.108	0.002	1.123	0.020	1.058	0.100	1.079	0.050	1.015	0.200	1.038	0.010	0.973		
Tert-Butylbenzene	0.005	9.937	0.002	9.602	0.020	8.924	0.100	8.881	0.050	8.185	0.200	10.777	0.010	10.117		
Tetrachloroethene	0.005	1.005	0.002	0.933	0.020	1.102	0.100	1.027	0.050	0.855	0.200	1.067	0.010	0.987		
Trans-1,2-DCE	0.005	1.149	0.002	1.027	0.020	1.081	0.100	1.056	0.050	1.058	0.200	1.057	0.010	0.981		
Trans-1,3-Dichloropropene	0.005	1.365	0.002	1.334	0.020	1.298	0.100	1.322	0.050	1.431	0.200	1.284	0.010	1.213		
Trichlorofluoromethane	0.005	1.385	0.002	1.495	0.020	1.505	0.100	1.409	0.050	1.327	0.200	1.479	0.010	1.431		
1,2-DCA-D4(S)	0.005	1.134	0.002	1.542	0.020	0.928	0.100	1.042	0.050	0.815	0.200	1.022	0.010	0.888		
4-Bromofluorobenzene(S)	0.005	1.780	0.002	2.669	0.020	1.405	0.100	1.523	0.050	1.033	0.200	1.609	0.010	1.477		
Dibromofluoromethane(S)	0.005	0.961	0.002	1.340	0.020	0.887	0.100	0.998	0.050	0.718	0.200	0.965	0.010	0.840		
Toluene-D8(S)	0.005	4.966	0.002	7.138	0.020	4.303	0.100	4.544	0.050	2.980	0.200	4.711	0.010	4.234		

Comments: _____

AFCEE
ORGANIC ANALYSES DATA SHEET 3
INITIAL MULTIPOINT CALIBRATION-GC/MS ANALYSIS

Analytical Method: METHOD 8260B — AAB #: 120229AN-164497

Lab Name: APPL, Inc. — Contract #: *G012

Instrument ID: Neo — Date of Initial Calibration: 29-Feb-12

Initial Calibration ID: NI120229 — Concentration Units (ug/L or mg/kg): mg/kg

Analyte	% RSD	mean %RSD	r	COD	Q
1,1,1,2-Tetrachloroethane	4.6				
1,1,1-TCA	7.9				
1,1,2-TCA	8.5				
1,1-Dichloropropene	4.7				
1,2,3-Trichlorobenzene	7.6				
1,2,3-Trichloropropane	8.5				
1,2,4-Trichlorobenzene	9.0				
1,2,4-Trimethylbenzene	7.7				
1,2-DCA	5.4				
1,2-DCB	4.7				
1,2-Dibromo-3-chloropropane	13.1				
1,2-EDB	4.3				
1,3,5-Trimethylbenzene	7.2				
1,3-DCB	4.3				
1,3-Dichloropropane	5.1				
1,4-DCB	4.6				
1-Chlorobutane	8.5				
2,2-Dichloropropane	6.6				
2-Chlorotoluene	5.6				
4-Chlorotoluene	5.8				
Acetone	48.6		0.9990		
Benzene	2.9				
Bromobenzene	5.1				
Bromochloromethane	11.0				
Bromodichloromethane	5.7				
Bromomethane	20.6		0.9980		
Carbon Tetrachloride	9.9				
Chloroethane	4.8				
Cis-1,2-DCE	3.9				
Cis-1,3-Dichloropropene	6.8				
Dibromochloromethane	4.3				
Dibromomethane	5.8				
Dichlorodifluoromethane	9.7				
Hexachlorobutadiene	13.6				
Isopropylbenzene	7.6				
m&p-Xylene	4.5				
Methylene chloride	10.1				
Methyl t-butyl ether (MTBE)	6.4				
MEK (2-Butanone)	15				
MIBK (methyl isobutyl ketone)	6.1				
n-Butylbenzene	9.8				
n-Propylbenzene	8.1				
Naphthalene	9.2				
o-Xylene	3.0				
p-Isopropyltoluene	7.7				
Sec-Butylbenzene	9.2				
Styrene	4.4				
TCE	5.1				
Tert-Butylbenzene	9.3				
Tetrachloroethene	8.3				
Trans-1,2-DCE	4.8				
Trans-1,3-Dichloropropene	5.2				
Trichlorofluoromethane	4.5				
1,2-DCA-D4(S)	22.8		0.9985		
4-Bromofluorobenzene(S)	35.0		0.9965		
Dibromofluoromethane(S)	20.4		0.9975		
Toluene-D8(S)	26.6		0.9955		

Comments: _____

AFCEE
ORGANIC ANALYSES DATA SHEET 3A
INITIAL MULTIPOINT CALIBRATION-GC/MS ANALYSIS

Analytical Method: METHOD 8260B AAB #: 120301AN-164502

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID: Neo Date of Initial Calibration: 29-Feb-12

Initial Calibration ID: N120229 Concentration Units (ug/L or mg/kg): mg/kg

Analyte	Std 1	RF 1	Std 2	RF 2	Std 3	RF 3	Std 4	RF 4	Std 5	RF 5	Std 6	RF 6	Std 7	RF 7	Std 8	RF 8
Chloromethane *	0.005	2.760	0.002	2.993	0.020	2.441	0.100	2.106	0.050	2.241	0.200	2.153	0.010	2.308		
Vinyl chloride #	0.005	0.553	0.002	0.486	0.020	0.505	0.100	0.460	0.050	0.476	0.200	0.468	0.010	0.499		
1,1-DCE #	0.005	1.084	0.002	0.936	0.020	1.017	0.100	0.951	0.050	0.913	0.200	0.976	0.010	0.947		
1,1-DCA *	0.005	2.320	0.002	1.988	0.020	2.230	0.100	2.144	0.050	2.242	0.200	2.119	0.010	2.062		
Chloroform #	0.005	1.864	0.002	1.738	0.020	1.778	0.100	1.803	0.050	1.911	0.200	1.747	0.010	1.65		
1,2-Dichloropropane #	0.005	1.137	0.002	1.120	0.020	1.125	0.100	1.138	0.050	1.239	0.200	1.113	0.010	1.042		
Toluene #	0.005	4.154	0.002	4.407	0.020	3.968	0.100	3.908	0.050	3.940	0.200	3.904	0.010	3.827		
Chlorobenzene *	0.005	3.265	0.002	2.862	0.020	3.165	0.100	3.166	0.050	3.024	0.200	3.124	0.010	3.05		
Ethylbenzene #	0.005	6.710	0.002	6.226	0.020	6.263	0.100	6.161	0.050	5.802	0.200	6.276	0.010	6.112		
Bromoform *	0.005	0.710	0.002	0.639	0.020	0.705	0.100	0.763	0.050	0.714	0.200	0.739	0.010	0.688		
1,1,2,2-Tetrachloroethane *	0.005	2.856	0.002	2.654	0.020	2.751	0.100	2.774	0.050	2.674	0.200	2.993	0.010	2.935		

* SPCCs # CCCs

Comments: _____

AFCEE FORM O-3A Page ____ of ____

AFCEE
ORGANIC ANALYSES DATA SHEET 3A
INITIAL MULTIPOINT CALIBRATION-GC/MS ANALYSIS

Analytical Method: METHOD 8260B

AAB #: 120301AN-164502

Lab Name: APPL, Inc.

Contract #: *G012

Instrument ID: Neo

Date of Initial Calibration: 29-Feb-12

Initial Calibration ID: N120229

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

Analyte	% RSD	mean %RSD	r	COD	Q
Chloromethane *	13.6				
1,1-DCA *	5.3				
Bromoform *	5.5				
Chlorobenzene *	4.2				
1,1,2,2-TCA *	4.6				
1,1-DCB #	6.0				
Chloroform #	4.8				
1,2-DCP #	5.1				
Toluene #	5.0				
Ethylbenzene #	4.3				
Vinyl chloride #	6.5				

* SPCCs # CCCs

Comments:

AFCEE FORM O-3A Page ___ of ___

AFCEE
ORGANIC ANALYSES DATA SHEET 4
SECOND SOURCE CALIBRATION VERIFICATION

Analytical Method: METHOD 8260B

AAB #: 120301AN-164502

Lab Name: APPL, Inc.

Contract #: 9G012

Instrument ID: Neo

Initial Calibration ID: N120229

2nd Source ID: 120229A LCS-1Sa (SS)

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

Analyte	Expected	Found	%D	Q
1,1,1,2-Tetrachloroethane	0.050	0.054	8.4	
1,1,1-TCA	0.050	0.047	6.6	
1,1,2,2-Tetrachloroethane	0.050	0.055	9.0	
1,1,2-TCA	0.050	0.057	13.9	
1,1-DCA	0.050	0.052	4.3	
1,1-DCE	0.050	0.046	8.7	
1,1-Dichloropropene	0.050	0.047	6.0	
1,2,3-Trichlorobenzene	0.050	0.049	2.5	
1,2,3-Trichloropropane	0.050	0.052	4.9	
1,2,4-Trichlorobenzene	0.050	0.043	13.6	
1,2,4-Trimethylbenzene	0.050	0.050	1.0	
1,2-DCA	0.050	0.054	8.1	
1,2-DCB	0.050	0.051	2.9	
1,2-Dibromo-3-chloropropane	0.050	0.053	3.2	
1,2-Dichloropropane	0.050	0.054	7.0	
1,2-EDB	0.050	0.054	7.5	
1,3,5-Trimethylbenzene	0.050	0.049	2.7	
1,3-DCB	0.050	0.051	1.4	
1,3-Dichloropropane	0.050	0.055	9.3	
1,4-DCB	0.050	0.050	0.1	
1-Chlorobutane	0.050	0.044	12.8	
2,2-Dichloropropane	0.050	0.047	5.0	
2-Chlorotoluene	0.050	0.050	1.0	
4-Chlorotoluene	0.050	0.050	0.4	
Acetone	0.050	0.048	4.5	
Benzene	0.050	0.049	1.5	
Bromobenzene	0.050	0.054	8.3	
Bromochloromethane	0.050	0.051	2.3	
Bromodichloromethane	0.050	0.058	16.3	
Bromoform	0.050	0.056	12.7	
Bromomethane	0.050	0.049	2.2	
Carbon Tetrachloride	0.050	0.049	1.4	
Chlorobenzene	0.050	0.053	5.3	
Chloroethane	0.050	0.049	1.7	
Chloroform	0.050	0.054	8.2	
Chloromethane	0.050	0.045	11.1	
Cis-1,2-DCE	0.050	0.054	7.0	
Cis-1,3-Dichloropropene	0.050	0.058	15.7	
Dibromochloromethane	0.050	0.054	7.2	
Dibromomethane	0.050	0.055	10.9	
Dichlorodifluoromethane	0.050	0.040	20.3	
Dihydrazine	0.050	0.049	2.6	
Hexachlorobutadiene	0.050	0.046	7.9	
Isopropylbenzene	0.050	0.048	4.2	
m&p-Xylene	0.100	0.098	1.9	
Methylene chloride	0.050	0.055	10.0	
Methyl-t-butyl ether (MTBE)	0.050	0.059	18.1	
MEK (2-Butanone)	0.050	0.047	6.5	
MIBK (methylisobutylketone)	0.050	0.049	1.7	
n-Butylbenzene	0.050	0.043	13.9	
n-Propylbenzene	0.050	0.048	3.2	
Naphthalene	0.050	0.048	4.4	
o-Xylene	0.050	0.052	4.2	
p-Isopropyltoluene	0.050	0.047	6.5	
Sec-Butylbenzene	0.050	0.046	8.6	
Styrene	0.050	0.051	2.4	
TCE	0.050	0.047	6.0	
Tert-Butylbenzene	0.050	0.047	5.4	
Tetrachloroethene	0.050	0.044	11.0	
Toluene	0.050	0.051	2.6	
Trans-1,2-DCE	0.050	0.049	1.5	
Trans-1,3-Dichloropropene	0.050	0.055	9.7	
Trichlorofluoromethane	0.050	0.044	12.7	
Vinyl chloride	0.050	0.044	12.4	

Comments:

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AFCEE
ORGANIC ANALYSES DATA SHEET 5
CALIBRATION VERIFICATION

Analytical Method: METHOD 8260B AAB #: 120301 AN-164502

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID: Neo Initial Calibration ID: N120229

ICV ID: 50ug/Kg VOC STD 03-01-12 CCV #1 ID: _____ CCV #2 ID: _____

Analyte	ICV %D or % drift	CCV#1 %D or % drift	CCV#2 %D or % drift	Q
1,1,1,2-Tetrachloroethane	0.6			
1,1,1-TCA	11			
1,1,2-TCA	14			
1,1-Dichloropropene	6.2			
1,2,3-Trichlorobenzene	9.2			
1,2,3-Trichloropropane	10			
1,2,4-Trichlorobenzene	7.8			
1,2,4-Trimethylbenzene	10			
1,2-DCA	8.2			
1,2-DCB	2.8			
1,2-Dibromo-3-chloropropane	18			
1,2-EDB	2.2			
1,3,5-Trimethylbenzene	6.2			
1,3-DCB	4.3			
1,3-Dichloropropane	3.1			
1,4-DCB	4.4			
1-Chlorohexane	13			
2,2-Dichloropropane	3.3			
2-Chlorotoluene	8.2			
4-Chlorotoluene	5.4			
Acetone	9.2			
Benzene	2.8			
Bromobenzene	2.0			
Bromochloromethane	3.1			
Bromodichloromethane	8.8			
Bromomethane	8.2			
Carbon Tetrachloride	0.1			
Chloroethane	6.3			
Cis-1,2-DCE	3.7			
Cis-1,3-Dichloropropene	11			
Dibromochloromethane	2.0			
Dibromomethane	5.3			
Dichlorodifluoromethane	16			
Hexachlorobutadiene	20			
Isopropylbenzene	13			
m&p-Xylene	9.1			
Methylene chloride	17			
Methyl t-butyl ether (MTBE)	11			
MEK (2-Butanone)	9.1			
MIBK (methyl isobutyl ketone)	8.3			
n-Butylbenzene	18			
n-Propylbenzene	13			
Naphthalene	12			

AFCEE
ORGANIC ANALYSES DATA SHEET 5
CALIBRATION VERIFICATION

Analytical Method: METHOD 8260B

AAB #: 120301 AN-164502

Lab Name: APPL, Inc.

Contract #: *G012

Instrument ID: Neo

Initial Calibration ID: N120229

ICV ID: 50ug/Kg VOC STD 03-01-12

CCV #1 ID: _____

CCV #2 ID: _____

Analyte	ICV %D or % drift	CCV#1 %D or % drift	CCV#2 %D or % drift	Q
o-Xylene	3.6			
p-Isopropyltoluene	16			
Sec-Butylbenzene	15			
Styrene	2.1			
TCE	4.3			
Tert-Butylbenzene	14			
Tetrachloroethene	14			
Trans-1,2-DCE	0.0			
Trans-1,3-Dichloropropene	8.3			
Trichlorofluoromethane	8.5			

Comments: _____

AFCEE
ORGANIC ANALYSES DATA SHEET 5A
CALIBRATION VERIFICATION-GC/MS ANALYSIS

Analytical Method: METHOD 8260B AAB #: 120301 AN-164502

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID: Neo Initial Calibration ID: N120229

ICV ID: 50ug/Kg VOC STD 03-01-12 CCV #1 ID: CCV #2 ID:

Analyte	ICV		CCV #1		CCV #2		
	RF	% D	RF	% D	RF	% D	Q
Chloromethane *	2.24064	7.75287					
1,1-DCA *	2.24087	3.84666					
Bromoform *	0.713646	0.782242					
Chlorobenzene *	3.0237	2.26801					
1,1,2,2-Tetrachloroethane *	2.67419	4.66946					
1,1-DCE #	0.911107	6.54086					
Chloroform #	1.9108	7.07804					
1,2-Dichloropropane #	1.23866	9.57303					
Toluene #	3.93995	1.87839					
Ethylbenzene #	5.80191	6.7424					
Vinyl chloride #	0.475005	3.46828					

* SPCCs # CCCs

Comments:

AFCEE FORM O-5A Page ___ of _____

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
Concentration Units: mg/kg
Initial Calibration ID: N120229

AAB #: 120301AN-164502
Contract #: *G012
Method Blank ID: 120301AN-BLK-15N
np 3-15-12

Analyte	Method Blank	RL	Q
1,1,1,2-TETRACHLOROETHANE	< RL	0.003	U
1,1,1-TCA	< RL	0.004	U
1,1,2,2-TETRACHLOROETHANE	< RL	0.002	U
1,1,2-TCA	< RL	0.005	U
1,1-DCA	< RL	0.002	U
1,1-DCE	< RL	0.006	U
1,1-DICHLOROPROPENE	< RL	0.005	U
1,2,3-TRICHLOROBENZENE	< RL	0.004	U
1,2,3-TRICHLOROPROPANE	< RL	0.020	U
1,2,4-TRICHLOROBENZENE	< RL	0.004	U
1,2,4-TRIMETHYLBENZENE	< RL	0.007	U
1,2-DCA	< RL	0.003	U
1,2-DCB	< RL	0.002	U
1,2-DIBROMO-3-CHLOROPROPANE	< RL	0.010	U
1,2-DICHLOROPROPANE	< RL	0.002	U
1,2-EDB	< RL	0.003	U
1,3,5-TRIMETHYLBENZENE	< RL	0.003	U
1,3-DCB	< RL	0.006	U
1,3-DICHLOROPROPANE	< RL	0.002	U
1,4-DCB	< RL	0.002	U
1-CHLOROHEXANE	< RL	0.003	U
2,2-DICHLOROPROPANE	< RL	0.020	U
2-CHLOROTOLUENE	< RL	0.002	U
4-CHLOROTOLUENE	< RL	0.003	U
BENZENE	< RL	0.002	U
BROMOBENZENE	< RL	0.002	U
BROMOCHLOROMETHANE	< RL	0.002	U
BROMODICHLOROMETHANE	< RL	0.004	U
BROMOFORM	< RL	0.006	U
BROMOMETHANE	< RL	0.005	U
CARBON TETRACHLORIDE	< RL	0.010	U
CHLOROBENZENE	< RL	0.002	U
CHLOROETHANE	< RL	0.005	U
CHLOROFORM	< RL	0.002	U
CHLOROMETHANE	< RL	0.007	U
CIS-1,2-DCE	< RL	0.006	U
CIS-1,3-DICHLOROPROPENE	< RL	0.005	U
DIBROMOCHLOROMETHANE	< RL	0.003	U
DIBROMOMETHANE	< RL	0.010	U
DICHLORODIFLUOROMETHANE	< RL	0.005	U
ETHYLBENZENE	< RL	0.003	U

Comments: ARF: 67098, Sample: AY56028

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
Concentration Units: mg/kg
Initial Calibration ID: N120229

AAB #: 120301AN-164502
Contract #: *G012
Method Blank ID: 120301AN-BLK-1SN
np 3-15-12

Analyte	Method Blank	RL	Q
HEXACHLOROBUTADIENE	< RL	0.005	U
ISOPROPYLBENZENE	< RL	0.008	U
M&P-XYLENE	< RL	0.007	U
METHYLENE CHLORIDE	< RL	0.005	U
N-BUTYLBENZENE	< RL	0.005	U
N-PROPYLBENZENE	< RL	0.002	U
NAPHTHALENE	< RL	0.020	U
O-XYLENE	< RL	0.005	U
P-ISOPROPYLTOLUENE	< RL	0.006	U
SEC-BUTYLBENZENE	< RL	0.007	U
STYRENE	< RL	0.002	U
TCE	< RL	0.010	U
TERT-BUTYLBENZENE	< RL	0.007	U
TETRACHLOROETHENE	< RL	0.007	U
TOLUENE	< RL	0.005	U
TRANS-1,2-DCE	< RL	0.003	U
TRANS-1,3-DICHLOROPROPENE	< RL	0.005	U
TRICHLOROFLUOROMETHANE	< RL	0.004	U
VINYL CHLORIDE	< RL	0.009	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHAN	109	52-149	
SURROGATE: 4-BROMOFLUOROBE	107	65-135	
SURROGATE: DIBROMOFLUOROME	107	65-135	
SURROGATE: TOLUENE-D8 (S)	104	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 67098, Sample: AY56028

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
AAB #: 120301AN-164502
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120301AN LCS-15N
Initial Calibration ID: N120229
Concentration Units: mg/kg

Analyte	Expected	Found	% R	Control Limits	Q
1,1,1,2-TETRACHLOROETHANE	0.0500	0.0577	115	62-125	
1,1,1-TCA	0.0500	0.0509	102	65-135	
1,1,2,2-TETRACHLOROETHANE	0.0500	0.0583	117	64-135	
1,1,2-TCA	0.0500	0.0600	120	65-135	
1,1-DCA	0.0500	0.0588	118	62-135	
1,1-DCE	0.0500	0.0521	104	65-135	
1,1-DICHLOROPROPENE	0.0500	0.0504	101	65-135	
1,2,3-TRICHLOROBENZENE	0.0500	0.0569	114	65-147	
1,2,3-TRICHLOROPROPANE	0.050	0.055	110	65-135	
1,2,4-TRICHLOROBENZENE	0.0500	0.0547	109	65-145	
1,2,4-TRIMETHYLBENZENE	0.0500	0.0544	109	65-135	
1,2-DCA	0.0500	0.0608	122	58-137	
1,2-DCB	0.0500	0.0571	114	65-135	
1,2-DIBROMO-3-CHLOROPROPANE	0.050	0.049	98.0	49-135	
1,2-DICHLOROPROPANE	0.0500	0.0604	121	60-135	
1,2-EDB	0.0500	0.0545	109	65-135	
1,3,5-TRIMETHYLBENZENE	0.0500	0.0576	115	62-135	
1,3-DCB	0.0500	0.0566	113	65-135	
1,3-DICHLOROPROPANE	0.0500	0.0560	112	65-135	
1,4-DCB	0.0500	0.0592	118	65-135	
1-CHLOROHEXANE	0.0500	0.0477	95.4	65-135	
2,2-DICHLOROPROPANE	0.050	0.052	104	65-135	
2-CHLOROTOLUENE	0.0500	0.0539	108	63-135	
4-CHLOROTOLUENE	0.0500	0.0587	117	64-135	
BENZENE	0.0500	0.0557	111	65-135	
BROMOBENZENE	0.0500	0.0583	117	65-135	
BROMOCHLOROMETHANE	0.0500	0.0567	113	63-135	
BROMODICHLOROMETHANE	0.0500	0.0597	119	65-135	
BROMOFORM	0.0500	0.0559	112	65-135	
BROMOMETHANE	0.0500	0.0513	103	62-135	
CARBON TETRACHLORIDE	0.050	0.054	108	52-135	
CHLOROBENZENE	0.0500	0.0541	108	65-135	
CHLOROETHANE	0.0500	0.0519	104	55-135	
CHLOROFORM	0.0500	0.0582	116	64-135	
CHLOROMETHANE	0.0500	0.0506	101	65-135	
CIS-1,2-DCE	0.0500	0.0563	113	65-135	
CIS-1,3-DICHLOROPROPENE	0.0500	0.0606	121	64-135	
DIBROMOCHLOROMETHANE	0.0500	0.0575	115	63-135	
DIBROMOMETHANE	0.050	0.059	118	59-137	
DICHLORODIFLUOROMETHANE	0.0500	0.0460	92.0	65-135	

Comments: ARF: 67098, QC Sample ID: AY56028

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
LCS ID: 120301AN LCS-1SN
mp 3-15-12
Concentration Units: mg/kg

AAB #: 120301AN-164502
Contract #: *G012
Initial Calibration ID: N120229

Analyte	Expected	Found	% R	Control Limits	Q
ETHYLBENZENE	0.0500	0.0535	107	65-135	
HEXACHLOROBUTADIENE	0.0500	0.0463	92.6	65-135	
ISOPROPYLBENZENE	0.0500	0.0514	103	65-135	
M&P-XYLENE	0.1000	0.1068	107	65-135	
METHYLENE CHLORIDE	0.0500	0.0637	127	65-135	
N-BUTYLBENZENE	0.0500	0.0497	99.4	65-135	
N-PROPYLBENZENE	0.0500	0.0520	104	65-135	
NAPHTHALENE	0.0500	0.0558	112	65-135	
O-XYLENE	0.0500	0.0562	112	65-135	
P-ISOPROPYLTOLUENE	0.0500	0.0509	102	65-135	
SEC-BUTYLBENZENE	0.0500	0.0504	101	65-135	
STYRENE	0.0500	0.0584	117	65-135	
TCE	0.0500	0.0522	104	61-135	
TERT-BUTYLBENZENE	0.0500	0.0496	99.2	65-135	
TETRACHLOROETHENE	0.0500	0.0480	96.0	61-135	
TOLUENE	0.0500	0.0565	113	64-135	
TRANS-1,2-DCE	0.0500	0.0534	107	65-135	
TRANS-1,3-DICHLOROPROPENE	0.0500	0.0589	118	56-135	
TRICHLOROFLUOROMETHANE	0.0500	0.0500	100	57-135	
VINYL CHLORIDE	0.0500	0.0507	101	36-144	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	97.6	52-149	
SURROGATE: 4-BROMOFLUOROBENZ	100	65-135	
SURROGATE: DIBROMOFLUOROMETH	95.1	65-135	
SURROGATE: TOLUENE-D8 (S)	100	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 67098, QC Sample ID: AY56028

AFCEE
ORGANIC ANALYSES DATA SHEET 9
HOLDING TIMES

Analytical Method: EPA 8260B

AAB#: 120301AN-164502

Lab Name: APPL, Inc

Contract #: *G012

Field Sample ID	Date Collected	Date Received	Date Extracted	Max. Holding Time Ext	Time Held Ext	Date Analyzed	Max. Holding Time A	Time Held Anal.	Q
AOC65-WC05	29-Feb-12	01-Mar-12	01-Mar-12			01-Mar-12	14	1	
AOC65-WC09	29-Feb-12	01-Mar-12	01-Mar-12			01-Mar-12	14	1	

Comments: ARF: 67098

AFCEE
ORGANIC ANALYSES DATA SHEET 10
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: METHOD 8260B

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID #: Neo ICAL ID: N120229

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Date Analysis Started	Time Analysis Started	Date Analysis Completed	Time Analysis Completed
25ug/mL BFB Std 2-13-12	29-Feb-12	10:15	29-Feb-12	10:26
Vol Std 02-29-12 @2ug/kg	29-Feb-12	12:48	29-Feb-12	13:20
Vol Std 02-29-12 @5ug/kg	29-Feb-12	13:26	29-Feb-12	13:58
Vol Std 02-29-12 @10ug/kg	29-Feb-12	14:04	29-Feb-12	14:35
Vol Std 02-29-12 @20ug/kg	29-Feb-12	14:42	29-Feb-12	15:14
Vol Std 02-29-12 @50ug/kg	29-Feb-12	15:20	29-Feb-12	15:52
Vol Std 02-29-12 @100ug/kg	29-Feb-12	15:58	29-Feb-12	16:30
Vol Std 02-29-12 @200ug/kg	29-Feb-12	16:37	29-Feb-12	17:08
25ug/mL BFB Std 2-13-12	29-Feb-12	18:31	29-Feb-12	19:02
120229A LCS-1SN (SS)	29-Feb-12	20:24	29-Feb-12	20:56
25ug/mL BFB Std 2-13-12	01-Mar-12	9:52	01-Mar-12	10:03
50ug/Kg VOC STD 03-01-12	01-Mar-12	13:45	01-Mar-12	14:17
120301A LCS-1SN	01-Mar-12	14:24	01-Mar-12	14:55
120301A BLK-1SN	01-Mar-12	16:56	01-Mar-12	17:28
AY56028S01 5.018g	01-Mar-12	18:51	01-Mar-12	19:22
AY56033S01 5.006g	01-Mar-12	21:23	01-Mar-12	21:54

Comments:

AFCEE FORM O-10 Page ___ of ____

AFCEE
ORGANIC ANALYSES DATA SHEET 10
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: METHOD 8260B

Lab Name: APPL, Inc. Contract #: *G012

Injection Log

Directory: M:\NEO\DATA\N120229\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0229N00T.D	1	25ug/mL BFB Std 2-13-12	2uL	29 Feb 12 10:15
2	1	0229N04S.D	1	Vol Std 02-29-12 @2ug/kg	Soil 5mL w/ IS:10-20-11	29 Feb 12 12:48
3	1	0229N05S.D	1	Vol Std 02-29-12 @5ug/kg	Soil 5mL w/ IS:10-20-11	29 Feb 12 13:26
4	1	0229N06S.D	1	Vol Std 02-29-12 @10ug/kg	Soil 5mL w/ IS:10-20-11	29 Feb 12 14:04
5	1	0229N07S.D	1	Vol Std 02-29-12 @20ug/kg	Soil 5mL w/ IS:10-20-11	29 Feb 12 14:42
6	1	0229N08S.D	1	Vol Std 02-29-12 @50ug/kg	Soil 5mL w/ IS:10-20-11	29 Feb 12 15:20
7	1	0229N09S.D	1	Vol Std 02-29-12 @100ug/kg	Soil 5mL w/ IS:10-20-11	29 Feb 12 15:58
8	1	0229N10S.D	1	Vol Std 02-29-12 @200ug/kg	Soil 5mL w/ IS:10-20-11	29 Feb 12 16:37
9	1	0229N13S.D	1	25ug/mL BFB Std 2-13-12	2uL	29 Feb 12 18:31
10	1	0229N16S.D	1	120229A LCS-1SN (SS)	Soil 5mL w/ ISS:10-20-11	29 Feb 12 20:24
11	1	0301N00T.D	1	25ug/mL BFB Std 2-13-12	2uL	1 Mar 12 9:52
12	1	0301N06S.D	1	50ug/Kg VOC STD 03-01-12	Soil 5mL w/ ISS:10-20-11	1 Mar 12 13:45
13	1	0301N07S.D	1	120301A LCS-1SN	Soil 5mL w/ ISS:10-20-11	1 Mar 12 14:24
14	1	0301N11S.D	1	120301A BLK-1SN	Soil 5mL w/ ISS:10-20-11	1 Mar 12 16:56
15	1	0301N14S.D	0.996413	AY56028S01 5.018g	Soil 5mL w/ ISS:10-20-11	1 Mar 12 18:51
16	1	0301N18S.D	0.998801	AY56033S01 5.006g	Soil 5mL w/ ISS:10-20-11	1 Mar 12 21:23

AFCEE
ORGANIC ANALYSES DATA SHEET 11
INSTRUMENT PERFORMANCE CHECK
(BFB or DFTPP)

Analytical Method: METHOD 8260B

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID: Neo Compound: BFB Injection Date/Time: 29-Feb-12 10:15

Initial Calibration ID: N120229

Mass	Ion Abundance Criteria	% Relative Abundance	Q
50	15 - 40% of mass 95	22.1	PASS
75	30 - 60% of mass 95	46.4	PASS
95	100 - 100% of mass 95	100.0	PASS
96	5 - 9% of mass 95	6.5	PASS
173	0 - 2% of mass 174	0.1	PASS
174	50 - 100% of mass 95	78.7	PASS
175	5 - 9% of mass 174	6.6	PASS
176	95 - 101% of mass 174	97.6	PASS
177	5 - 9% of mass 176	7.2	PASS

AFCEE FORM O-11 Page ___ of ____

AFCEE
ORGANIC ANALYSES DATA SHEET 11
INSTRUMENT PERFORMANCE CHECK
(BFB or DFTPP)

Analytical Method: METHOD 8260B

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID: Neo Compound: BFB Injection Date/Time: 29-Feb-12 18:31

Initial Calibration ID: N120229

Mass	Ion Abundance Criteria	% Relative Abundance	Q
50	15 - 40% of mass 95	24.6	PASS
75	30 - 60% of mass 95	49.2	PASS
95	100 - 100% of mass 95	100.0	PASS
96	5 - 9% of mass 95	7.3	PASS
173	0 - 2% of mass 174	0.4	PASS
174	50 - 100% of mass 95	71.4	PASS
175	5 - 9% of mass 174	7.1	PASS
176	95 - 101% of mass 174	97.4	PASS
177	5 - 9% of mass 176	6.3	PASS

AFCEE FORM O-11 Page ___ of _____

AFCEE
ORGANIC ANALYSES DATA SHEET 11
INSTRUMENT PERFORMANCE CHECK
(BFB or DFTPP)

Analytical Method: METHOD 8260B

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID: Neo Compound: BFB Injection Date/Time: 1 Mar 12 9:52

Initial Calibration ID: N120229

Mass	Ion Abundance Criteria	% Relative Abundance	Q
50	15 - 40% of mass 95	22.8	PASS
75	30 - 60% of mass 95	47.3	PASS
95	100 - 100% of mass 95	100.0	PASS
96	5 - 9% of mass 95	6.3	PASS
173	0 - 2% of mass 174	0.3	PASS
174	50 - 100% of mass 95	77.8	PASS
175	5 - 9% of mass 174	7.0	PASS
176	95 - 101% of mass 174	95.3	PASS
177	5 - 9% of mass 176	6.4	PASS

AFCEE FORM O-11 Page ___ of _____

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: *G012

Lab Code: _____ SDG No.: 67098

Lab File ID (Standard): 0229N08S.D Date Analyzed: 02/29/12

Instrument ID: Neo Time Analyzed: 15:20

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	323392	13.26	221376	18.44	92592	22.62
	UPPER LIMIT	646784	13.76	442752	18.94	185184	23.12
	LOWER LIMIT	161696	12.76	110688	17.94	46296	22.12
	SAMPLE NO.						
01	50ug/L VOC STD 03-01	329024	13.25	249984	18.43	109992	22.62
02	120301A LCS-1SN	292352	13.25	220672	18.43	95512	22.62
03	120301A BLK-1SN	291776	13.25	230784	18.43	102528	22.62
04	AY56028S01 5.018g	278848	13.26	200896	18.43	84888	22.62
05	AY56033S01 5.006g	303104	13.26	215360	18.43	92472	22.62
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 67098
Matrix: Soil
ID: 25ug/mL BFB Std 2-13-12

SDG No: 67098
Date Analyzed: 03/01/12
Instrument: Neo
Time Analyzed: 9:52

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/Kg VOC STD 03-	0301N06S.D	03/01/12 13:45
2	Lab Control Spike	120301A LCS-1SN	0301N07S.D	03/01/12 14:24
3	Blank	120301A BLK-1SN	0301N11S.D	03/01/12 16:56
4	AOC65-WC05	AY56028S01 5.018g	0301N14S.D	03/01/12 18:51
5	AOC65-WC09	AY56033S01 5.006g	0301N18S.D	03/01/12 21:23
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	22.8
75	30 - 60% of mass 95	47.3
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.3
173	0 - 2% of mass 174	0.3
174	50 - 100% of mass 95	77.8
175	5 - 9% of mass 174	7.0
176	95 - 101% of mass 174	95.3
177	5 - 9% of mass 176	6.4

EPA METHOD 8260B
Volatile Organic Compounds
Calibration Data

APPL, INC.

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N04S.D Vial: 1
Acq On : 29 Feb 12 12:48 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @2ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	13.25	96	291904	50.00000 ppb		0.00
51) Chlorobenzene-D5 (IS)	18.43	117	214144	50.00000 ppb		0.00
67) 1,4-Dichlorobenzene-D (IS)	22.62	152	96848	50.00000 ppb		0.00
System Monitoring Compounds						
30) Dibromofluoromethane(S)	11.85	111	15647	4.98882 ppb		0.00
Spiked Amount 41.312			Recovery = 12.077%			
34) 1,2-DCA-D4(S)	12.64	65	18004	4.70238 ppb		0.00
Spiked Amount 41.649			Recovery = 11.290%			
52) Toluene-D8(S)	15.90	98	61146	6.33211 ppb		0.00
Spiked Amount 35.274			Recovery = 17.951%			
60) 4-Bromofluorobenzene(S)	20.50	95	24578	5.76497 ppb		0.00
Spiked Amount 35.584			Recovery = 16.201%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.53	85	22548	2.15089 ppb		84
3) Chloromethane	5.04	50	34944	2.46424 ppb		100
4) Vinyl chloride	5.27	62	5680	1.97720 ppb	#	82
5) Bromomethane	6.25	94	7683	6.03595 ppb		77
6) Chloroethane	6.40	64	11766	2.12288 ppb		86
7) Dichlorofluoromethane	6.48	67	34303	2.11147 ppb		85
8) Trichlorofluoromethane	7.02	101	17461	2.08717 ppb		80
9) Acrolein	7.65	56	40922	51.91709 ppb		99
10) Acetone	7.78	43	12534	0.83684 ppb		89
11) Freon-113	7.96	101	12529	1.87934 ppb	#	76
12) 1,1-DCE	8.18	96	10932	1.92080 ppb	#	57
13) t-Butanol	8.27	59	8101	71.28376 ppb		99
14) Methyl Acetate	8.66	43	28695	-2.58371 ppb		89
15) Iodomethane	8.65	142	1881	4.75691 ppb	#	84
16) Acrylonitrile	9.04	53	4381	2.10854 ppb		91
17) Methylene chloride	8.94	86	11703	3.02731 ppb	#	69
18) Carbon disulfide	9.06	76	50499	2.04912 ppb		99
19) Methyl t-butyl ether (MtBE	9.36	73	26181	1.98920 ppb		92
20) Trans-1,2-DCE	9.56	96	11990	1.94019 ppb		77
21) Diisopropyl Ether	10.21	45	50073	1.94458 ppb		93
22) 1,1-DCA	10.24	63	23217	1.84295 ppb	#	91
23) Vinyl Acetate	10.19	43	40194	1.99043 ppb	#	97
24) Ethyl tert Butyl Ether	10.88	59	37708	2.03295 ppb	#	84
25) MEK (2-Butanone)	10.86	43	14620	2.56154 ppb		93
26) Cis-1,2-DCE	11.26	96	12983	2.05208 ppb		92
27) 2,2-Dichloropropane	11.24	77	20676	2.15026 ppb	#	83
28) Chloroform	11.53	83	20298	1.94835 ppb		85
29) Bromochloromethane	11.77	128	4825	2.32228 ppb		73
31) 1,1,1-TCA	12.27	97	20051	2.09833 ppb		93
32) Cyclohexane	12.44	56	26100	1.95243 ppb	#	90
33) 1,1-Dichloropropene	12.54	75	19153	2.04604 ppb	#	85
35) Carbon Tetrachloride	12.72	117	11896	1.66555 ppb	#	88
36) Tert Amyl Methyl Ether	12.76	73	27839	1.99043 ppb	#	87
37) 1,2-DCA	12.79	62	14391	2.00860 ppb	#	79
38) Benzene	12.93	78	49744	2.02929 ppb	#	88
39) TCE	13.94	95	13111	2.11808 ppb	#	72
40) 2-Pentanone	13.60	43	263173	51.84765 ppb		99
41) 1,2-Dichloropropane	14.16	63	13073	1.98087 ppb	#	93
42) Bromodichloromethane	14.52	83	13638	1.83736 ppb	#	64

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N04S.D Vial: 1
Acq On : 29 Feb 12 12:48 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @2ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	Dibromomethane	14.57	93	6875	2.05065	ppb		93
44)	Methyl Cyclohexane	14.25	83	21517	2.00612	ppb	#	55
45)	2-Chloroethyl vinyl ether	14.97	63	5449	1.79653	ppb		100
46)	1-Bromo-2-chloroethane	15.29	63	14588	1.96625	ppb	#	82
47)	Cis-1,3-Dichloropropene	15.39	75	18334	2.02122	ppb	#	85
48)	Toluene	16.04	91	51453	2.19490	ppb		77
49)	Trans-1,3-Dichloropropene	16.19	75	15580	2.02087	ppb	#	77
50)	1,1,2-TCA	16.47	83	6306	1.82129	ppb		81
53)	1,2-EDB	17.72	107	8210	1.91731	ppb	#	80
54)	Tetrachloroethene	17.18	129	8035	1.88128	ppb		86
55)	1-Chlorohexane	18.09	91	17711	1.85923	ppb		92
56)	1,1,1,2-Tetrachloroethane	18.55	131	9002	2.03564	ppb	#	66
57)	m&p-Xylene	18.75	106	37970	4.18933	ppb		98
58)	o-Xylene	19.49	106	16960	2.04911	ppb	#	54
59)	Styrene	19.49	78	17525	2.07021	ppb		65
61)	2-Hexanone	16.48	43	9821	2.08599	ppb		94
62)	1,3-Dichloropropane	16.88	76	13393	1.80020	ppb		90
63)	Dibromochloromethane	17.37	129	9592	1.89401	ppb		81
64)	Chlorobenzene	18.50	112	24517	1.85025	ppb	#	77
65)	Ethylbenzene	18.60	91	53330	2.00147	ppb		89
66)	Bromoform	20.04	173	5472	1.80431	ppb		92
68)	MIBK (methyl isobutyl keto	15.06	43	14419	2.09804	ppb	#	81
69)	Isopropylbenzene	20.12	105	46693	1.95523	ppb		99
70)	1,1,2,2-Tetrachloroethane	20.27	83	10281	1.89215	ppb		97
71)	1,2,3-Trichloropropane	20.54	110	2389	1.90094	ppb		91
72)	t-1,4-Dichloro-2-Butene	20.60	53	3452	1.89013	ppb		93
73)	Bromobenzene	20.87	156	9847	2.00466	ppb		99
74)	n-Propylbenzene	20.82	91	59731	1.88160	ppb		90
75)	2-Chlorotoluene	21.12	91	40206	2.01291	ppb	#	77
76)	1,3,5-Trimethylbenzene	21.10	105	34339	1.84722	ppb		88
77)	4-Chlorotoluene	21.21	91	33483	1.99839	ppb		94
78)	Tert-Butylbenzene	21.76	119	37197	2.02378	ppb		87
79)	1,2,4-Trimethylbenzene	21.82	105	34576	1.87258	ppb		82
80)	Sec-Butylbenzene	22.15	105	51983	1.93603	ppb		98
81)	p-Isopropyltoluene	22.37	119	40652	2.01121	ppb		93
82)	Benzyl Chloride	22.80	91	19397	2.06131	ppb	#	85
83)	1,3-DCB	22.51	146	17026	1.89351	ppb		92
84)	1,4-DCB	22.68	146	18659	2.13280	ppb		90
85)	n-Butylbenzene	23.07	91	48390	2.13317	ppb		94
86)	1,2-DCB	23.30	146	16073	2.01890	ppb		91
87)	1,2-Dibromo-3-chloropropan	24.51	155	1434	1.90783	ppb	#	71
88)	1,2,4-Trichlorobenzene	25.94	180	12637	2.36202	ppb		94
89)	Hexachlorobutadiene	26.19	225	3139	1.93715	ppb		93
90)	Naphthalene	26.30	128	23424	2.35929	ppb		92
91)	1,2,3-Trichlorobenzene	26.67	180	10031	2.23939	ppb		96

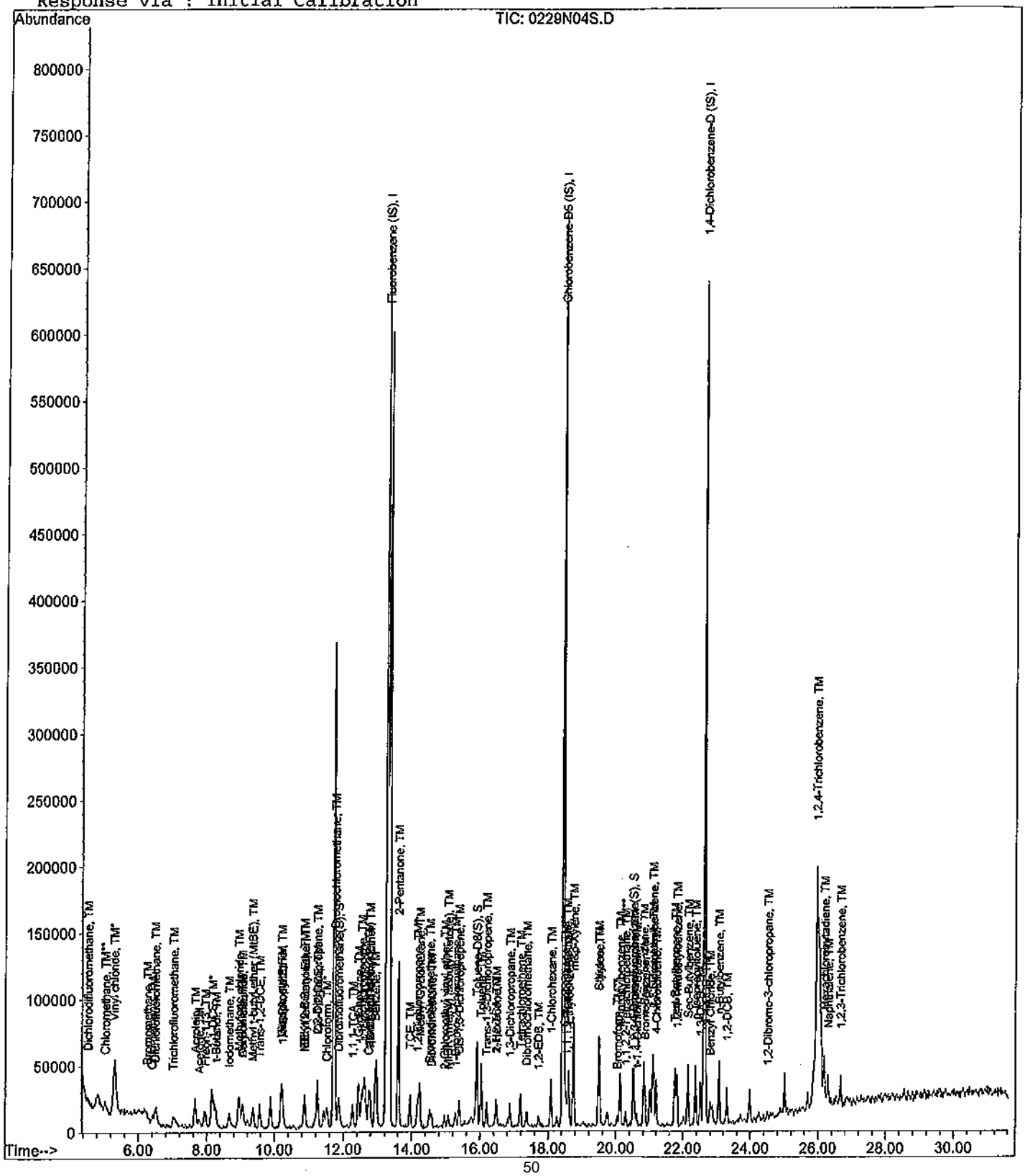
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\NEO\DATA\N120229\0229N04S.D Vial: 1
Acq On : 29 Feb 12 12:48 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @2ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N05S.D Vial: 1
Acq On : 29 Feb 12 13:26 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @5ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	13.26	96	265984	50.00000 ppb		0.00
51) Chlorobenzene-D5 (IS)	18.43	117	192768	50.00000 ppb		0.00
67) 1,4-Dichlorobenzene-D (IS)	22.63	152	87304	50.00000 ppb		0.00
System Monitoring Compounds						
30) Dibromofluoromethane(S)	11.86	111	25572	7.17233 ppb		0.02
Spiked Amount 41.312			Recovery = 17.361%			
34) 1,2-DCA-D4(S)	12.65	65	30168	7.22025 ppb		0.00
Spiked Amount 41.649			Recovery = 17.336%			
52) Toluene-D8(S)	15.91	98	95730	8.57390 ppb		0.00
Spiked Amount 35.274			Recovery = 24.307%			
60) 4-Bromofluorobenzene(S)	20.50	95	34307	7.86390 ppb		0.00
Spiked Amount 35.584			Recovery = 22.100%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.53	85	54547	5.71039 ppb		90
3) Chloromethane	5.04	50	73411	5.68141 ppb		96
4) Vinyl chloride	5.28	62	14719	5.62296 ppb		99
5) Bromomethane	6.22	94	14171	7.78111 ppb		92
6) Chloroethane	6.42	64	25802	5.10899 ppb		93
7) Dichlorofluoromethane	6.50	67	77441	5.23129 ppb		93
8) Trichlorofluoromethane	7.02	101	36845	4.83338 ppb		94
9) Acrolein	7.66	56	77828	108.36121 ppb		97
10) Acetone	7.78	43	25292	8.01045 ppb	#	68
11) Freon-113	7.93	101	33224	5.46923 ppb		94
12) 1,1-DCE	8.17	96	28835	5.56016 ppb		72
13) t-Butanol	8.26	59	15849	153.05177 ppb		100
14) Methyl Acetate	8.67	43	60176	3.89085 ppb	#	84
15) Iodomethane	8.66	142	12341	7.25167 ppb		91
16) Acrylonitrile	9.05	53	10663	5.63214 ppb		82
17) Methylene chloride	8.96	86	20583	5.84323 ppb		80
18) Carbon disulfide	9.06	76	125122	5.57189 ppb		99
19) Methyl t-butyl ether (MtBE	9.37	73	60671	5.05893 ppb		97
20) Trans-1,2-DCE	9.57	96	30552	5.42561 ppb		89
21) Diisopropyl Ether	10.20	45	116887	4.98164 ppb		100
22) 1,1-DCA	10.25	63	61697	5.37471 ppb		95
23) Vinyl Acetate	10.21	43	95950	5.21454 ppb		99
24) Ethyl tert Butyl Ether	10.88	59	87125	5.15490 ppb		93
25) MEK (2-Butanone)	10.88	43	29657	5.70249 ppb		97
26) Cis-1,2-DCE	11.25	96	29078	5.04392 ppb		77
27) 2,2-Dichloropropane	11.25	77	44722	5.10424 ppb	#	81
28) Chloroform	11.53	83	49581	5.22293 ppb		79
29) Bromochloromethane	11.76	128	10642	5.62115 ppb		81
31) 1,1,1-TCA	12.27	97	49431	5.67703 ppb		99
32) Cyclohexane	12.43	56	67751	5.56205 ppb		96
33) 1,1-Dichloropropene	12.54	75	42872	5.02616 ppb		94
35) Carbon Tetrachloride	12.74	117	32817	5.04244 ppb		84
36) Tert Amyl Methyl Ether	12.76	73	63665	4.99550 ppb		96
37) 1,2-DCA	12.81	62	34367	5.26416 ppb	#	92
38) Benzene	12.92	78	115340	5.16377 ppb		97
39) TCE	13.95	95	29467	5.22429 ppb		86
40) 2-Pentanone	13.60	43	503049	108.76335 ppb		99
41) 1,2-Dichloropropane	14.16	63	30241	5.02877 ppb		98
42) Bromodichloromethane	14.53	83	35195	5.20366 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N05S.D Vial: 1
Acq On : 29 Feb 12 13:26 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @5ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	Dibromomethane	14.58	93	16637	5.44602	ppb		81
44)	Methyl Cyclohexane	14.22	83	52655	5.38765	ppb		99
45)	2-Chloroethyl vinyl ether	14.96	63	14503	5.24759	ppb	#	81
46)	1-Bromo-2-chloroethane	15.30	63	35020	5.18017	ppb		100
47)	Cis-1,3-Dichloropropene	15.39	75	41334	5.00089	ppb		84
48)	Toluene	16.03	91	110478	5.17206	ppb		98
49)	Trans-1,3-Dichloropropene	16.19	75	36319	5.16999	ppb		89
50)	1,1,2-TCA	16.48	83	16884	5.35161	ppb	#	85
53)	1,2-EDB	17.73	107	19361	5.02283	ppb	#	90
54)	Tetrachloroethene	17.20	129	19369	5.03784	ppb		92
55)	1-Chlorohexane	18.08	91	42694	4.97884	ppb		96
56)	1,1,1,2-Tetrachloroethane	18.54	131	20527	5.15655	ppb		82
57)	m&p-Xylene	18.74	106	84804	10.39421	ppb		97
58)	o-Xylene	19.50	106	38593	5.17986	ppb		95
59)	Styrene	19.51	78	40969	5.37629	ppb		99
61)	2-Hexanone	16.48	43	22582	5.32832	ppb		85
62)	1,3-Dichloropropane	16.88	76	34505	5.15224	ppb		96
63)	Dibromochloromethane	17.36	129	23432	5.13988	ppb		95
64)	Chlorobenzene	18.49	112	62944	5.27701	ppb		91
65)	Ethylbenzene	18.60	91	129349	5.39277	ppb		98
66)	Bromoform	20.03	173	13683	5.01208	ppb		91
68)	MIBK (methyl isobutyl keto	15.07	43	31907	5.15015	ppb		91
69)	Isopropylbenzene	20.12	105	109607	5.09144	ppb		97
70)	1,1,2,2-Tetrachloroethane	20.29	83	24922	5.08814	ppb		88
71)	1,2,3-Trichloropropane	20.55	110	6397	5.64657	ppb	#	64
72)	t-1,4-Dichloro-2-Butene	20.60	53	8354	5.07425	ppb		91
73)	Bromobenzene	20.88	156	22880	5.16713	ppb		89
74)	n-Propylbenzene	20.83	91	148811	5.20019	ppb		97
75)	2-Chlorotoluene	21.13	91	92095	5.11478	ppb		97
76)	1,3,5-Trimethylbenzene	21.10	105	84468	5.04058	ppb		96
77)	4-Chlorotoluene	21.21	91	75043	4.96846	ppb		98
78)	Tert-Butylbenzene	21.76	119	86754	5.23602	ppb		90
79)	1,2,4-Trimethylbenzene	21.82	105	87163	5.23667	ppb		90
80)	Sec-Butylbenzene	22.15	105	122767	5.07211	ppb		91
81)	p-Isopropyltoluene	22.37	119	95184	5.22393	ppb		90
82)	Benzyl Chloride	22.81	91	46830	5.52063	ppb		96
83)	1,3-DCB	22.52	146	40304	4.97233	ppb		97
84)	1,4-DCB	22.68	146	37717	4.78251	ppb		89
85)	n-Butylbenzene	23.07	91	103218	5.04756	ppb		96
86)	1,2-DCB	23.30	146	37830	5.27120	ppb		90
87)	1,2-Dibromo-3-chloropropan	24.51	155	4089	6.03483	ppb		98
88)	1,2,4-Trichlorobenzene	25.94	180	23793	4.93339	ppb		97
89)	Hexachlorobutadiene	26.18	225	8786	6.01478	ppb		81
90)	Naphthalene	26.29	128	44576	4.98055	ppb		98
91)	1,2,3-Trichlorobenzene	26.66	180	20492	5.07488	ppb		93

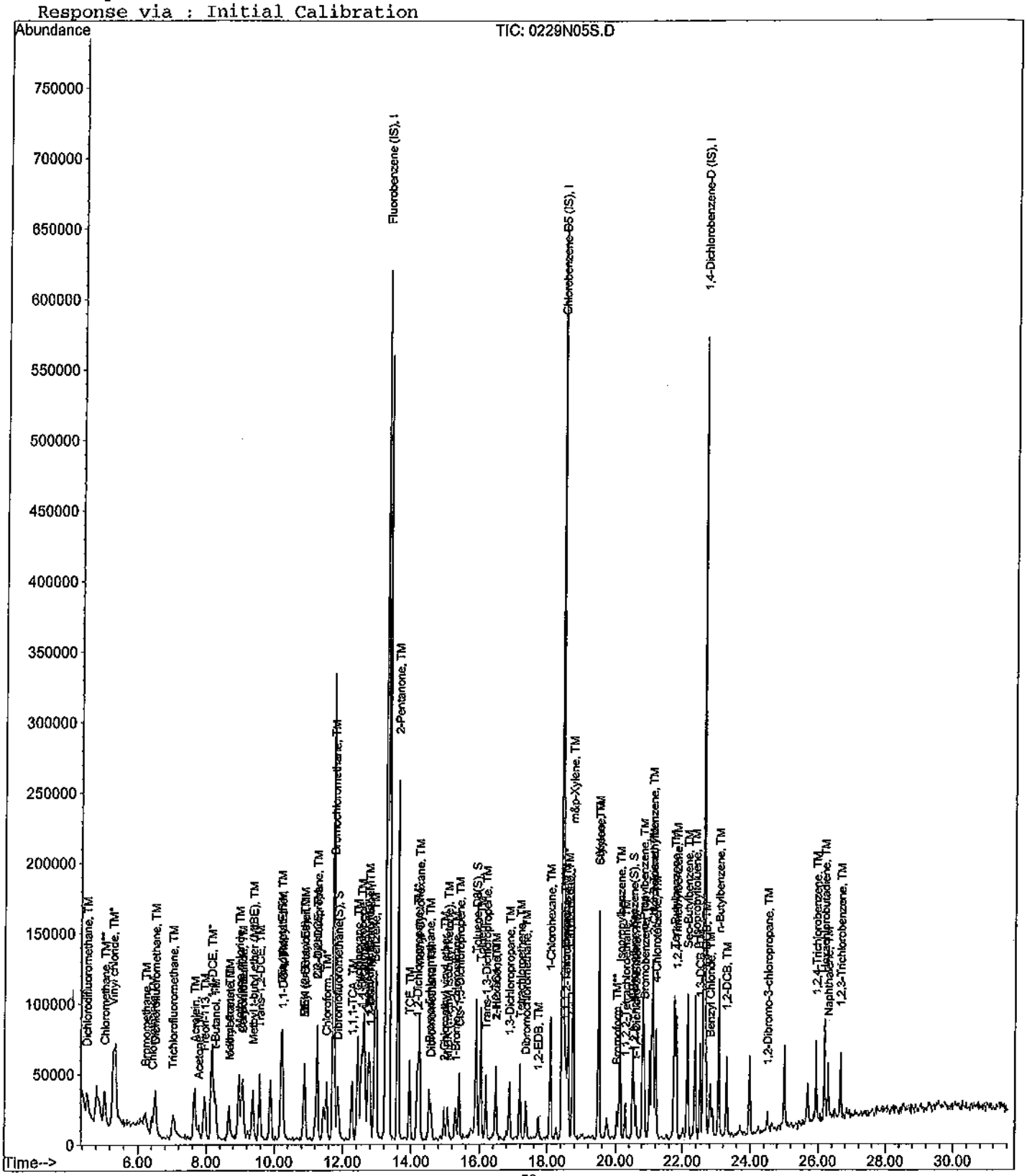
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\NEO\DATA\N120229\0229N05S.D Vial: 1
Acq On : 29 Feb 12 13:26 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @5ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N06S.D Vial: 1
Acq On : 29 Feb 12 14:04 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @10ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	13.26	96	300480	50.00000 ppb		0.00
51) Chlorobenzene-D5 (IS)	18.44	117	206848	50.00000 ppb		0.00
67) 1,4-Dichlorobenzene-D (IS)	22.62	152	85352	50.00000 ppb		0.00
System Monitoring Compounds						
30) Dibromofluoromethane(S)	11.86	111	50469	10.85894 ppb		0.02
Spiked Amount 41.312			Recovery = 26.286%			
34) 1,2-DCA-D4(S)	12.64	65	53351	10.34101 ppb		-0.01
Spiked Amount 41.649			Recovery = 24.829%			
52) Toluene-D8(S)	15.90	98	175157	12.29323 ppb		0.00
Spiked Amount 35.274			Recovery = 34.850%			
60) 4-Bromofluorobenzene(S)	20.50	95	61100	11.76356 ppb		0.00
Spiked Amount 35.584			Recovery = 33.060%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	104130	9.64963 ppb		97
3) Chloromethane	5.04	50	138731	9.50404 ppb		97
4) Vinyl chloride	5.28	62	29984	10.13949 ppb		96
5) Bromomethane	6.20	94	24958	9.70919 ppb		89
6) Chloroethane	6.40	64	55980	9.81194 ppb		95
7) Dichlorofluoromethane	6.50	67	156145	9.33696 ppb		94
8) Trichlorofluoromethane	7.03	101	85975	9.98354 ppb		97
9) Acrolein	7.64	56	111860	137.86459 ppb		99
10) Acetone	7.78	43	34208	10.59051 ppb		88
11) Freon-113	7.94	101	66621	9.70790 ppb		89
12) 1,1-DCE	8.17	96	56906	9.71326 ppb		90
13) t-Butanol	8.33	59	14195	121.34219 ppb	#	94
14) Methyl Acetate	8.67	43	105316	10.13594 ppb		94
15) Iodomethane	8.65	142	28483	10.27347 ppb		97
16) Acrylonitrile	9.06	53	19416	9.07807 ppb		81
17) Methylene chloride	8.95	86	41475	10.42247 ppb		94
18) Carbon disulfide	9.07	76	249305	9.82742 ppb		99
19) Methyl t-butyl ether (MtBE	9.37	73	120773	8.91431 ppb		95
20) Trans-1,2-DCE	9.56	96	58971	9.27017 ppb		99
21) Diisopropyl Ether	10.21	45	245127	9.24778 ppb		99
22) 1,1-DCA	10.26	63	123935	9.55707 ppb		99
23) Vinyl Acetate	10.21	43	188951	9.08993 ppb	#	97
24) Ethyl tert Butyl Ether	10.89	59	179219	9.38646 ppb	#	89
25) MEK (2-Butanone)	10.87	43	54972	9.35662 ppb		97
26) Cis-1,2-DCE	11.26	96	60551	9.29747 ppb		90
27) 2,2-Dichloropropane	11.25	77	86879	8.77737 ppb		93
28) Chloroform	11.54	83	99164	9.24683 ppb		96
29) Bromochloromethane	11.75	128	20641	9.65101 ppb		92
31) 1,1,1-TCA	12.27	97	92109	9.36405 ppb		94
32) Cyclohexane	12.43	56	129238	9.39181 ppb		95
33) 1,1-Dichloropropene	12.54	75	90467	9.38842 ppb		94
35) Carbon Tetrachloride	12.73	117	66443	9.03714 ppb		98
36) Tert Amyl Methyl Ether	12.76	73	134992	9.37619 ppb		95
37) 1,2-DCA	12.81	62	68230	9.25129 ppb		99
38) Benzene	12.92	78	238697	9.45963 ppb		98
39) TCE	13.95	95	58461	9.17482 ppb		94
40) 2-Pentanone	13.60	43	721186	138.02556 ppb		100
41) 1,2-Dichloropropane	14.17	63	62597	9.21424 ppb		98
42) Bromodichloromethane	14.53	83	73062	9.56224 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N06S.D Vial: 1
Acq On : 29 Feb 12 14:04 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @10ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	Dibromomethane	14.58	93	32520	9.42311	ppb		95
44)	Methyl Cyclohexane	14.23	83	107770	9.76107	ppb		94
45)	2-Chloroethyl vinyl ether	14.96	63	26923	8.62314	ppb		92
46)	1-Bromo-2-chloroethane	15.29	63	71792	9.40035	ppb		90
47)	Cis-1,3-Dichloropropene	15.39	75	83156	8.90581	ppb		94
48)	Toluene	16.03	91	229976	9.53039	ppb		99
49)	Trans-1,3-Dichloropropene	16.18	75	72868	9.18190	ppb		92
50)	1,1,2-TCA	16.47	83	32082	9.00141	ppb	#	79
53)	1,2-EDB	17.73	107	39008	9.43100	ppb	#	86
54)	Tetrachloroethene	17.19	129	40831	9.89717	ppb		96
55)	1-Chlorohexane	18.08	91	88884	9.65980	ppb		93
56)	1,1,1,2-Tetrachloroethane	18.54	131	38758	9.07358	ppb		82
57)	m&p-Xylene	18.74	106	175517	20.04832	ppb		95
58)	o-Xylene	19.49	106	81119	10.14648	ppb		93
59)	Styrene	19.51	78	79272	9.69462	ppb		91
61)	2-Hexanone	16.49	43	42920	9.43781	ppb		92
62)	1,3-Dichloropropane	16.88	76	69409	9.65858	ppb		98
63)	Dibromochloromethane	17.36	129	46077	9.41915	ppb		96
64)	Chlorobenzene	18.50	112	126190	9.85921	ppb		99
65)	Ethylbenzene	18.60	91	252858	9.82446	ppb		94
66)	Bromoform	20.03	173	28461	9.71561	ppb		93
68)	MIBK (methyl isobutyl keto	15.06	43	62549	10.32702	ppb		94
69)	Isopropylbenzene	20.12	105	223420	10.61560	ppb		100
70)	1,1,2,2-Tetrachloroethane	20.28	83	50099	10.46227	ppb		87
71)	1,2,3-Trichloropropane	20.53	110	11111	10.03187	ppb		95
72)	t-1,4-Dichloro-2-Butene	20.60	53	16447	10.21843	ppb	#	78
73)	Bromobenzene	20.88	156	45609	10.53572	ppb		83
74)	n-Propylbenzene	20.83	91	286769	10.25030	ppb		100
75)	2-Chlorotoluene	21.13	91	189713	10.77726	ppb		91
76)	1,3,5-Trimethylbenzene	21.09	105	174822	10.67099	ppb		94
77)	4-Chlorotoluene	21.21	91	152411	10.32163	ppb		99
78)	Tert-Butylbenzene	21.75	119	172703	10.66184	ppb		97
79)	1,2,4-Trimethylbenzene	21.81	105	170675	10.48850	ppb		97
80)	Sec-Butylbenzene	22.15	105	257162	10.86762	ppb		97
81)	p-Isopropyltoluene	22.37	119	185276	10.40094	ppb		96
82)	Benzyl Chloride	22.81	91	82249	9.91781	ppb		94
83)	1,3-DCB	22.51	146	83439	10.52934	ppb		97
84)	1,4-DCB	22.68	146	79798	10.34978	ppb		91
85)	n-Butylbenzene	23.06	91	211333	10.57094	ppb		97
86)	1,2-DCB	23.31	146	69889	9.96099	ppb		97
87)	1,2-Dibromo-3-chloropropan	24.51	155	5843	8.82072	ppb	#	72
88)	1,2,4-Trichlorobenzene	25.94	180	49168	10.42795	ppb		97
89)	Hexachlorobutadiene	26.18	225	14752	10.32998	ppb		95
90)	Naphthalene	26.29	128	89836	10.26709	ppb	#	88
91)	1,2,3-Trichlorobenzene	26.65	180	42642	10.80188	ppb	#	86

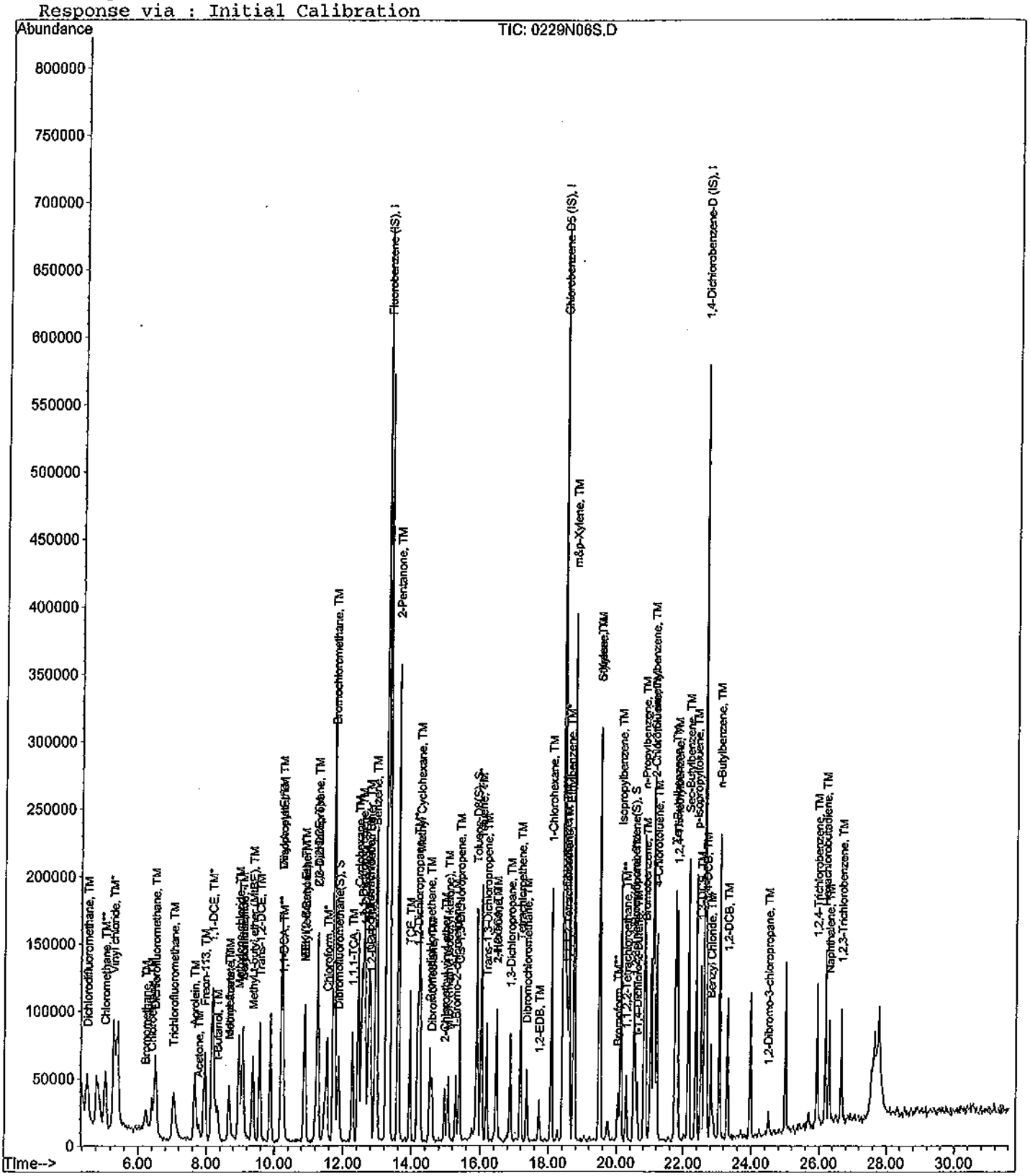
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\NEO\DATA\N120229\0229N06S.D Vial: 1
Acq On : 29 Feb 12 14:04 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @10ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N07S.D Vial: 1
Acq On : 29 Feb 12 14:42 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @20ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	13.26	96	306816	50.00000 ppb		0.00
51) Chlorobenzene-D5 (IS)	18.44	117	211200	50.00000 ppb		0.00
67) 1,4-Dichlorobenzene-D (IS)	22.63	152	93712	50.00000 ppb		0.00
System Monitoring Compounds						
30) Dibromofluoromethane(S)	11.86	111	106363	20.03211 ppb		0.02
Spiked Amount 41.312			Recovery = 48.490%			
34) 1,2-DCA-D4(S)	12.65	65	113624	19.72197 ppb		0.00
Spiked Amount 41.649			Recovery = 47.353%			
52) Toluene-D8(S)	15.90	98	363488	21.57891 ppb		0.00
Spiked Amount 35.274			Recovery = 61.175%			
60) 4-Bromofluorobenzene(S)	20.50	95	118705	20.62012 ppb		0.00
Spiked Amount 35.584			Recovery = 57.948%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.52	85	229528	20.83090 ppb		98
3) Chloromethane	5.04	50	299619	20.10212 ppb		94
4) Vinyl chloride	5.27	62	62032	20.54375 ppb		96
5) Bromomethane	6.19	94	75158	20.19029 ppb		90
6) Chloroethane	6.38	64	123407	21.18357 ppb		99
7) Dichlorofluoromethane	6.49	67	344690	20.18569 ppb		100
8) Trichlorofluoromethane	7.01	101	184666	21.00085 ppb		91
9) Acrolein	7.65	56	168130	202.93675 ppb		98
10) Acetone	7.79	43	62314	22.86818 ppb		96
11) Freon-113	7.94	101	149205	21.29292 ppb		93
12) 1,1-DCE	8.16	96	124779	20.85864 ppb		82
13) t-Butanol	8.25	59	9227	77.24574 ppb		95
14) Methyl Acetate	8.66	43	227547	29.52755 ppb		96
15) Iodomethane	8.65	142	79232	20.47939 ppb		98
16) Acrylonitrile	9.04	53	42748	19.57434 ppb	#	57
17) Methylene chloride	8.95	86	82645	20.33940 ppb		90
18) Carbon disulfide	9.06	76	512207	19.77387 ppb		93
19) Methyl t-butyl ether (MtBE	9.36	73	276793	20.00831 ppb		96
20) Trans-1,2-DCE	9.56	96	132708	20.43072 ppb		96
21) Diisopropyl Ether	10.20	45	532349	19.66892 ppb		100
22) 1,1-DCA	10.24	63	273695	20.66976 ppb		98
23) Vinyl Acetate	10.20	43	409504	19.29331 ppb	#	96
24) Ethyl tert Butyl Ether	10.89	59	370671	19.01270 ppb		97
25) MEK (2-Butanone)	10.88	43	116539	19.42614 ppb		100
26) Cis-1,2-DCE	11.25	96	136271	20.49200 ppb		96
27) 2,2-Dichloropropane	11.24	77	214387	21.21220 ppb		90
28) Chloroform	11.53	83	218245	19.93062 ppb		99
29) Bromochloromethane	11.75	128	44444	20.35133 ppb		89
31) 1,1,1-TCA	12.26	97	204694	20.38000 ppb		97
32) Cyclohexane	12.44	56	299361	21.30550 ppb		95
33) 1,1-Dichloropropene	12.53	75	208595	21.20040 ppb		89
35) Carbon Tetrachloride	12.73	117	161165	21.46791 ppb		93
36) Tert Amyl Methyl Ether	12.76	73	292146	19.87266 ppb		96
37) 1,2-DCA	12.80	62	149044	19.79152 ppb		96
38) Benzene	12.92	78	510561	19.81584 ppb		98
39) TCE	13.95	95	133295	20.48722 ppb		95
40) 2-Pentanone	13.60	43	1028355	192.74932 ppb		98
41) 1,2-Dichloropropane	14.17	63	138068	19.90382 ppb	#	96
42) Bromodichloromethane	14.53	83	155495	19.93067 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N07S.D Vial: 1
Acq On : 29 Feb 12 14:42 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @20ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	Dibromomethane	14.58	93	67231	19.07879 ppb		95
44)	Methyl Cyclohexane	14.22	83	239151	21.21335 ppb		93
45)	2-Chloroethyl vinyl ether	14.97	63	64941	20.37034 ppb		93
46)	1-Bromo-2-chloroethane	15.29	63	151865	19.47437 ppb		92
47)	Cis-1,3-Dichloropropene	15.40	75	183483	19.24479 ppb		94
48)	Toluene	16.03	91	487008	19.76523 ppb		96
49)	Trans-1,3-Dichloropropene	16.19	75	158996	19.62094 ppb		97
50)	1,1,2-TCA	16.47	83	72002	19.78478 ppb		92
53)	1,2-EDB	17.73	107	86505	20.48344 ppb	#	85
54)	Tetrachloroethene	17.20	129	93070	22.09471 ppb		94
55)	1-Chlorohexane	18.09	91	203314	21.64060 ppb		92
56)	1,1,1,2-Tetrachloroethane	18.55	131	86094	19.74001 ppb		100
57)	m&p-Xylene	18.74	106	356972	39.93469 ppb		93
58)	o-Xylene	19.49	106	160559	19.66912 ppb		94
59)	Styrene	19.51	78	166314	19.92035 ppb		95
61)	2-Hexanone	16.49	43	92107	19.83634 ppb		93
62)	1,3-Dichloropropane	16.88	76	148207	20.19870 ppb		92
63)	Dibromochloromethane	17.37	129	98335	19.68761 ppb		99
64)	Chlorobenzene	18.50	112	267397	20.46120 ppb		95
65)	Ethylbenzene	18.60	91	529075	20.13292 ppb		97
66)	Bromoform	20.04	173	59572	19.91680 ppb		99
68)	MIBK (methyl isobutyl keto	15.07	43	124123	18.66489 ppb		95
69)	Isopropylbenzene	20.12	105	453867	19.64127 ppb		96
70)	1,1,2,2-Tetrachloroethane	20.29	83	103137	19.61687 ppb		94
71)	1,2,3-Trichloropropane	20.54	110	23000	18.91365 ppb		80
72)	t-1,4-Dichloro-2-Butene	20.60	53	34599	19.57851 ppb		99
73)	Bromobenzene	20.88	156	88457	18.61077 ppb		95
74)	n-Propylbenzene	20.83	91	610269	19.86755 ppb		97
75)	2-Chlorotoluene	21.13	91	374415	19.37239 ppb		95
76)	1,3,5-Trimethylbenzene	21.10	105	348324	19.36469 ppb		99
77)	4-Chlorotoluene	21.21	91	314879	19.42200 ppb		95
78)	Tert-Butylbenzene	21.76	119	334526	18.80965 ppb		93
79)	1,2,4-Trimethylbenzene	21.82	105	357136	19.98920 ppb		99
80)	Sec-Butylbenzene	22.15	105	512205	19.71469 ppb		99
81)	p-Isopropyltoluene	22.37	119	388371	19.85724 ppb		95
82)	Benzyl Chloride	22.81	91	177130	19.45340 ppb		92
83)	1,3-DCB	22.52	146	175778	20.20297 ppb		95
84)	1,4-DCB	22.69	146	163041	19.25991 ppb		93
85)	n-Butylbenzene	23.07	91	428245	19.50999 ppb		96
86)	1,2-DCB	23.31	146	142353	18.47902 ppb		94
87)	1,2-Dibromo-3-chloropropan	24.51	155	14640	20.12926 ppb		91
88)	1,2,4-Trichlorobenzene	25.94	180	98793	19.08364 ppb		97
89)	Hexachlorobutadiene	26.18	225	30352	19.35773 ppb		91
90)	Naphthalene	26.29	128	188587	19.63031 ppb		96
91)	1,2,3-Trichlorobenzene	26.66	180	83775	19.32834 ppb		90

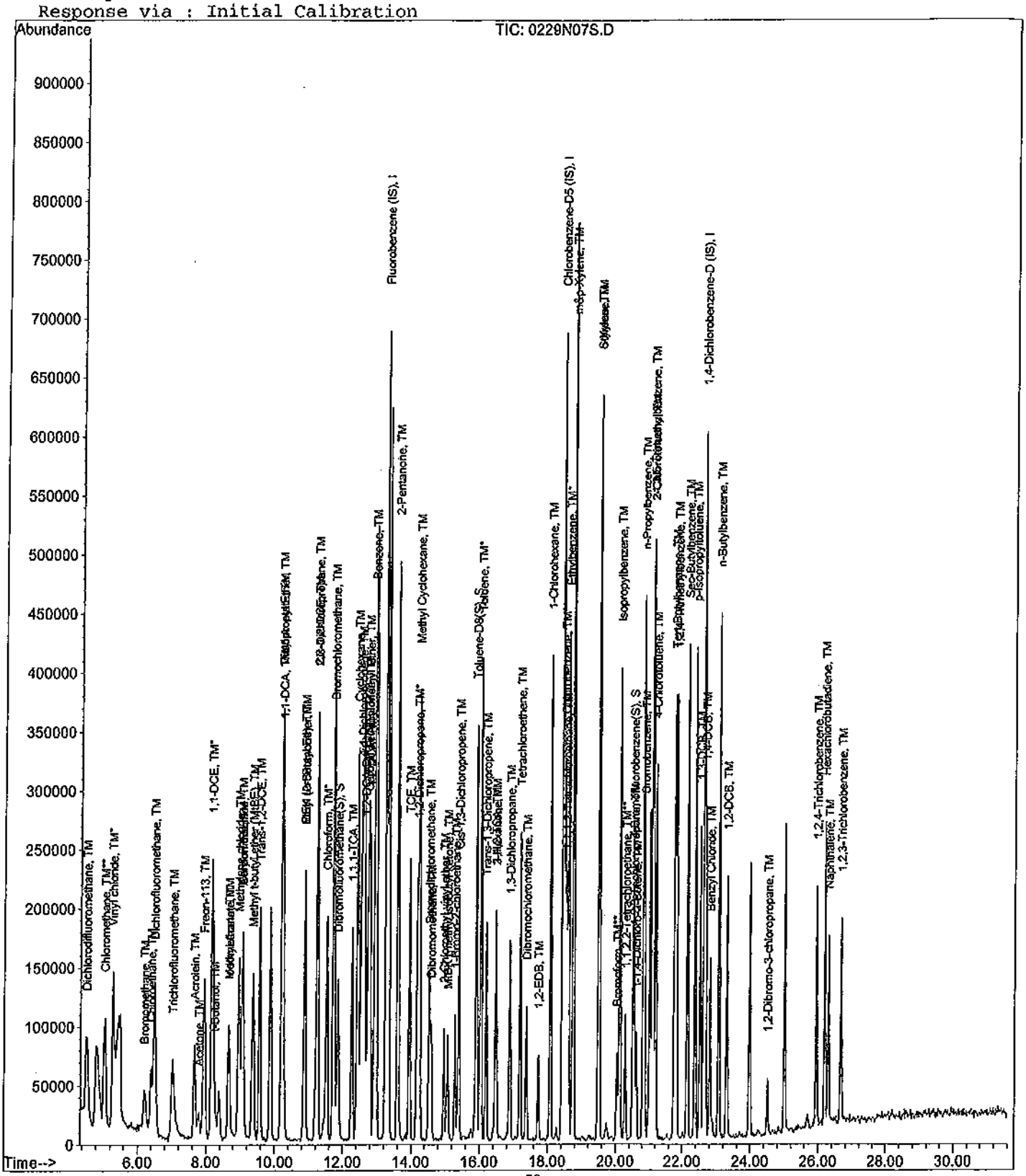
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\NEO\DATA\N120229\0229N07S.D Vial: 1
Acq On : 29 Feb 12 14:42 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @20ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N08S.D Vial: 1
Acq On : 29 Feb 12 15:20 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @50ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	13.26	96	323392	50.00000 ppb		0.00
51) Chlorobenzene-D5 (IS)	18.44	117	221376	50.00000 ppb		0.00
67) 1,4-Dichlorobenzene-D (IS)	22.62	152	92592	50.00000 ppb		0.00
System Monitoring Compounds						
30) Dibromofluoromethane(S)	11.86	111	277162	46.23047 ppb		0.02
Spiked Amount 41.312			Recovery = 111.906%			
34) 1,2-DCA-D4(S)	12.66	65	297607	46.48255 ppb		0.00
Spiked Amount 41.649			Recovery = 111.608%			
52) Toluene-D8(S)	15.91	98	919317	47.40594 ppb		0.00
Spiked Amount 35.274			Recovery = 134.392%			
60) 4-Bromofluorobenzene(S)	20.50	95	324018	50.56458 ppb		0.00
Spiked Amount 35.584			Recovery = 142.102%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	479143	41.25591 ppb		97
3) Chloromethane	5.05	50	607821	38.68983 ppb		92
4) Vinyl chloride	5.29	62	129144	40.57765 ppb		99
5) Bromomethane	6.22	94	163824	37.12694 ppb		92
6) Chloroethane	6.41	64	251565	40.96928 ppb		98
7) Dichlorofluoromethane	6.50	67	821727	45.65531 ppb		99
8) Trichlorofluoromethane	7.03	101	391067	42.19391 ppb		94
9) Acrolein	7.65	56	197015	225.61269 ppb		100
10) Acetone	7.77	43	106588	40.26858 ppb		86
11) Freon-113	7.96	101	328057	44.41707 ppb		96
12) 1,1-DCE	8.17	96	286804	45.48607 ppb		92
13) t-Butanol	8.30	59	27536	218.70746 ppb	#	89
14) Methyl Acetate	8.66	43	323560	42.14717 ppb		93
15) Iodomethane	8.67	142	200103	42.99102 ppb		99
16) Acrylonitrile	9.05	53	103359	44.90228 ppb		91
17) Methylene chloride	8.95	86	191538	44.72242 ppb		96
18) Carbon disulfide	9.07	76	1205296	44.14572 ppb		97
19) Methyl t-butyl ether (MtBE	9.37	73	675190	46.30522 ppb		99
20) Trans-1,2-DCE	9.57	96	320910	46.87254 ppb		94
21) Diisopropyl Ether	10.21	45	1321837	46.33516 ppb		95
22) 1,1-DCA	10.25	63	631565	45.25174 ppb		98
23) Vinyl Acetate	10.21	43	1064651	47.58879 ppb		99
24) Ethyl tert Butyl Ether	10.88	59	932149	45.36169 ppb		98
25) MEK (2-Butanone)	10.88	43	244710	38.70041 ppb		97
26) Cis-1,2-DCE	11.26	96	311613	44.45752 ppb		93
27) 2,2-Dichloropropane	11.26	77	477603	44.83355 ppb		93
28) Chloroform	11.54	83	535423	46.38978 ppb		97
29) Bromochloromethane	11.76	128	97283	42.26348 ppb		97
31) 1,1,1-TCA	12.28	97	472809	44.66152 ppb		98
32) Cyclohexane	12.44	56	646457	43.65007 ppb		100
33) 1,1-Dichloropropene	12.54	75	467595	45.08776 ppb		97
35) Carbon Tetrachloride	12.73	117	393848	49.77331 ppb		98
36) Tert Amyl Methyl Ether	12.77	73	731207	47.18947 ppb		98
37) 1,2-DCA	12.81	62	355261	44.75699 ppb		99
38) Benzene	12.94	78	1210933	44.58960 ppb		97
39) TCE	13.95	95	303175	44.20905 ppb		98
40) 2-Pentanone	13.60	43	1306473	232.32661 ppb		98
41) 1,2-Dichloropropane	14.18	63	337347	46.13909 ppb		100
42) Bromodichloromethane	14.53	83	376162	45.74347 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N08S.D Vial: 1
Acq On : 29 Feb 12 15:20 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @50ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	Dibromomethane	14.59	93	171107	46.06784 ppb		94
44)	Methyl Cyclohexane	14.24	83	542210	45.63030 ppb		99
45)	2-Chloroethyl vinyl ether	14.96	63	166005	49.40254 ppb		98
46)	1-Bromo-2-chloroethane	15.30	63	380466	46.28820 ppb		99
47)	Cis-1,3-Dichloropropene	15.41	75	461972	45.97077 ppb		98
48)	Toluene	16.05	91	1139974	43.89442 ppb		97
49)	Trans-1,3-Dichloropropene	16.19	75	396414	46.41210 ppb		93
50)	1,1,2-TCA	16.47	83	179560	46.81069 ppb		94
53)	1,2-EDB	17.73	107	208948	47.20231 ppb	#	99
54)	Tetrachloroethene	17.19	129	218010	49.37627 ppb		96
55)	1-Chlorohexane	18.08	91	470250	47.75229 ppb		95
56)	1,1,1,2-Tetrachloroethane	18.56	131	222656	48.70486 ppb		93
57)	m&p-Xylene	18.75	106	866384	92.46767 ppb		99
58)	o-Xylene	19.49	106	418425	48.90254 ppb		91
59)	Styrene	19.51	78	415470	47.47568 ppb		95
61)	2-Hexanone	16.48	43	231930	47.65288 ppb		96
62)	1,3-Dichloropropane	16.88	76	366153	47.60809 ppb		97
63)	Dibromochloromethane	17.37	129	247383	47.25178 ppb		94
64)	Chlorobenzene	18.50	112	634989	46.35580 ppb		98
65)	Ethylbenzene	18.60	91	1293159	46.94668 ppb		99
66)	Bromoform	20.04	173	147120	46.92589 ppb		99
68)	MIBK (methyl isobutyl keto	15.06	43	327110	49.78388 ppb	#	98
69)	Isopropylbenzene	20.12	105	1111062	48.66324 ppb		97
70)	1,1,2,2-Tetrachloroethane	20.28	83	259591	49.97200 ppb		98
71)	1,2,3-Trichloropropane	20.53	110	63492	52.84309 ppb		97
72)	t-1,4-Dichloro-2-Butene	20.60	53	86714	49.66232 ppb	#	79
73)	Bromobenzene	20.88	156	232838	49.58013 ppb		96
74)	n-Propylbenzene	20.83	91	1486640	48.98358 ppb		97
75)	2-Chlorotoluene	21.13	91	906138	47.45106 ppb		99
76)	1,3,5-Trimethylbenzene	21.10	105	842813	47.42203 ppb		93
77)	4-Chlorotoluene	21.21	91	767587	47.91811 ppb		99
78)	Tert-Butylbenzene	21.76	119	850665	48.40956 ppb		99
79)	1,2,4-Trimethylbenzene	21.82	105	860294	48.73381 ppb		96
80)	Sec-Butylbenzene	22.15	105	1240734	48.33332 ppb		98
81)	p-Isopropyltoluene	22.37	119	947428	49.02752 ppb		96
82)	Benzyl Chloride	22.81	91	398709	44.31811 ppb		96
83)	1,3-DCB	22.52	146	408019	47.46274 ppb		100
84)	1,4-DCB	22.68	146	405061	48.42835 ppb		95
85)	n-Butylbenzene	23.07	91	1049254	48.38015 ppb		96
86)	1,2-DCB	23.31	146	359197	47.19182 ppb		95
87)	1,2-Dibromo-3-chloropropan	24.51	155	34892	48.55504 ppb		89
88)	1,2,4-Trichlorobenzene	25.95	180	230368	45.03798 ppb		92
89)	Hexachlorobutadiene	26.19	225	76152	49.15529 ppb		94
90)	Naphthalene	26.29	128	445511	46.93486 ppb		98
91)	1,2,3-Trichlorobenzene	26.66	180	201757	47.11188 ppb		98

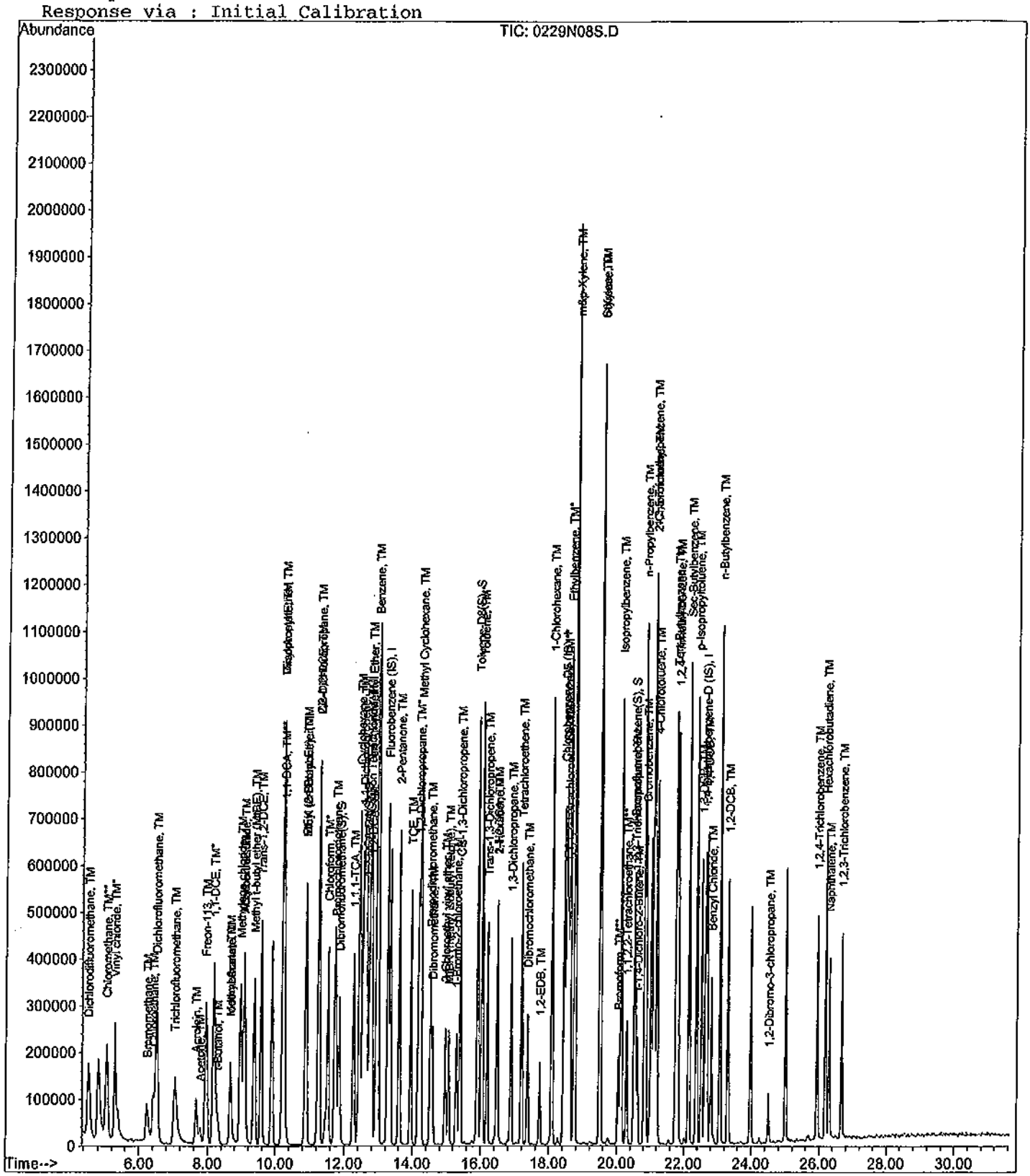
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\NEO\DATA\N120229\0229N08S.D Vial: 1
Acq On : 29 Feb 12 15:20 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @50ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N09S.D Vial: 1
Acq On : 29 Feb 12 15:58 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @100ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	13.26	96	311872	50.00000 ppb	0.00
51) Chlorobenzene-D5 (IS)	18.44	117	212800	50.00000 ppb	0.00
67) 1,4-Dichlorobenzene-D (IS)	22.63	152	96312	50.00000 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane(S)	11.86	111	621452	104.52232 ppb	0.02
Spiked Amount 41.312			Recovery = 253.009%		
34) 1,2-DCA-D4(S)	12.65	65	649883	103.10236 ppb	0.00
Spiked Amount 41.649			Recovery = 247.553%		
52) Toluene-D8(S)	15.90	98	1933948	99.82476 ppb	0.00
Spiked Amount 35.274			Recovery = 282.996%		
60) 4-Bromofluorobenzene(S)	20.50	95	648119	103.10721 ppb	0.00
Spiked Amount 35.584			Recovery = 289.760%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.53	85	1079973	96.42438 ppb	95
3) Chloromethane	5.04	50	1313692	86.70968 ppb	95
4) Vinyl chloride	5.28	62	286656	93.39564 ppb	99
5) Bromomethane	6.21	94	419763	91.46570 ppb	92
6) Chloroethane	6.42	64	569728	96.21186 ppb	99
7) Dichlorofluoromethane	6.50	67	1710817	98.56442 ppb	99
8) Trichlorofluoromethane	7.02	101	878675	98.30595 ppb	97
9) Acrolein	7.65	56	249344	296.08475 ppb	100
10) Acetone	7.79	43	231550	97.06058 ppb	100
11) Freon-113	7.94	101	730222	102.51995 ppb	94
12) 1,1-DCE	8.17	96	593353	97.57965 ppb	98
13) t-Butanol	8.34	59	35328	290.96093 ppb	96
14) Methyl Acetate	8.66	43	697057	100.18543 ppb	100
15) Iodomethane	8.66	142	444813	93.41281 ppb	96
16) Acrylonitrile	9.04	53	222839	100.38393 ppb	96
17) Methylene chloride	8.95	86	396251	95.93865 ppb	94
18) Carbon disulfide	9.07	76	2564210	97.38708 ppb	99
19) Methyl t-butyl ether (MtBE	9.37	73	1436366	102.14615 ppb	97
20) Trans-1,2-DCE	9.57	96	658814	99.78172 ppb	89
21) Diisopropyl Ether	10.21	45	2796815	101.65983 ppb	98
22) 1,1-DCA	10.25	63	1337461	99.36907 ppb	98
23) Vinyl Acetate	10.21	43	2257905	104.65403 ppb	98
24) Ethyl tert Butyl Ether	10.88	59	1962542	99.03204 ppb	100
25) MEK (2-Butanone)	10.88	43	550176	90.22323 ppb	97
26) Cis-1,2-DCE	11.26	96	682550	100.97574 ppb	96
27) 2,2-Dichloropropane	11.26	77	1037396	100.97957 ppb	96
28) Chloroform	11.54	83	1124344	101.01302 ppb	97
29) Bromochloromethane	11.76	128	198596	89.46469 ppb	94
31) 1,1,1-TCA	12.28	97	1016240	99.53985 ppb	97
32) Cyclohexane	12.43	56	1440876	100.88458 ppb	97
33) 1,1-Dichloropropene	12.53	75	1040881	104.07412 ppb	97
35) Carbon Tetrachloride	12.73	117	835290	109.46065 ppb	95
36) Tert Amyl Methyl Ether	12.77	73	1478435	98.93725 ppb	99
37) 1,2-DCA	12.81	62	761766	99.51482 ppb	100
38) Benzene	12.94	78	2607082	99.54537 ppb	98
39) TCE	13.95	95	673278	101.80407 ppb	95
40) 2-Pentanone	13.61	43	1645545	303.43186 ppb	96
41) 1,2-Dichloropropane	14.18	63	709701	100.65155 ppb	98
42) Bromodichloromethane	14.52	83	815309	102.80858 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N09S.D Vial: 1
Acq On : 29 Feb 12 15:58 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @100ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	Dibromomethane	14.59	93	355123	99.14293	ppb		97
44)	Methyl Cyclohexane	14.24	83	1126194	98.27701	ppb		97
45)	2-Chloroethyl vinyl ether	14.96	63	321419	99.18649	ppb		94
46)	1-Bromo-2-chloroethane	15.29	63	787059	99.29208	ppb		99
47)	Cis-1,3-Dichloropropene	15.41	75	1004212	103.62020	ppb		94
48)	Toluene	16.04	91	2437652	97.32827	ppb		97
49)	Trans-1,3-Dichloropropene	16.19	75	824328	100.07721	ppb		96
50)	1,1,2-TCA	16.48	83	378690	102.36988	ppb		91
53)	1,2-EDB	17.73	107	453247	106.51699	ppb	#	94
54)	Tetrachloroethene	17.19	129	437176	103.00472	ppb		98
55)	1-Chlorohexane	18.08	91	1007427	106.42358	ppb		99
56)	1,1,1,2-Tetrachloroethane	18.55	131	460187	104.72037	ppb		97
57)	m&p-Xylene	18.74	106	1802319	200.11059	ppb		98
58)	o-Xylene	19.50	106	835141	101.53890	ppb		96
59)	Styrene	19.51	78	845183	100.47112	ppb		98
61)	2-Hexanone	16.49	43	475150	101.55981	ppb		92
62)	1,3-Dichloropropane	16.88	76	774597	104.77384	ppb		99
63)	Dibromochloromethane	17.36	129	530919	105.49588	ppb		94
64)	Chlorobenzene	18.50	112	1347556	102.33957	ppb		100
65)	Ethylbenzene	18.60	91	2622242	99.03407	ppb		99
66)	Bromoform	20.04	173	324659	107.72765	ppb		100
68)	MIBK (methyl isobutyl keto	15.06	43	659047	96.42827	ppb		100
69)	Isopropylbenzene	20.12	105	2347280	98.83726	ppb		98
70)	1,1,2,2-Tetrachloroethane	20.29	83	534373	98.89507	ppb		99
71)	1,2,3-Trichloropropane	20.54	110	121673	97.35460	ppb		98
72)	t-1,4-Dichloro-2-Butene	20.60	53	178015	98.01385	ppb		91
73)	Bromobenzene	20.88	156	460938	94.36031	ppb		98
74)	n-Propylbenzene	20.83	91	3136093	99.34059	ppb		98
75)	2-Chlorotoluene	21.13	91	1910052	96.15898	ppb		99
76)	1,3,5-Trimethylbenzene	21.10	105	1795248	97.11055	ppb		97
77)	4-Chlorotoluene	21.21	91	1577374	94.66726	ppb		100
78)	Tert-Butylbenzene	21.76	119	1710720	93.59325	ppb		100
79)	1,2,4-Trimethylbenzene	21.82	105	1743805	94.96739	ppb		99
80)	Sec-Butylbenzene	22.15	105	2580898	96.65668	ppb		100
81)	p-Isopropyltoluene	22.37	119	1996793	99.33902	ppb		98
82)	Benzyl Chloride	22.81	91	857940	91.68013	ppb		97
83)	1,3-DCB	22.52	146	878780	98.27558	ppb		98
84)	1,4-DCB	22.68	146	854566	98.22406	ppb		95
85)	n-Butylbenzene	23.07	91	2134317	94.61033	ppb		95
86)	1,2-DCB	23.31	146	780483	98.58039	ppb		99
87)	1,2-Dibromo-3-chloropropan	24.51	155	76180	101.91602	ppb		98
88)	1,2,4-Trichlorobenzene	25.95	180	493585	92.77091	ppb		90
89)	Hexachlorobutadiene	26.19	225	171008	106.12030	ppb		92
90)	Naphthalene	26.29	128	941621	95.36880	ppb		97
91)	1,2,3-Trichlorobenzene	26.67	180	419102	94.08375	ppb		97

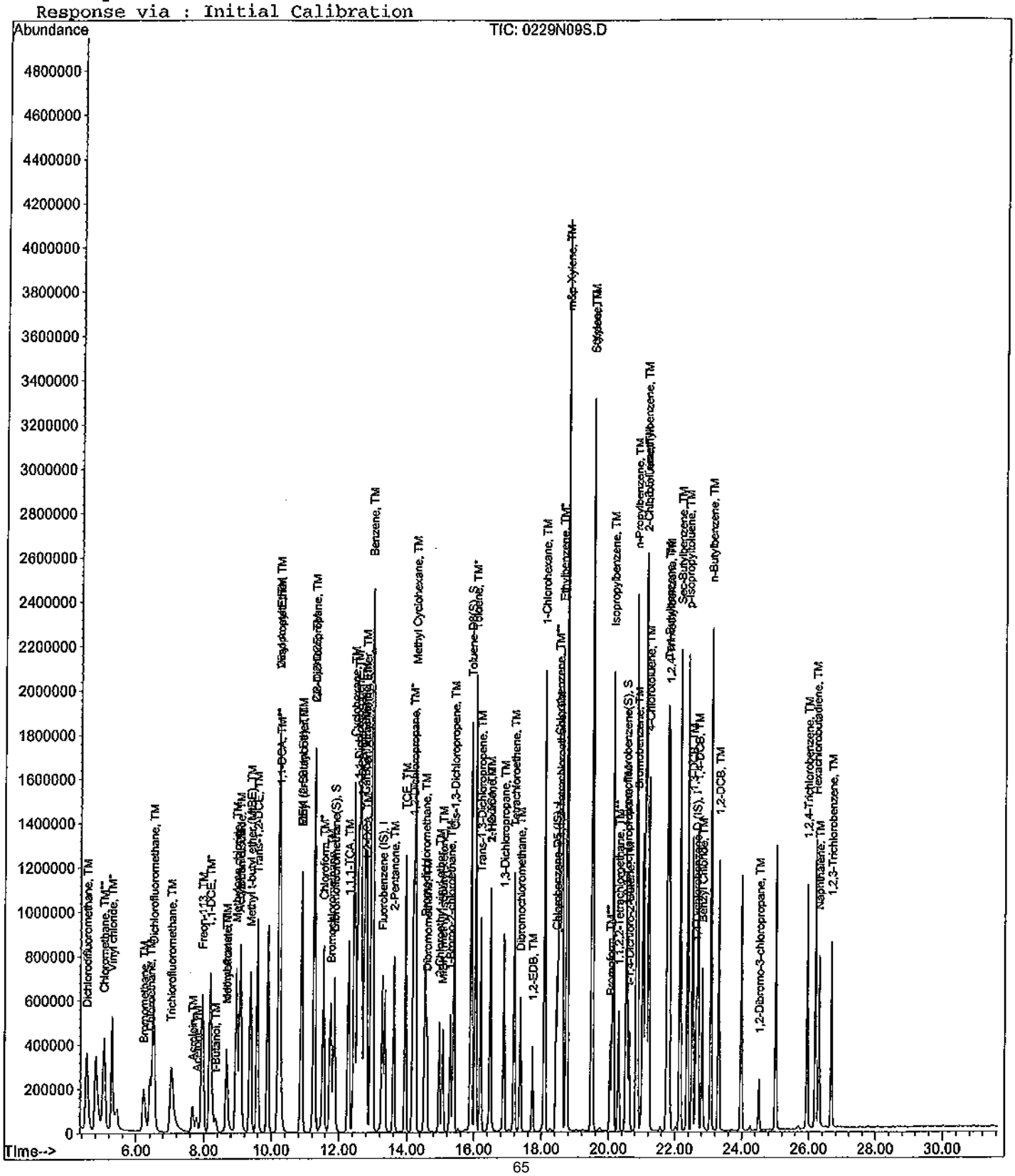
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\NEO\DATA\N120229\0229N09S.D Vial: 1
Acq On : 29 Feb 12 15:58 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @100ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N10S.D Vial: 1
Acq On : 29 Feb 12 16:37 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @200ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	13.26	96	320896	50.00000 ppb		0.00
51) Chlorobenzene-D5 (IS)	18.44	117	212928	50.00000 ppb		0.00
67) 1,4-Dichlorobenzene-D (IS)	22.63	152	83464	50.00000 ppb		0.00
System Monitoring Compounds						
30) Dibromofluoromethane(S)	11.86	111	1238419	200.33714 ppb		0.01
Spiked Amount 41.312			Recovery = 484.941%			
34) 1,2-DCA-D4(S)	12.65	65	1311184	200.53205 ppb		0.00
Spiked Amount 41.649			Recovery = 481.487%			
52) Toluene-D8(S)	15.91	98	4012442	203.44417 ppb		0.00
Spiked Amount 35.274			Recovery = 576.749%			
60) 4-Bromofluorobenzene(S)	20.50	95	1280100	201.62253 ppb		0.00
Spiked Amount 35.584			Recovery = 566.618%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.53	85	2241544	194.50613 ppb		99
3) Chloromethane	5.04	50	2763965	177.30405 ppb		99
4) Vinyl chloride	5.28	62	597760	189.27991 ppb		98
5) Bromomethane	6.19	94	990651	204.18684 ppb		97
6) Chloroethane	6.38	64	1191385	195.53534 ppb		94
7) Dichlorofluoromethane	6.48	67	3533287	197.83705 ppb		100
8) Trichlorofluoromethane	7.02	101	1898297	206.40860 ppb		93
9) Acrolein	7.65	56	296465	342.13904 ppb		97
10) Acetone	7.79	43	483617	202.24183 ppb		98
11) Freon-113	7.93	101	1509764	206.00350 ppb		96
12) 1,1-DCE	8.16	96	1252647	200.21052 ppb		96
13) t-Butanol	8.16	59	16824	134.66569 ppb	#	84
14) Methyl Acetate	8.66	43	1453634	200.11554 ppb		98
15) Iodomethane	8.65	142	1015202	201.89740 ppb		97
16) Acrylonitrile	9.04	53	455671	199.49705 ppb		96
17) Methylene chloride	8.95	86	793527	186.72267 ppb		100
18) Carbon disulfide	9.05	76	5400921	199.35525 ppb		99
19) Methyl t-butyl ether (MtBE	9.36	73	2819666	194.87971 ppb		98
20) Trans-1,2-DCE	9.57	96	1356661	199.69702 ppb		94
21) Diisopropyl Ether	10.20	45	5514789	194.81689 ppb		97
22) 1,1-DCA	10.25	63	2719547	196.37163 ppb		98
23) Vinyl Acetate	10.20	43	4064660	183.09926 ppb		100
24) Ethyl tert Butyl Ether	10.88	59	3863422	189.47024 ppb		99
25) MEK (2-Butanone)	10.87	43	1080462	172.20206 ppb		96
26) Cis-1,2-DCE	11.26	96	1340933	192.79765 ppb		98
27) 2,2-Dichloropropane	11.25	77	2089766	197.69638 ppb		97
28) Chloroform	11.53	83	2242485	195.80320 ppb		99
29) Bromochloromethane	11.76	128	396771	173.71334 ppb		97
31) 1,1,1-TCA	12.26	97	2040511	194.24583 ppb		95
32) Cyclohexane	12.43	56	2973261	202.32209 ppb		99
33) 1,1-Dichloropropene	12.53	75	2046509	198.86915 ppb		96
35) Carbon Tetrachloride	12.73	117	1708056	217.53790 ppb		96
36) Tert Amyl Methyl Ether	12.77	73	3013045	195.96356 ppb		100
37) 1,2-DCA	12.80	62	1497421	190.11754 ppb		100
38) Benzene	12.92	78	5346323	198.39633 ppb		98
39) TCE	13.95	95	1332424	195.80566 ppb		96
40) 2-Pentanone	13.61	43	1880495	337.00448 ppb		97
41) 1,2-Dichloropropane	14.17	63	1429178	196.98967 ppb	#	98
42) Bromodichloromethane	14.53	83	1585358	194.28825 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N10S.D Vial: 1
Acq On : 29 Feb 12 16:37 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @200ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	Dibromomethane	14.59	93	696288	188.92261 ppb		97
44)	Methyl Cyclohexane	14.23	83	2453887	208.11595 ppb		98
45)	2-Chloroethyl vinyl ether	14.96	63	674174	202.19252 ppb		100
46)	1-Bromo-2-chloroethane	15.29	63	1592329	195.23254 ppb		97
47)	Cis-1,3-Dichloropropene	15.39	75	1969799	197.53907 ppb		97
48)	Toluene	16.03	91	5011507	194.46781 ppb		99
49)	Trans-1,3-Dichloropropene	16.19	75	1647828	194.42812 ppb		95
50)	1,1,2-TCA	16.48	83	738628	194.05562 ppb		90
53)	1,2-EDB	17.73	107	873794	205.22575 ppb	#	96
54)	Tetrachloroethene	17.19	129	909123	214.07319 ppb		99
55)	1-Chlorohexane	18.08	91	2071393	218.68835 ppb		97
56)	1,1,1,2-Tetrachloroethane	18.55	131	892474	202.96972 ppb		91
57)	m&p-Xylene	18.75	106	3615245	401.15757 ppb		98
58)	o-Xylene	19.49	106	1583369	192.39494 ppb		98
59)	Styrene	19.51	78	1583930	188.17646 ppb		100
61)	2-Hexanone	16.50	43	932756	199.24987 ppb		96
62)	1,3-Dichloropropane	16.88	76	1501251	202.94073 ppb		97
63)	Dibromochloromethane	17.37	129	1031132	204.76718 ppb		99
64)	Chlorobenzene	18.50	112	2660851	201.95572 ppb		97
65)	Ethylbenzene	18.60	91	5344935	201.74051 ppb		100
66)	Bromoform	20.04	173	628993	208.58565 ppb		97
68)	MIBK (methyl isobutyl keto	15.07	43	1271943	214.75182 ppb		98
69)	Isopropylbenzene	20.13	105	4556198	221.38061 ppb		98
70)	1,1,2,2-Tetrachloroethane	20.29	83	999243	213.39412 ppb		99
71)	1,2,3-Trichloropropane	20.54	110	238415	220.12889 ppb		93
72)	t-1,4-Dichloro-2-Butene	20.60	53	348289	221.28492 ppb		96
73)	Bromobenzene	20.88	156	894733	211.35937 ppb		95
74)	n-Propylbenzene	20.83	91	6202019	226.70030 ppb		99
75)	2-Chlorotoluene	21.13	91	3633852	211.10237 ppb		96
76)	1,3,5-Trimethylbenzene	21.10	105	3597229	224.53872 ppb		93
77)	4-Chlorotoluene	21.21	91	3210428	222.33573 ppb		97
78)	Tert-Butylbenzene	21.76	119	3597439	227.11208 ppb		99
79)	1,2,4-Trimethylbenzene	21.82	105	3563627	223.94946 ppb		99
80)	Sec-Butylbenzene	22.16	105	5232713	226.13571 ppb		99
81)	p-Isopropyltoluene	22.37	119	3766617	216.23176 ppb		97
82)	Benzyl Chloride	22.81	91	1679447	207.09318 ppb		98
83)	1,3-DCB	22.52	146	1636298	211.15874 ppb		100
84)	1,4-DCB	22.69	146	1569027	208.10566 ppb		96
85)	n-Butylbenzene	23.07	91	4389512	224.53140 ppb		97
86)	1,2-DCB	23.31	146	1452346	211.67929 ppb		97
87)	1,2-Dibromo-3-chloropropan	24.51	155	143568	221.63602 ppb		98
88)	1,2,4-Trichlorobenzene	25.93	180	908311	196.99973 ppb		98
89)	Hexachlorobutadiene	26.18	225	307328	220.07229 ppb		98
90)	Naphthalene	26.29	128	1687967	197.27649 ppb		98
91)	1,2,3-Trichlorobenzene	26.66	180	748495	193.89429 ppb		96

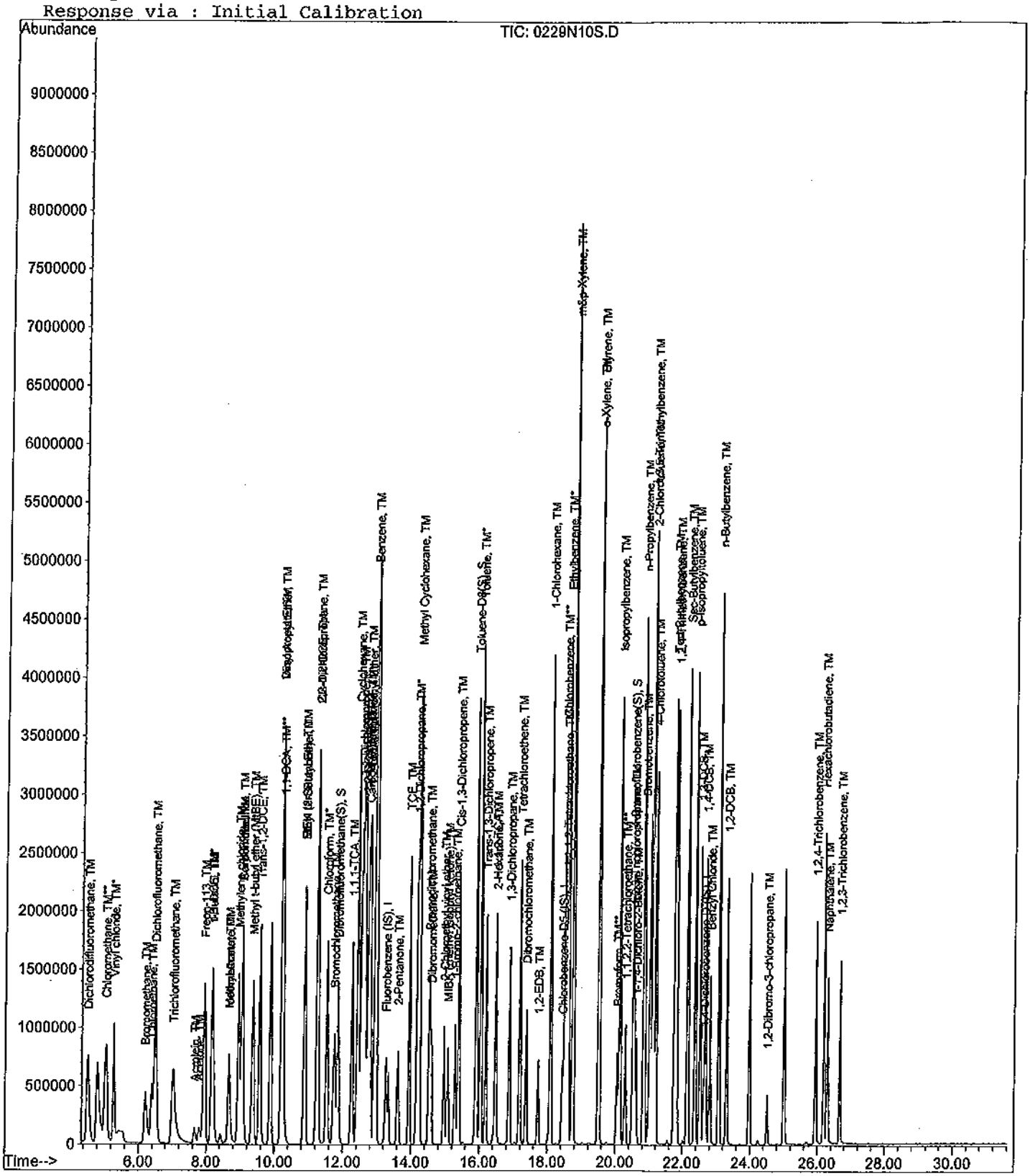
(#) = qualifier out of range (m) = manual integration

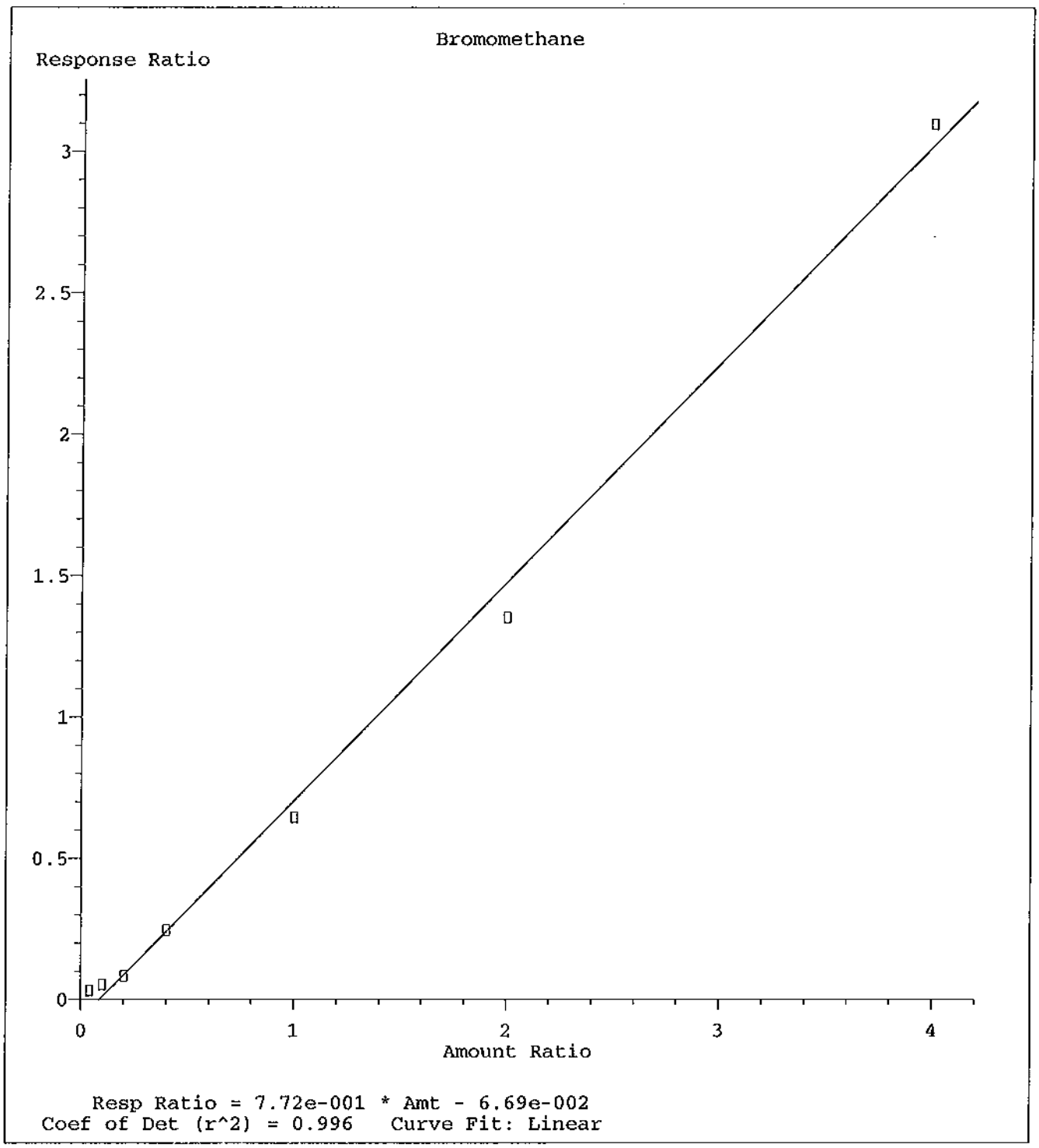
Quantitation Report

Data File : M:\NEO\DATA\N120229\0229N10S.D Vial: 1
Acq On : 29 Feb 12 16:37 Operator: SV,DG,RS
Sample : Vol Std 02-29-12 @200ug/kg Inst : Neo
Misc : Soil 5mL w/ IS:10-20-11 Multiplr: 1.00

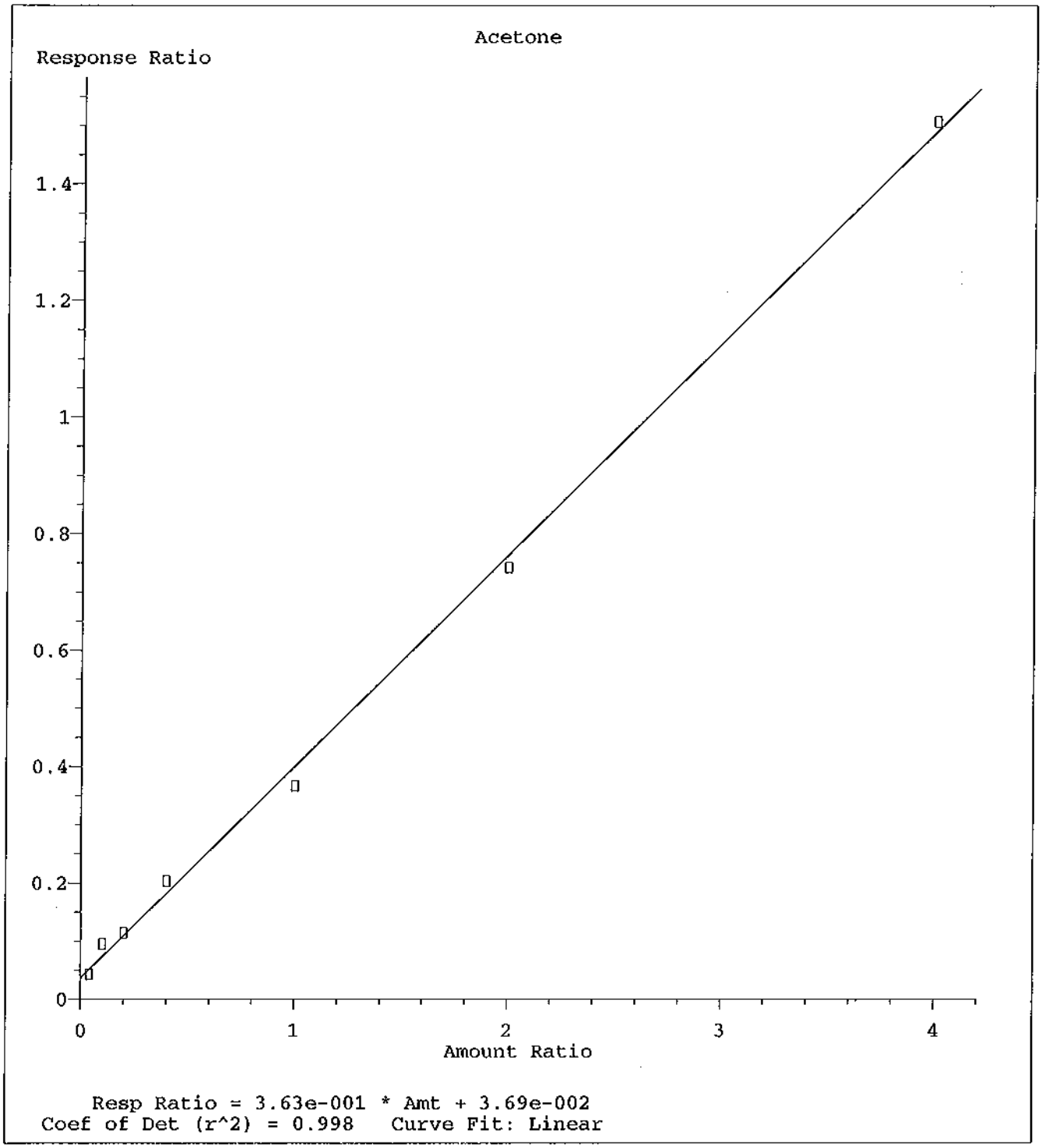
Quant Time: Mar 12 13:39 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration

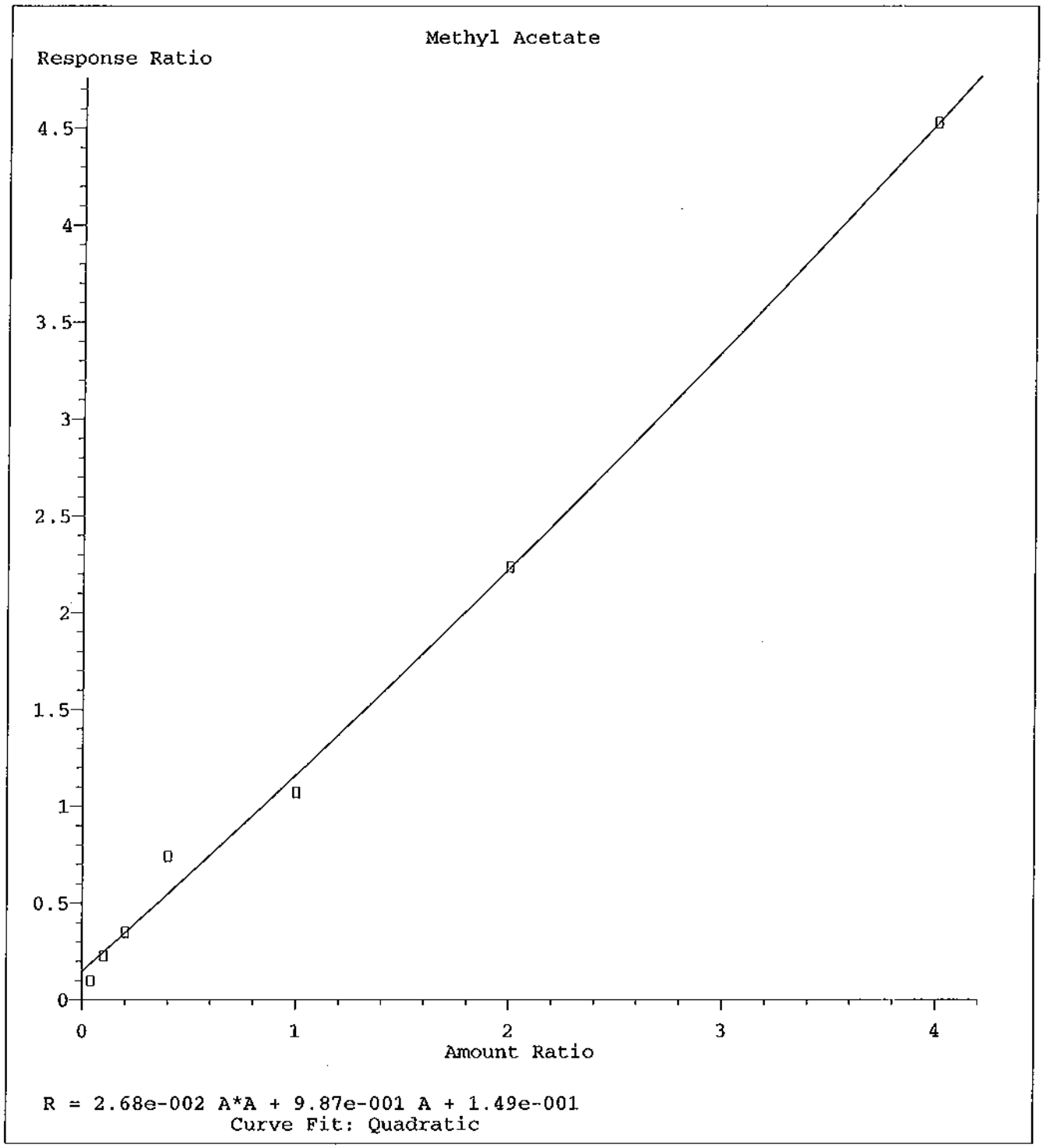




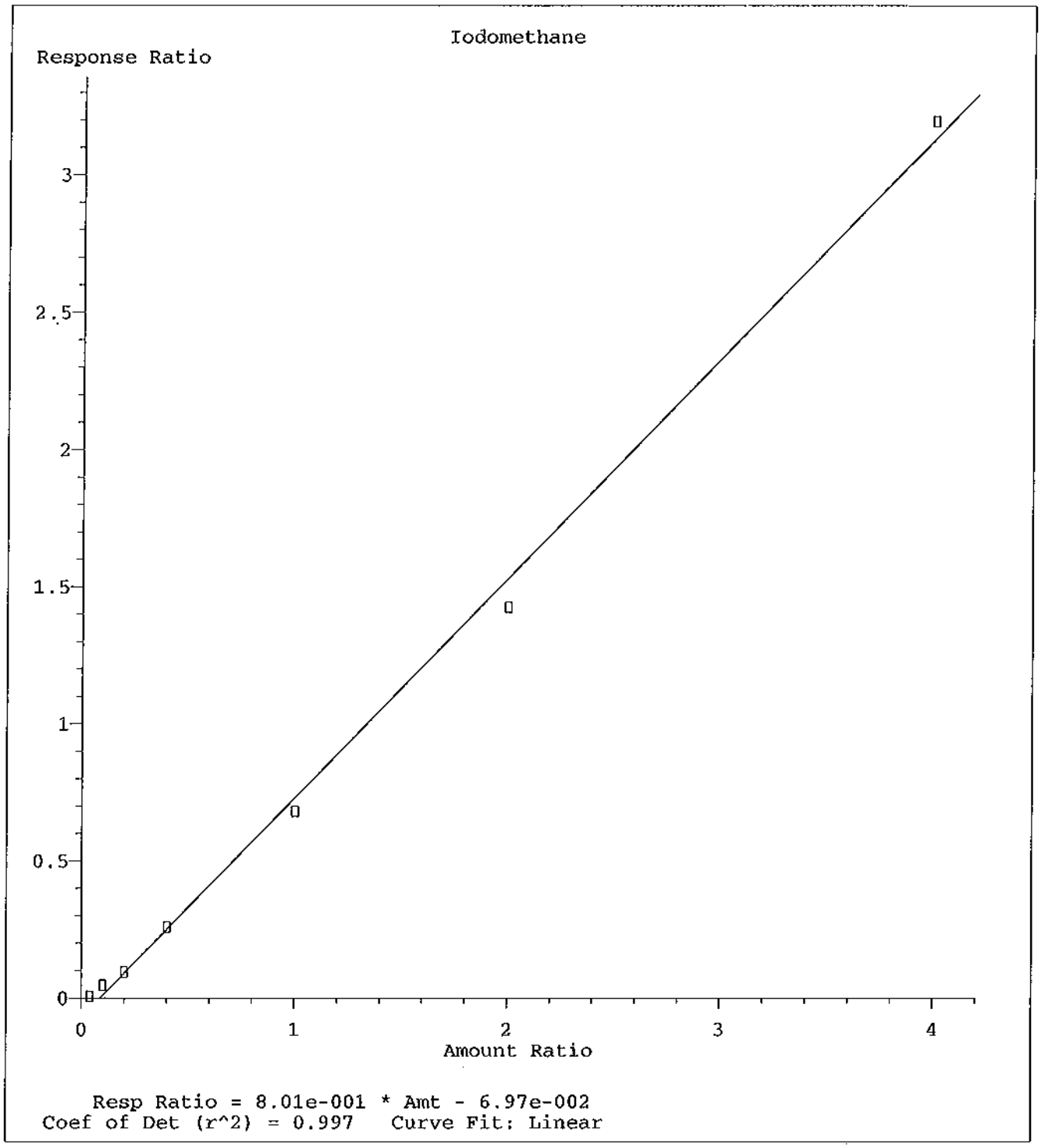
Method Name: M:\NEO\DATA\N120229\NALLS.M
Calibration Table Last Updated: Mon Mar 12 13:19:57 2012



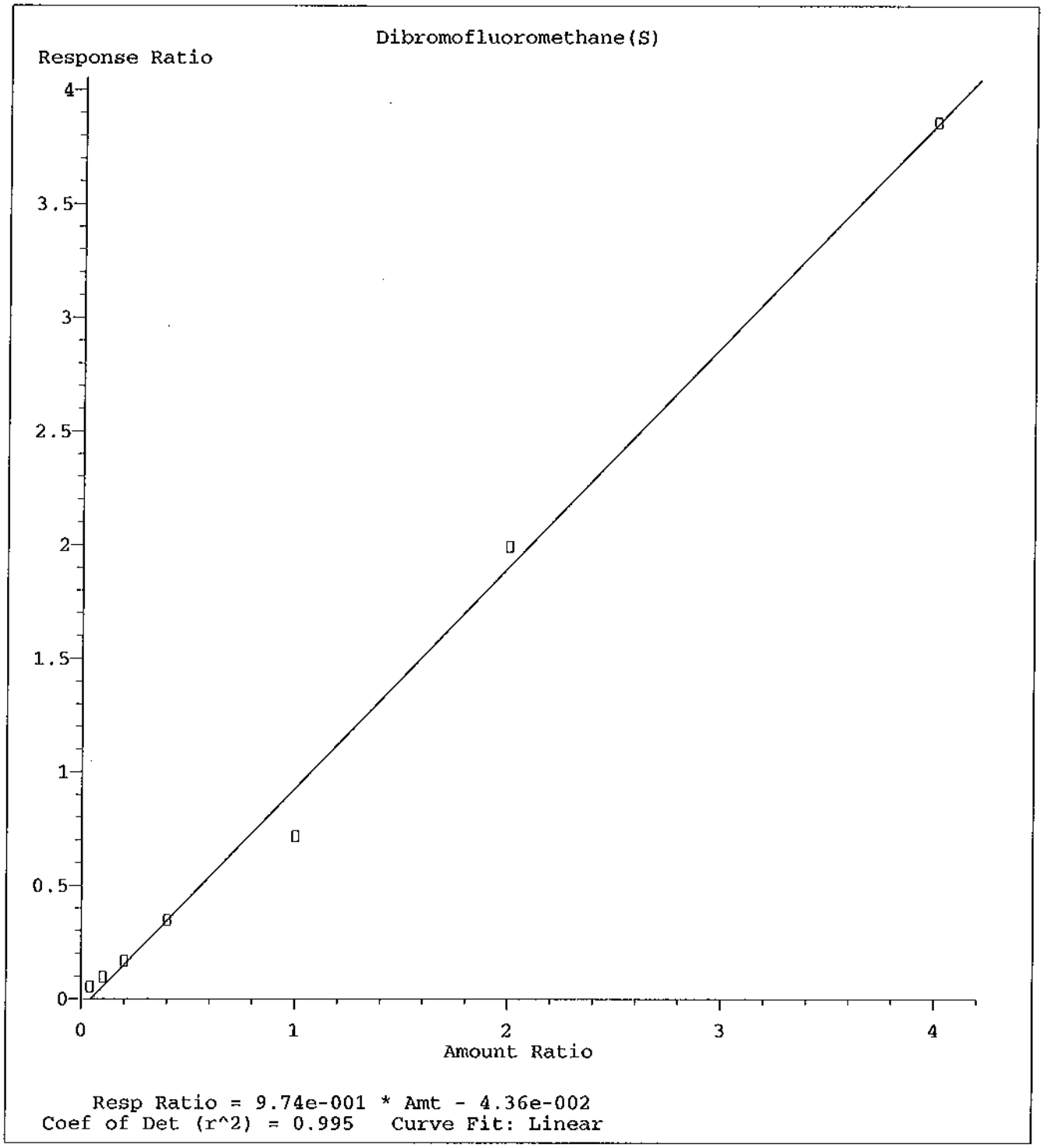
Method Name: M:\NEO\DATA\N120229\NALLS.M
Calibration Table Last Updated: Mon Mar 12 13:19:57 2012



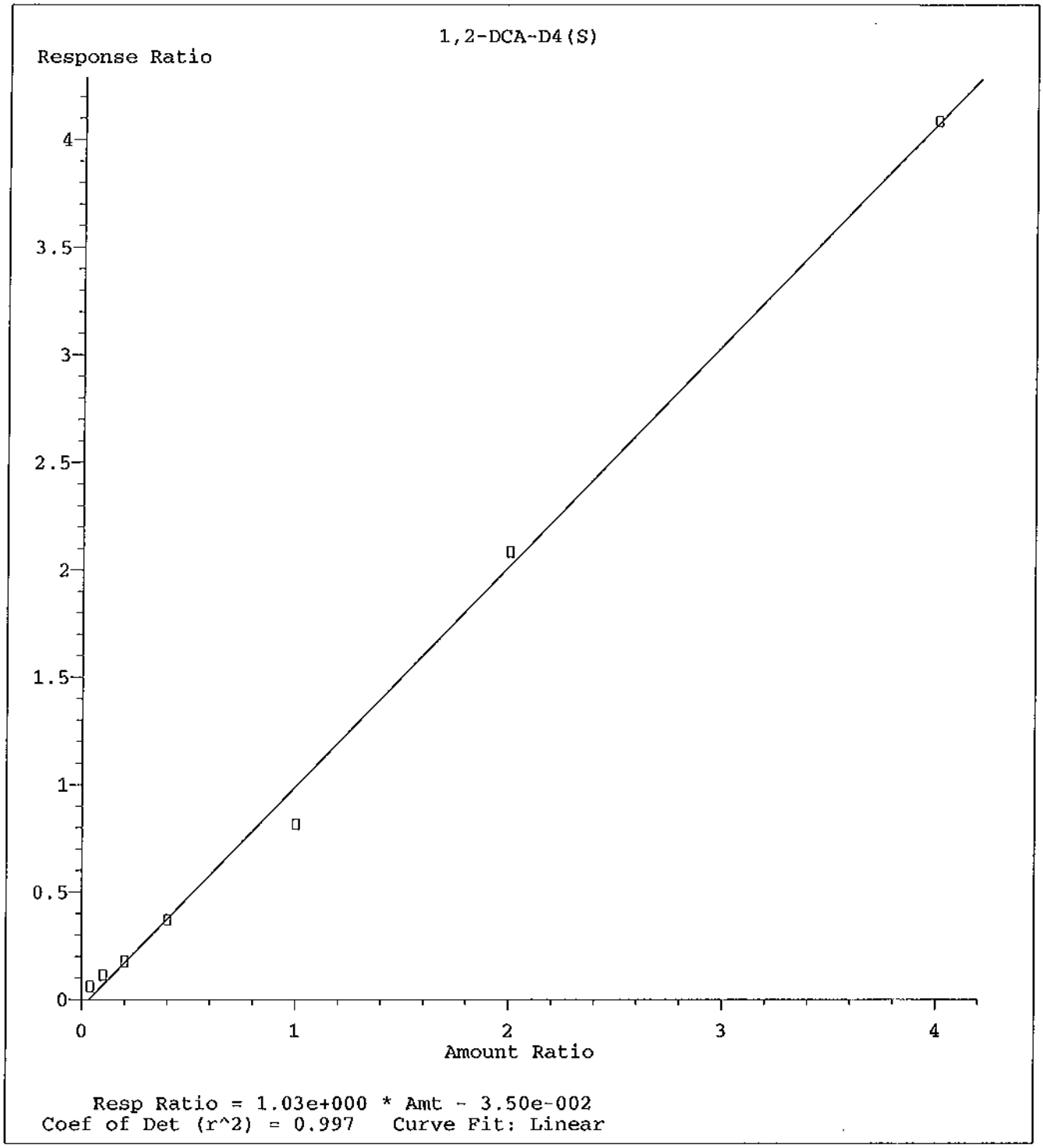
Method Name: M:\NEO\DATA\N120229\NALLS.M
Calibration Table Last Updated: Tue Mar 13 09:58:02 2012



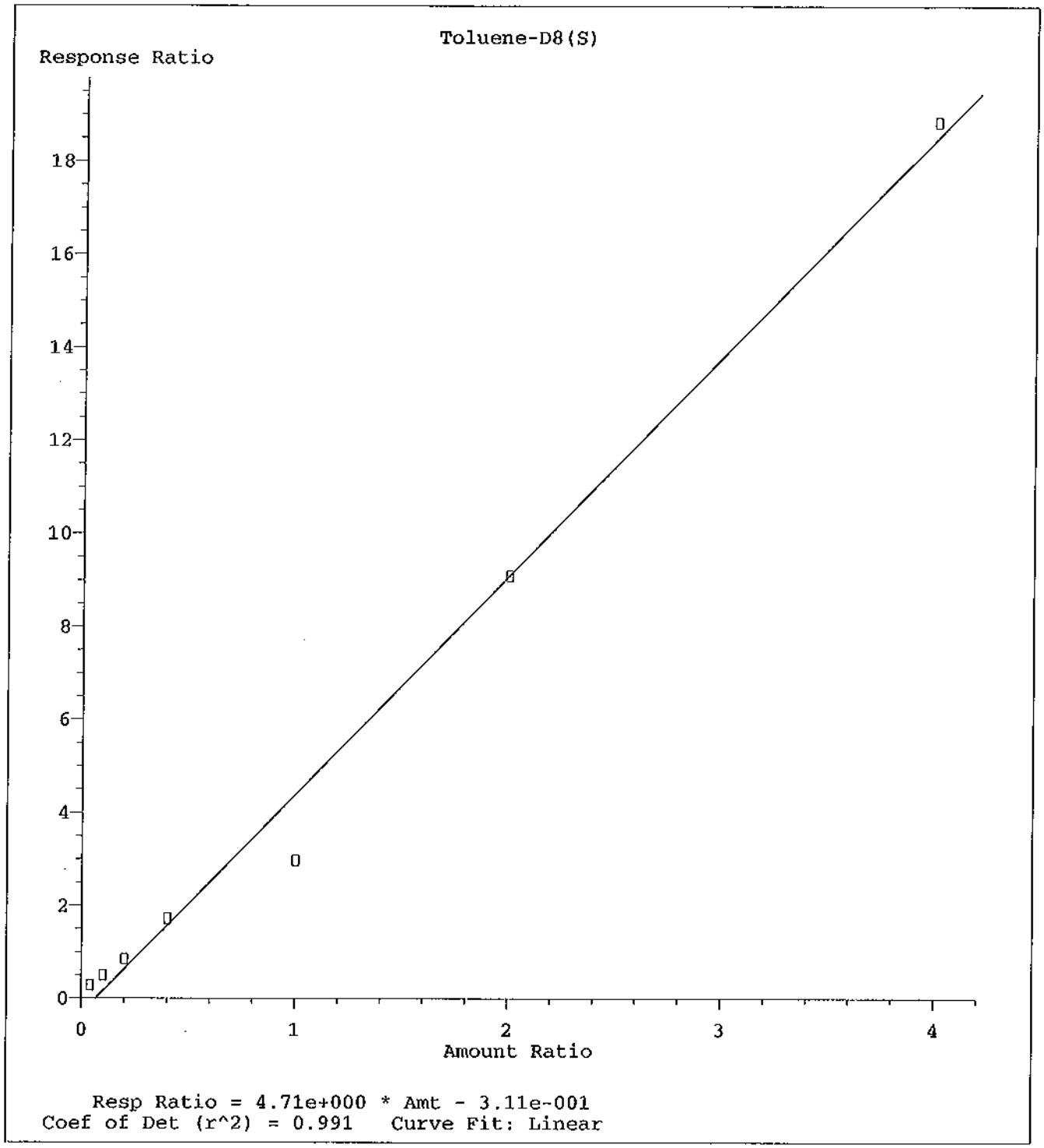
Method Name: M:\NEO\DATA\N120229\NALLS.M
Calibration Table Last Updated: Tue Mar 13 09:58:02 2012



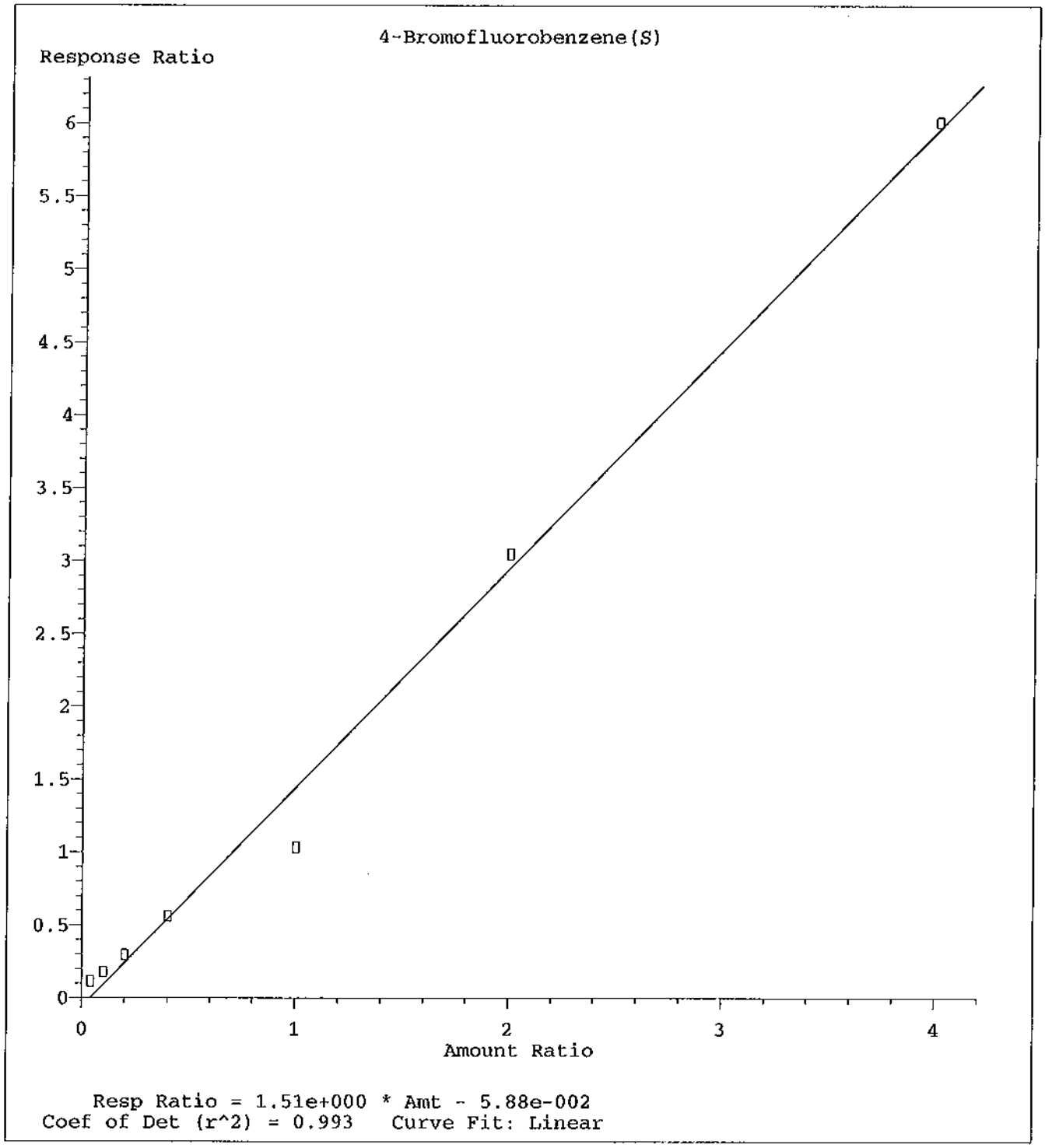
Method Name: M:\NEO\DATA\N120229\NALLS.M
Calibration Table Last Updated: Tue Mar 13 09:58:02 2012



Method Name: M:\NEO\DATA\N120229\NALLS.M
Calibration Table Last Updated: Tue Mar 13 09:58:02 2012



Method Name: M:\NEO\DATA\N120229\NALLS.M
Calibration Table Last Updated: Tue Mar 13 09:58:02 2012



Method Name: M:\NEO\DATA\N120229\NALLS.M
Calibration Table Last Updated: Tue Mar 13 09:58:02 2012

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N16S.D Vial: 1
Acq On : 29 Feb 12 20:24 Operator: SV,DG,RS
Sample : 120229A LCS-1SN (SS) Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:22 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	13.26	96	348992	50.00000 ppb		0.00
51) Chlorobenzene-D5 (IS)	18.43	117	255104	50.00000 ppb		0.00
67) 1,4-Dichlorobenzene-D (IS)	22.62	152	111496	50.00000 ppb		0.00
System Monitoring Compounds						
30) Dibromofluoromethane(S)	11.85	111	269823	41.92394 ppb		0.00
Spiked Amount 41.312			Recovery = 101.482%			
34) 1,2-DCA-D4(S)	12.65	65	304442	44.15068 ppb		0.00
Spiked Amount 41.649			Recovery = 106.009%			
52) Toluene-D8(S)	15.90	98	837690	38.17601 ppb		0.00
Spiked Amount 35.274			Recovery = 108.226%			
60) 4-Bromofluorobenzene(S)	20.49	95	296466	40.55048 ppb		0.00
Spiked Amount 35.584			Recovery = 113.957%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.54	85	499418	39.84731 ppb		94
3) Chloromethane	5.05	50	753955	44.47135 ppb		99
4) Vinyl chloride	5.29	62	150464	43.80857 ppb		100
5) Bromomethane	6.23	94	240201	48.88920 ppb		90
6) Chloroethane	6.41	64	325801	49.16708 ppb		97
7) Dichlorofluoromethane	6.51	67	922355	47.48710 ppb		97
8) Trichlorofluoromethane	7.04	101	436531	43.64430 ppb		94
9) Acrolein	7.66	56	232768	247.00248 ppb		97
10) Acetone	7.78	43	134032	47.76011 ppb		87
11) Freon-113	7.94	101	338973	42.52844 ppb		96
12) 1,1-DCE	8.18	96	310792	45.67482 ppb		99
13) t-Butanol	8.30	59	30808	226.74621 ppb	#	89
14) Methyl Acetate	8.66	43	384432	47.02747 ppb		97
15) Iodomethane	8.66	142	252617	49.55265 ppb		97
16) Acrylonitrile	9.05	53	129854	52.27442 ppb		95
17) Methylene chloride	8.96	86	254159	54.99075 ppb		93
18) Carbon disulfide	9.07	76	1340837	45.50768 ppb		100
19) Methyl t-butyl ether (MtBE	9.36	73	930651	59.14317 ppb		96
20) Trans-1,2-DCE	9.57	96	363743	49.23157 ppb		93
21) Diisopropyl Ether	10.21	45	1791842	58.20312 ppb		99
22) 1,1-DCA	10.25	63	785764	52.17028 ppb		99
23) Vinyl Acetate	10.21	43	1390318	57.58712 ppb		98
24) Ethyl tert Butyl Ether	10.89	59	1295841	58.43451 ppb		96
25) MEK (2-Butanone)	10.87	43	318875	46.73025 ppb		96
26) Cis-1,2-DCE	11.26	96	404674	53.49939 ppb		94
27) 2,2-Dichloropropane	11.25	77	540238	46.99320 ppb		99
28) Chloroform	11.53	83	673909	54.10536 ppb		95
29) Bromochloromethane	11.76	128	127042	51.14338 ppb		89
31) 1,1,1-TCA	12.27	97	533764	46.72086 ppb		97
32) Cyclohexane	12.44	56	670844	41.97403 ppb		97
33) 1,1-Dichloropropene	12.53	75	526151	47.01246 ppb		96
35) Carbon Tetrachloride	12.72	117	420991	49.30086 ppb		99
36) Tert Amyl Methyl Ether	12.76	73	999922	59.79772 ppb		96
37) 1,2-DCA	12.80	62	462907	54.04069 ppb		97
38) Benzene	12.92	78	1442661	49.22566 ppb		97
39) TCE	13.95	95	347716	46.98468 ppb		95
40) 2-Pentanone	13.59	43	1541256	253.97274 ppb		96
41) 1,2-Dichloropropane	14.16	63	422245	53.51438 ppb		98
42) Bromodichloromethane	14.52	83	515833	58.12690 ppb	#	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0229N16S.D Vial: 1
Acq On : 29 Feb 12 20:24 Operator: SV,DG,RS
Sample : 120229A LCS-1SN (SS) Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:22 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	Dibromomethane	14.58	93	222196	55.43449	ppb		98
44)	Methyl Cyclohexane	14.23	83	536450	41.83395	ppb		95
45)	2-Chloroethyl vinyl ether	14.95	63	197716	54.52350	ppb		100
46)	1-Bromo-2-chloroethane	15.28	63	470738	53.06981	ppb		95
47)	Cis-1,3-Dichloropropene	15.39	75	627514	57.86332	ppb		97
48)	Toluene	16.03	91	1438049	51.30999	ppb		99
49)	Trans-1,3-Dichloropropene	16.18	75	505598	54.85313	ppb		94
50)	1,1,2-TCA	16.46	83	235643	56.92510	ppb		94
53)	1,2-EDB	17.72	107	274138	53.74122	ppb	#	92
54)	Tetrachloroethene	17.18	129	221420	43.51831	ppb		98
55)	1-Chlorohexane	18.08	91	494992	43.61911	ppb		94
56)	1,1,1,2-Tetrachloroethane	18.54	131	285558	54.20577	ppb		95
57)	m&p-Xylene	18.74	106	1059565	98.13420	ppb		99
58)	o-Xylene	19.49	106	513606	52.09033	ppb		100
59)	Styrene	19.50	78	516357	51.20294	ppb		93
61)	2-Hexanone	16.48	43	278706	49.69261	ppb		92
62)	1,3-Dichloropropane	16.88	76	484520	54.66925	ppb		98
63)	Dibromochloromethane	17.36	129	323433	53.61001	ppb		98
64)	Chlorobenzene	18.50	112	830848	52.63477	ppb		96
65)	Ethylbenzene	18.59	91	1545697	48.69569	ppb		98
66)	Bromoform	20.03	173	203549	56.34081	ppb		97
68)	MIBK (methyl isobutyl keto	15.06	43	389036	49.16985	ppb		99
69)	Isopropylbenzene	20.11	105	1316676	47.89121	ppb		98
70)	1,1,2,2-Tetrachloroethane	20.28	83	340818	54.48460	ppb		99
71)	1,2,3-Trichloropropane	20.52	110	75886	52.44994	ppb		98
72)	t-1,4-Dichloro-2-Butene	20.59	53	107904	51.32034	ppb		97
73)	Bromobenzene	20.87	156	306271	54.15940	ppb		98
74)	n-Propylbenzene	20.82	91	1769391	48.41531	ppb		99
75)	2-Chlorotoluene	21.12	91	1137814	49.48084	ppb		99
76)	1,3,5-Trimethylbenzene	21.09	105	1041488	48.66507	ppb		96
77)	4-Chlorotoluene	21.20	91	960900	49.81549	ppb		98
78)	Tert-Butylbenzene	21.75	119	1001249	47.31826	ppb		99
79)	1,2,4-Trimethylbenzene	21.81	105	1052711	49.52299	ppb		98
80)	Sec-Butylbenzene	22.14	105	1412680	45.70102	ppb		98
81)	p-Isopropyltoluene	22.36	119	1087533	46.73587	ppb		97
82)	Benzyl Chloride	22.80	91	494074	45.60699	ppb		96
83)	1,3-DCB	22.51	146	524956	50.71185	ppb		97
84)	1,4-DCB	22.67	146	504262	50.06678	ppb		96
85)	n-Butylbenzene	23.06	91	1124127	43.04435	ppb		99
86)	1,2-DCB	23.30	146	471498	51.44321	ppb		98
87)	1,2-Dibromo-3-chloropropan	24.50	155	44638	51.58546	ppb		95
88)	1,2,4-Trichlorobenzene	25.94	180	266111	43.20498	ppb		93
89)	Hexachlorobutadiene	26.18	225	85872	46.03146	ppb		98
90)	Naphthalene	26.28	128	546100	47.77750	ppb		99
91)	1,2,3-Trichlorobenzene	26.65	180	251499	48.76995	ppb		93

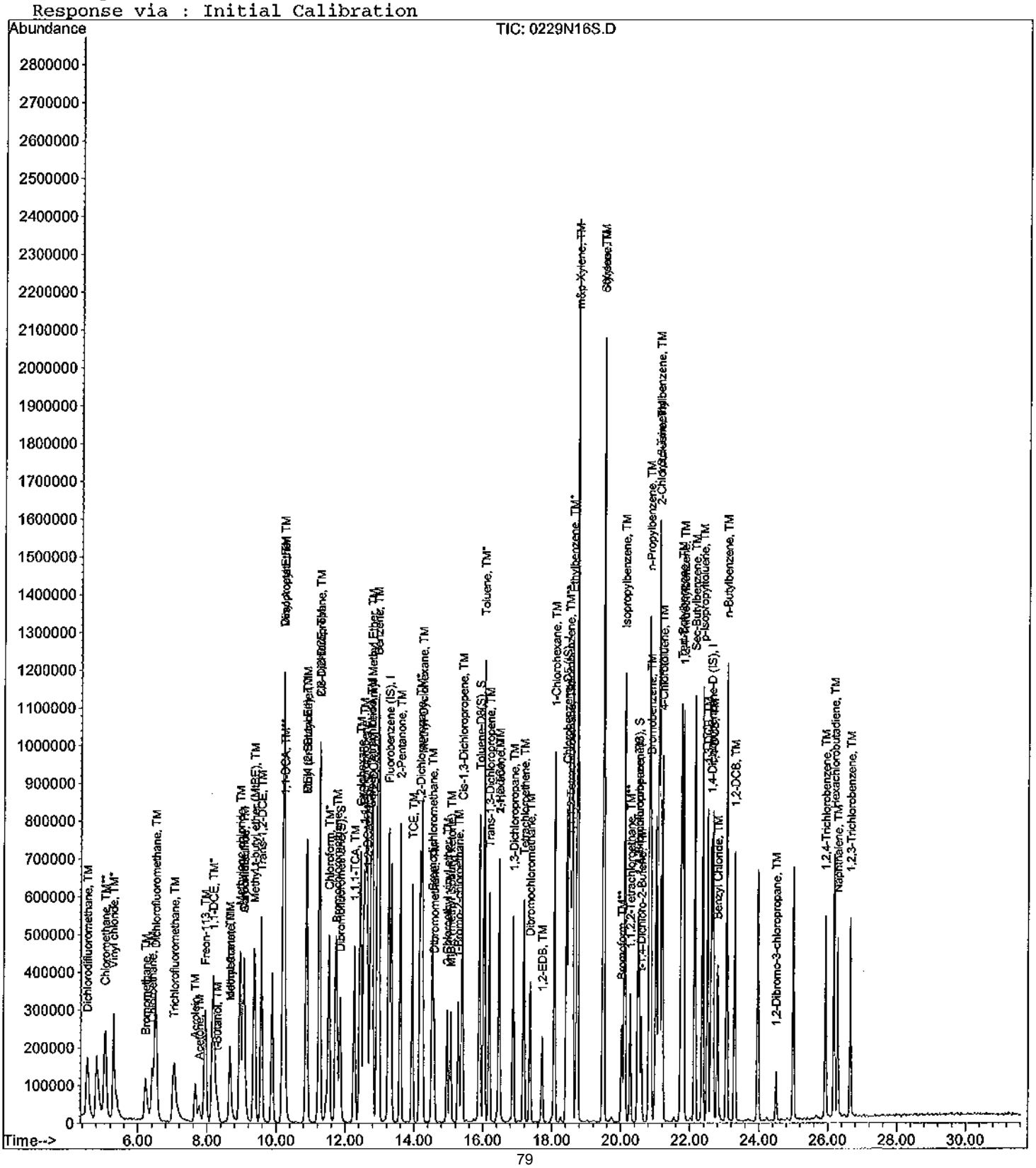
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\NEO\DATA\N120229\0229N16S.D Vial: 1
Acq On : 29 Feb 12 20:24 Operator: SV,DG,RS
Sample : 120229A LCS-1SN (SS) Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 13:22 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0301N06S.D Vial: 1
Acq On : 1 Mar 12 13:45 Operator: SV,DG,RS
Sample : 50ug/L VOC STD 03-01-12 Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 14:04 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	13.25	96	329024	50.00000 ppb	0.00
51) Chlorobenzene-D5 (IS)	18.43	117	249984	50.00000 ppb	0.00
67) 1,4-Dichlorobenzene-D (IS)	22.62	152	109992	50.00000 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane(S)	11.85	111	236228	39.09130 ppb	0.00
Spiked Amount 41.312			Recovery = 94.625%		
34) 1,2-DCA-D4(S)	12.65	65	268289	41.37999 ppb	0.00
Spiked Amount 41.649			Recovery = 99.355%		
52) Toluene-D8(S)	15.90	98	745017	34.95294 ppb	0.00
Spiked Amount 35.274			Recovery = 99.089%		
60) 4-Bromofluorobenzene(S)	20.50	95	258205	36.25772 ppb	0.00
Spiked Amount 35.584			Recovery = 101.895%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.52	85	495804	41.95974 ppb	100
3) Chloromethane	5.04	50	737225	46.12357 ppb	100
4) Vinyl chloride	5.27	62	156288	48.26586 ppb	100
5) Bromomethane	6.21	94	211255	45.89798 ppb	100
6) Chloroethane	6.39	64	292549	46.82831 ppb	100
7) Dichlorofluoromethane	6.49	67	897486	49.01095 ppb	100
8) Trichlorofluoromethane	7.02	101	431350	45.74358 ppb	100
9) Acrolein	7.64	56	217621	244.94395 ppb	100
10) Acetone	7.76	43	120698	45.39161 ppb	100
11) Freon-113	7.95	101	329069	43.79144 ppb	100
12) 1,1-DCE	8.17	96	299776	46.72957 ppb	100
13) t-Butanol	8.27	59	32024	250.00000 ppb	100
14) Methyl Acetate	8.66	43	352715	45.60280 ppb	100
15) Iodomethane	8.66	142	223076	46.68943 ppb	100
16) Acrylonitrile	9.03	53	109038	46.55858 ppb	100
17) Methylene chloride	8.95	86	254818	58.47930 ppb	100
18) Carbon disulfide	9.06	76	1276380	45.94905 ppb	100
19) Methyl t-butyl ether (MtBE	9.37	73	820318	55.29526 ppb	100
20) Trans-1,2-DCE	9.56	96	348259	49.99647 ppb	100
21) Diisopropyl Ether	10.20	45	1643479	56.62375 ppb	100
22) 1,1-DCA	10.24	63	737299	51.92333 ppb	100
23) Vinyl Acetate	10.20	43	1281677	56.30898 ppb	100
24) Ethyl tert Butyl Ether	10.88	59	1176678	56.28118 ppb	100
25) MEK (2-Butanone)	10.86	43	292240	45.42608 ppb	100
26) Cis-1,2-DCE	11.26	96	369788	51.85423 ppb	100
27) 2,2-Dichloropropane	11.26	77	524247	48.36974 ppb	100
28) Chloroform	11.52	83	628700	53.53902 ppb	100
29) Bromochloromethane	11.77	128	113436	48.43741 ppb	100
31) 1,1,1-TCA	12.27	97	481134	44.66996 ppb	100
32) Cyclohexane	12.44	56	667858	44.32320 ppb	100
33) 1,1-Dichloropropene	12.53	75	494753	46.88986 ppb	100
35) Carbon Tetrachloride	12.72	117	402263	49.96658 ppb	100
36) Tert Amyl Methyl Ether	12.76	73	871205	55.26202 ppb	100
37) 1,2-DCA	12.79	62	437073	54.12139 ppb	100
38) Benzene	12.92	78	1420634	51.41589 ppb	100
39) TCE	13.94	95	333924	47.85939 ppb	100
40) 2-Pentanone	13.60	43	1454925	254.29676 ppb	100
41) 1,2-Dichloropropane	14.17	63	407549	54.78652 ppb	100
42) Bromodichloromethane	14.52	83	455265	54.41519 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0301N06S.D Vial: 1
Acq On : 1 Mar 12 13:45 Operator: SV,DG,RS
Sample : 50ug/L VOC STD 03-01-12 Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 14:04 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43)	Dibromomethane	14.58	93	198994	52.65889 ppb	100
44)	Methyl Cyclohexane	14.23	83	519422	42.96431 ppb	100
45)	2-Chloroethyl vinyl ether	14.96	63	199752	58.42799 ppb	100
46)	1-Bromo-2-chloroethane	15.28	63	459110	54.90007 ppb	100
47)	Cis-1,3-Dichloropropene	15.40	75	568723	55.62482 ppb	100
48)	Toluene	16.03	91	1296339	49.06081 ppb	100
49)	Trans-1,3-Dichloropropene	16.19	75	470740	54.17077 ppb	100
50)	1,1,2-TCA	16.46	83	221609	56.78382 ppb	100
53)	1,2-EDB	17.72	107	244488	48.91036 ppb	100
54)	Tetrachloroethene	17.18	129	213626	42.84640 ppb	100
55)	1-Chlorohexane	18.08	91	483138	43.44651 ppb	100
56)	1,1,1,2-Tetrachloroethane	18.54	131	256685	49.72293 ppb	100
57)	m&p-Xylene	18.75	106	961776	90.90165 ppb	100
58)	o-Xylene	19.49	106	465713	48.20038 ppb	100
59)	Styrene	19.50	78	483515	48.92827 ppb	100
61)	2-Hexanone	16.47	43	259384	47.19476 ppb	100
62)	1,3-Dichloropropane	16.88	76	447800	51.56091 ppb	100
63)	Dibromochloromethane	17.37	129	301490	50.99641 ppb	100
64)	Chlorobenzene	18.50	112	755876	48.86599 ppb	100
65)	Ethylbenzene	18.60	91	1450384	46.62880 ppb	100
66)	Bromoform	20.03	173	178400	50.39112 ppb	100
68)	MIBK (methyl isobutyl keto	15.05	43	357861	45.84814 ppb	100
69)	Isopropylbenzene	20.11	105	1173306	43.25999 ppb	100
70)	1,1,2,2-Tetrachloroethane	20.28	83	294139	47.66527 ppb	100
71)	1,2,3-Trichloropropane	20.54	110	64026	44.85780 ppb	100
72)	t-1,4-Dichloro-2-Butene	20.61	53	98810	47.63773 ppb	100
73)	Bromobenzene	20.86	156	273283	48.98676 ppb	100
74)	n-Propylbenzene	20.82	91	1575246	43.69236 ppb	100
75)	2-Chlorotoluene	21.13	91	1041012	45.89017 ppb	100
76)	1,3,5-Trimethylbenzene	21.10	105	990496	46.91524 ppb	100
77)	4-Chlorotoluene	21.21	91	899597	47.27510 ppb	100
78)	Tert-Butylbenzene	21.76	119	900256	43.12717 ppb	100
79)	1,2,4-Trimethylbenzene	21.82	105	942241	44.93222 ppb	100
80)	Sec-Butylbenzene	22.15	105	1292687	42.39100 ppb	100
81)	p-Isopropyltoluene	22.37	119	966560	42.10512 ppb	100
82)	Benzyl Chloride	22.80	91	506840	47.42512 ppb	100
83)	1,3-DCB	22.51	146	488724	47.85733 ppb	100
84)	1,4-DCB	22.68	146	475114	47.81778 ppb	100
85)	n-Butylbenzene	23.07	91	1059371	41.11942 ppb	100
86)	1,2-DCB	23.30	146	439458	48.60308 ppb	100
87)	1,2-Dibromo-3-chloropropan	24.50	155	35138	41.16213 ppb	100
88)	1,2,4-Trichlorobenzene	25.94	180	280094	46.09703 ppb	100
89)	Hexachlorobutadiene	26.19	225	73976	40.19686 ppb	100
90)	Naphthalene	26.29	128	493542	43.76970 ppb	100
91)	1,2,3-Trichlorobenzene	26.67	180	231069	45.42092 ppb	100

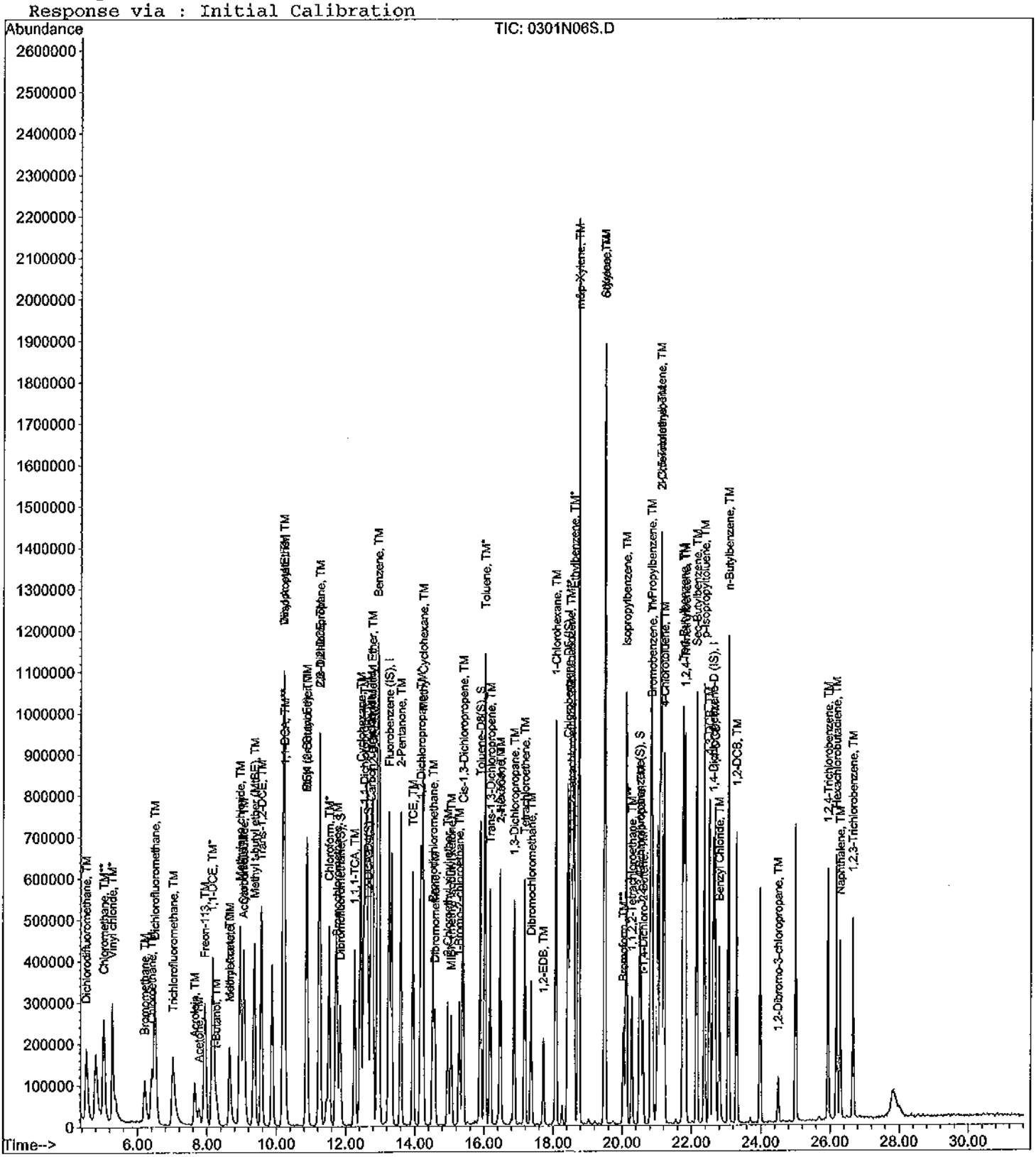
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\NEO\DATA\N120229\0301N06S.D Vial: 1
Acq On : 1 Mar 12 13:45 Operator: SV,DG,RS
Sample : 50ug/L VOC STD 03-01-12 Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 14:04 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration



EPA METHOD 8260B
Volatile Organic Compounds
Raw Data

Quantitation Report (QT Reviewed)

Data File : M:\NEO\DATA\N120229\0301N11S.D Vial: 1
Acq On : 1 Mar 12 16:56 Operator: SV,DG,RS
Sample : 120301A BLK-1SN Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 2 11:58 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Mar 02 09:20:39 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	13.25	96	291776	50.00000 ppb	0.00
51) Chlorobenzene-D5 (IS)	18.43	117	230784	50.00000 ppb	0.00
67) 1,4-Dichlorobenzene-D (IS)	22.62	152	102528	50.00000 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane(S)	11.86	111	237717	44.05802 ppb	0.02
Spiked Amount 41.312			Recovery = 106.648%		
34) 1,2-DCA-D4(S)	12.65	65	263117	45.58282 ppb	0.00
Spiked Amount 41.649			Recovery = 109.447%		
52) Toluene-D8(S)	15.90	98	725665	36.69573 ppb	0.00
Spiked Amount 35.274			Recovery = 104.030%		
60) 4-Bromofluorobenzene(S)	20.49	95	250107	37.94629 ppb	0.00
Spiked Amount 35.584			Recovery = 106.639%		
Target Compounds					Qvalue
17) Methylene chloride	8.96	86	6227	1.61149 ppb	86

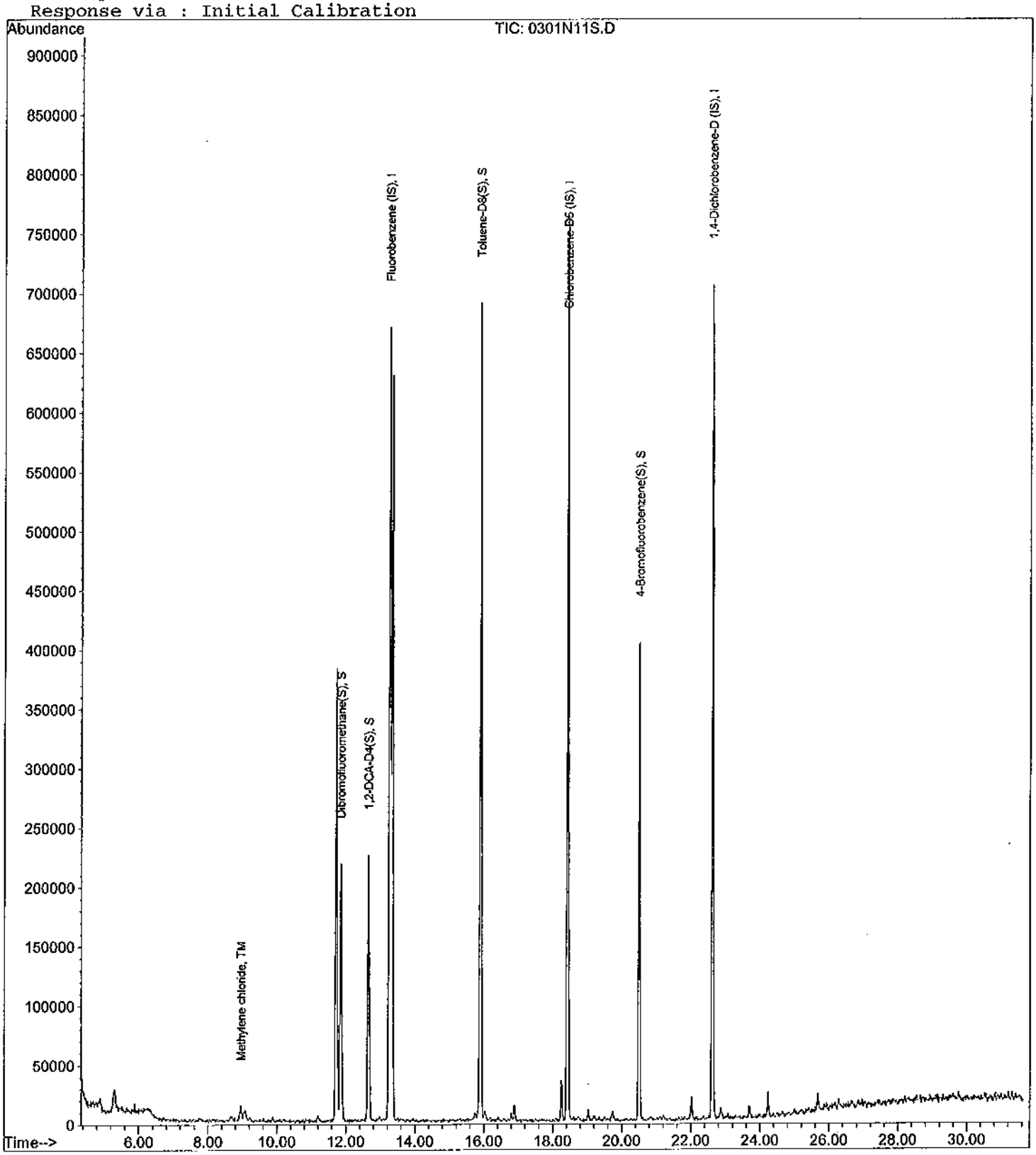
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\NEO\DATA\N120229\0301N11S.D Vial: 1
Acq On : 1 Mar 12 16:56 Operator: SV,DG,RS
Sample : 120301A BLK-1SN Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 2 11:58 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0301N07S.D Vial: 1
Acq On : 1 Mar 12 14:24 Operator: SV,DG,RS
Sample : 120301A LCS-1SN Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 14:04 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	13.25	96	292352	50.00000 ppb		0.00
51) Chlorobenzene-D5 (IS)	18.43	117	220672	50.00000 ppb		0.00
67) 1,4-Dichlorobenzene-D (IS)	22.62	152	95512	50.00000 ppb		0.00
System Monitoring Compounds						
30) Dibromofluoromethane(S)	11.86	111	229371	42.51023 ppb		0.01
Spiked Amount 41.312			Recovery	= 102.901%		
34) 1,2-DCA-D4(S)	12.64	65	251369	43.54093 ppb		0.00
Spiked Amount 41.649			Recovery	= 104.544%		
52) Toluene-D8(S)	15.90	98	723754	38.13409 ppb		0.00
Spiked Amount 35.274			Recovery	= 108.107%		
60) 4-Bromofluorobenzene(S)	20.51	95	247573	39.21425 ppb		0.01
Spiked Amount 35.584			Recovery	= 110.202%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.52	85	483254	46.02775 ppb		98
3) Chloromethane	5.04	50	718172	50.56765 ppb		98
4) Vinyl chloride	5.27	62	145856	50.69442 ppb		97
5) Bromomethane	6.21	94	212131	51.30590 ppb		92
6) Chloroethane	6.39	64	287842	51.85439 ppb		93
7) Dichlorofluoromethane	6.49	67	884058	54.33350 ppb		99
8) Trichlorofluoromethane	7.00	101	418969	50.00388 ppb		98
9) Acrolein	7.65	56	209437	265.30219 ppb		99
10) Acetone	7.77	43	116934	49.95032 ppb		99
11) Freon-113	7.95	101	315951	47.31987 ppb		92
12) 1,1-DCE	8.17	96	296986	52.10176 ppb		92
13) t-Butanol	8.26	59	32576	286.20927 ppb		95
14) Methyl Acetate	8.66	43	342779	50.43949 ppb		93
15) Iodomethane	8.66	142	229261	53.32084 ppb	#	94
16) Acrylonitrile	9.03	53	110387	53.04705 ppb		89
17) Methylene chloride	8.94	86	246596	63.69122 ppb		94
18) Carbon disulfide	9.05	76	1287298	52.15515 ppb		99
19) Methyl t-butyl ether (MtBE	9.37	73	800239	60.70814 ppb		97
20) Trans-1,2-DCE	9.56	96	330732	53.43609 ppb		96
21) Diisopropyl Ether	10.20	45	1635503	63.41723 ppb		98
22) 1,1-DCA	10.25	63	741835	58.79599 ppb		99
23) Vinyl Acetate	10.20	43	1281761	63.37641 ppb		99
24) Ethyl tert Butyl Ether	10.88	59	1166016	62.76703 ppb		99
25) MEK (2-Butanone)	10.87	43	285425	49.93201 ppb	#	90
26) Cis-1,2-DCE	11.26	96	356997	56.34008 ppb		91
27) 2,2-Dichloropropane	11.26	77	497859	51.69704 ppb		98
28) Chloroform	11.53	83	607106	58.18526 ppb		100
29) Bromochloromethane	11.76	128	118020	56.71620 ppb		87
31) 1,1,1-TCA	12.27	97	487443	50.93248 ppb		94
32) Cyclohexane	12.43	56	632083	47.21094 ppb		95
33) 1,1-Dichloropropene	12.54	75	472685	50.41779 ppb		96
35) Carbon Tetrachloride	12.72	117	388744	54.34439 ppb		99
36) Tert Amyl Methyl Ether	12.76	73	905227	64.62275 ppb		98
37) 1,2-DCA	12.80	62	436250	60.79557 ppb		100
38) Benzene	12.93	78	1366459	55.65873 ppb		99
39) TCE	13.95	95	323440	52.17167 ppb		97
40) 2-Pentanone	13.60	43	1415909	278.52044 ppb		99
41) 1,2-Dichloropropane	14.17	63	399004	60.36603 ppb	#	97
42) Bromodichloromethane	14.52	83	443745	59.69128 ppb		99

$\frac{145856 \times 50}{292352 \times 0.4921} = 50.69$

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\NEO\DATA\N120229\0301N07S.D Vial: 1
Acq On : 1 Mar 12 14:24 Operator: SV,DG,RS
Sample : 120301A LCS-1SN Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 14:04 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration
DataAcq Meth : V8260

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	Dibromomethane	14.57	93	197589	58.84587 ppb		93
44)	Methyl Cyclohexane	14.23	83	504780	46.99062 ppb		95
45)	2-Chloroethyl vinyl ether	14.96	63	196512	64.69048 ppb		96
46)	1-Bromo-2-chloroethane	15.28	63	451398	60.74874 ppb		99
47)	Cis-1,3-Dichloropropene	15.40	75	550341	60.57887 ppb		96
48)	Toluene	16.03	91	1326161	56.48509 ppb		100
49)	Trans-1,3-Dichloropropene	16.19	75	454956	58.92164 ppb		97
50)	1,1,2-TCA	16.47	83	208135	60.02108 ppb		87
53)	1,2-EDB	17.72	107	240292	54.45624 ppb	#	97
54)	Tetrachloroethene	17.19	129	211347	48.01990 ppb		97
55)	1-Chlorohexane	18.09	91	468134	47.68907 ppb		98
56)	1,1,1,2-Tetrachloroethane	18.54	131	262879	57.68689 ppb		95
57)	m&p-Xylene	18.75	106	997192	106.76812 ppb		99
58)	o-Xylene	19.49	106	479693	56.24196 ppb		95
59)	Styrene	19.50	78	509692	58.42822 ppb		95
61)	2-Hexanone	16.48	43	257078	52.98836 ppb		93
62)	1,3-Dichloropropane	16.88	76	429042	55.96303 ppb		94
63)	Dibromochloromethane	17.37	129	300305	57.54323 ppb		99
64)	Chlorobenzene	18.50	112	738961	54.11812 ppb		98
65)	Ethylbenzene	18.61	91	1468015	53.46465 ppb		100
66)	Bromoform	20.03	173	174641	55.88180 ppb		97
68)	MIBK (methyl isobutyl keto	15.05	43	358443	52.88476 ppb		99
69)	Isopropylbenzene	20.12	105	1210708	51.40646 ppb		99
70)	1,1,2,2-Tetrachloroethane	20.28	83	312246	58.27060 ppb		98
71)	1,2,3-Trichloropropane	20.54	110	68324	55.12619 ppb		93
72)	t-1,4-Dichloro-2-Butene	20.60	53	100857	55.99630 ppb		96
73)	Bromobenzene	20.87	156	282247	58.26378 ppb		93
74)	n-Propylbenzene	20.83	91	1627402	51.98225 ppb		96
75)	2-Chlorotoluene	21.13	91	1061731	53.89911 ppb		99
76)	1,3,5-Trimethylbenzene	21.10	105	1055157	57.55479 ppb		97
77)	4-Chlorotoluene	21.21	91	969500	58.67261 ppb		99
78)	Tert-Butylbenzene	21.76	119	899323	49.61394 ppb		97
79)	1,2,4-Trimethylbenzene	21.82	105	990427	54.39031 ppb		98
80)	Sec-Butylbenzene	22.15	105	1335027	50.41660 ppb		97
81)	p-Isopropyltoluene	22.38	119	1015213	50.92915 ppb		99
82)	Benzyl Chloride	22.81	91	516482	55.65394 ppb		99
83)	1,3-DCB	22.51	146	501833	56.59097 ppb		99
84)	1,4-DCB	22.68	146	511189	59.24835 ppb		96
85)	n-Butylbenzene	23.07	91	1111000	49.66108 ppb		96
86)	1,2-DCB	23.30	146	448119	57.07460 ppb		92
87)	1,2-Dibromo-3-chloropropan	24.51	155	36033	48.60986 ppb		88
88)	1,2,4-Trichlorobenzene	25.94	180	288528	54.68400 ppb		98
89)	Hexachlorobutadiene	26.19	225	74048	46.33592 ppb		96
90)	Naphthalene	26.29	128	546019	55.76483 ppb		97
91)	1,2,3-Trichlorobenzene	26.66	180	251440	56.91828 ppb		98

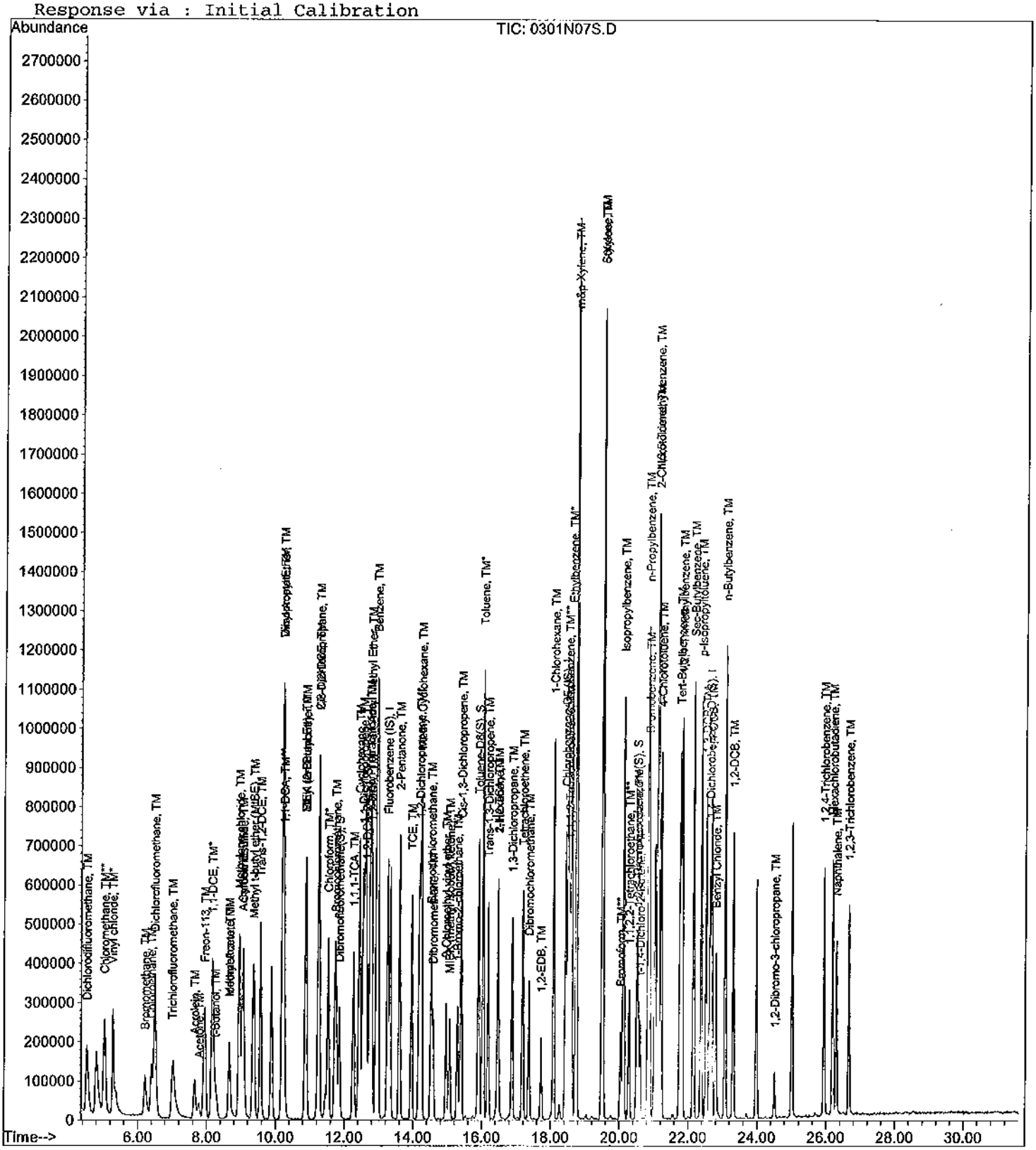
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\NEO\DATA\N120229\0301N07S.D Vial: 1
Acq On : 1 Mar 12 14:24 Operator: SV,DG,RS
Sample : 120301A LCS-1SN Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 12 14:04 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Mar 12 13:19:57 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\NEO\DATA\N120229\0301N14S.D Vial: 1
Acq On : 1 Mar 12 18:51 Operator: SV,DG,RS
Sample : AY56028S01 5.018g Inst : Neo
Misc : Soil 5mL w/ ISS:10-20-11 Multiplr: 1.00

Quant Time: Mar 6 11:56 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Mar 02 09:20:39 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	13.26	96	278848	50.00000 ppb	0.00
51) Chlorobenzene-D5 (IS)	18.43	117	200896	50.00000 ppb	0.00
67) 1,4-Dichlorobenzene-D (IS)	22.62	152	84888	50.00000 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane(S)	11.85	111	222788	43.24875 ppb	0.00
Spiked Amount 41.312			Recovery = 104.690%		
34) 1,2-DCA-D4(S)	12.65	65	250448	45.40642 ppb	0.00
Spiked Amount 41.649			Recovery = 109.022%		
52) Toluene-D8(S)	15.90	98	698909	40.24967 ppb	0.00
Spiked Amount 35.274			Recovery = 114.106%		
60) 4-Bromofluorobenzene(S)	20.50	95	224080	38.99830 ppb	0.00
Spiked Amount 35.584			Recovery = 109.595%		
Target Compounds					Qvalue
17) Methylene chloride	8.96	86	18894	5.09795 ppb	90

(#) = qualifier out of range (m) = manual integration
0301N14S.D NALLS.M Tue Mar 06 12:10:51 2012 Page 1

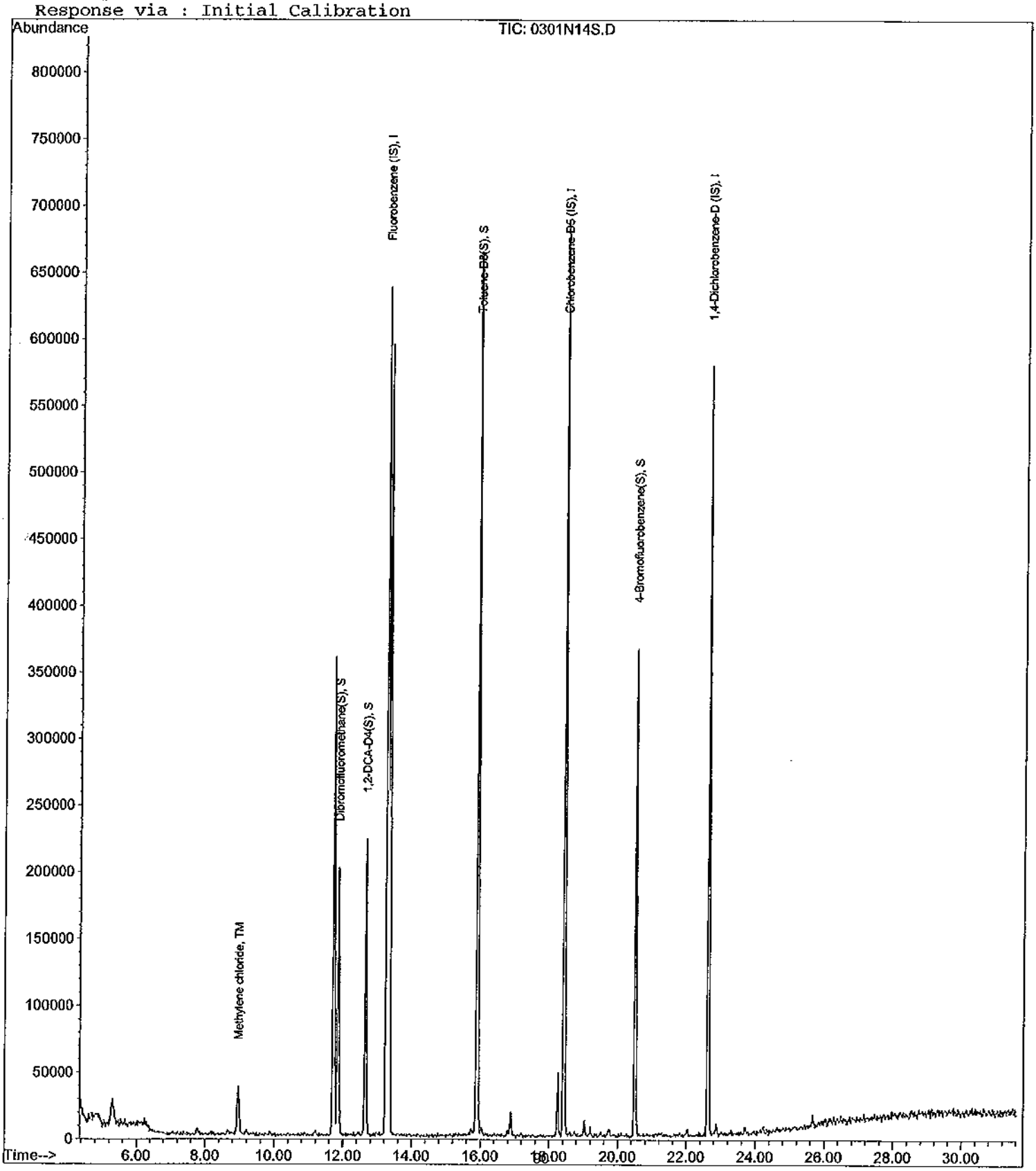
Quantitation Report

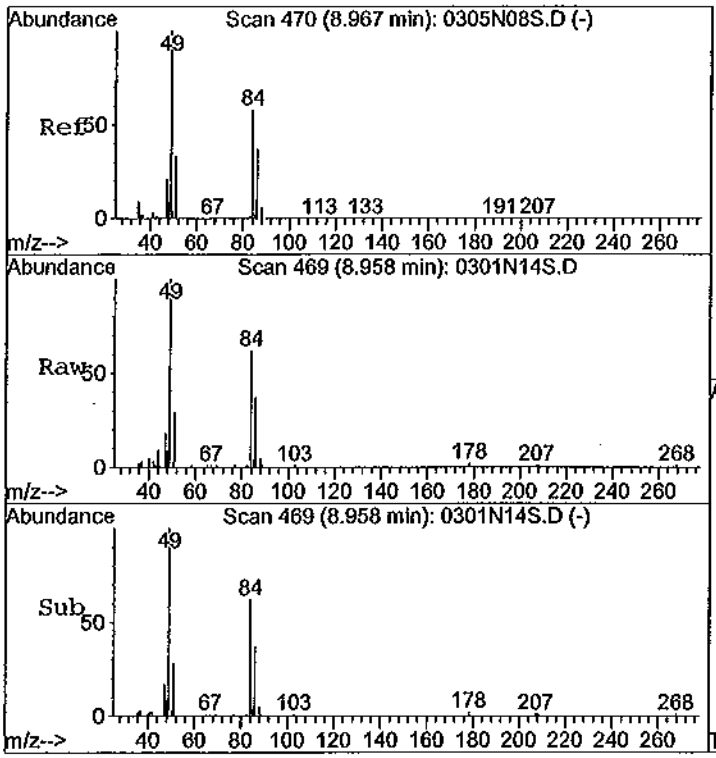
Data File : M:\NEO\DATA\N120229\0301N14S.D
Acq On : 1 Mar 12 18:51
Sample : AY56028S01 5.018g
Misc : Soil 5mL w/ ISS:10-20-11

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Quant Time: Mar 6 11:56 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120305\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Mar 06 09:39:29 2012
Response via : Initial Calibration

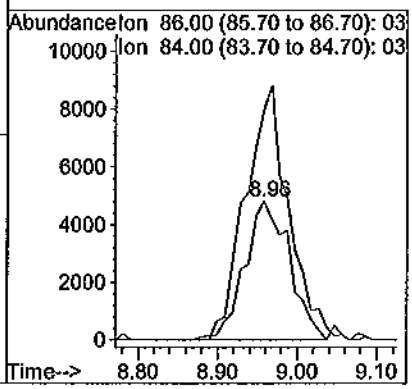




#17
Methylene chloride
Concen: 5.09795 ppb
RT: 8.96 min Scan# 469
Delta R.T. 0.01 min
Lab File: 0301N14S.D
Acq: 1 Mar 12 18:51

Tgt Ion: 86 Resp: 18894

Ion	Ratio	Lower	Upper
86	100		
84	166.4	122.5	183.7



Quantitation Report (QT Reviewed)

Data File : M:\NEO\DATA\N120229\0301N18S.D
Acq On : 1 Mar 12 21:23
Sample : AY56033S01 5.006g
Misc : Soil 5mL w/ ISS:10-20-11

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Quant Time: Mar 6 12:22 2012 Quant Results File: NALLS.RES

Quant Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Mar 02 09:20:39 2012
Response via : Initial Calibration
DataAcq Meth : V8260

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	13.26	96	303104	50.00000 ppb	0.00
51) Chlorobenzene-D5 (IS)	18.43	117	215360	50.00000 ppb	0.00
67) 1,4-Dichlorobenzene-D (IS)	22.62	152	92472	50.00000 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane(S)	11.86	111	242402	43.28845 ppb	0.02
Spiked Amount 41.312			Recovery = 104.784%		
34) 1,2-DCA-D4(S)	12.65	65	259391	43.34462 ppb	0.00
Spiked Amount 41.649			Recovery = 104.073%		
52) Toluene-D8(S)	15.90	98	735407	39.56802 ppb	0.00
Spiked Amount 35.274			Recovery = 112.172%		
60) 4-Bromofluorobenzene(S)	20.50	95	234891	38.17753 ppb	0.00
Spiked Amount 35.584			Recovery = 107.291%		
Target Compounds					Qvalue
17) Methylene chloride	8.96	86	21603	5.37528 ppb ✓	98
54) Tetrachloroethene	17.19	129	9817	2.28279 ppb ✓	94

(#) = qualifier out of range (m) = manual integration
0301N18S.D NALLS.M Tue Mar 06 12:22:59 2012

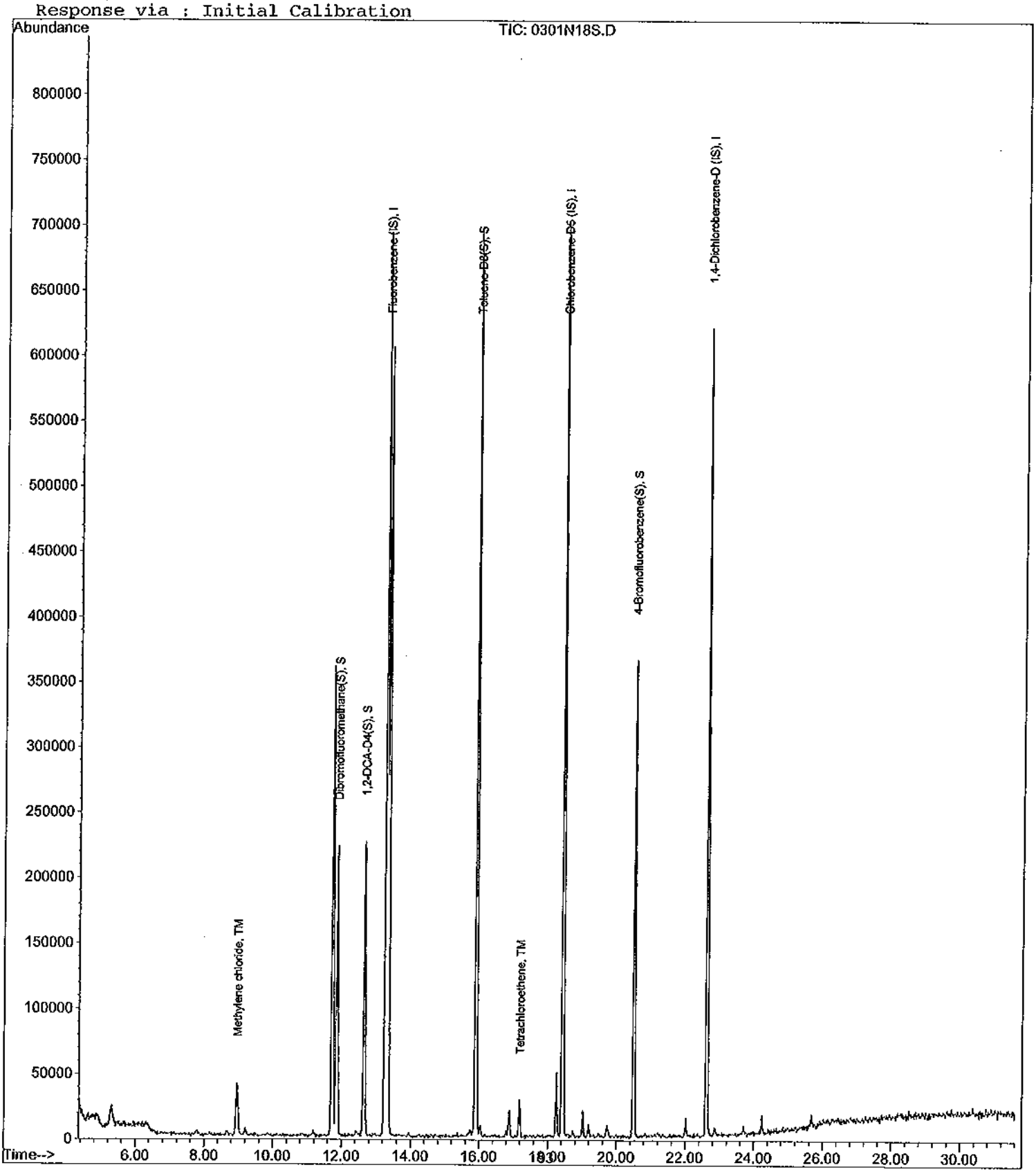
Quantitation Report

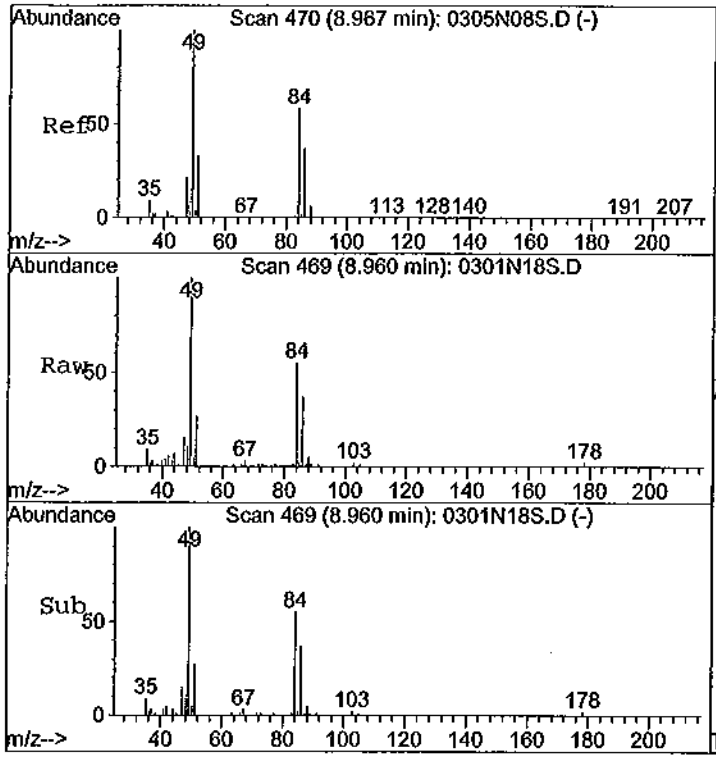
Data File : M:\NEO\DATA\N120229\0301N18S.D
Acq On : 1 Mar 12 21:23
Sample : AY56033S01 5.006g
Misc : Soil 5mL w/ ISS:10-20-11

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Quant Time: Mar 6 12:22 2012 Quant Results File: NALLS.RES

Method : M:\NEO\DATA\N120305\NALLS.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Mar 06 09:39:29 2012
Response via : Initial Calibration

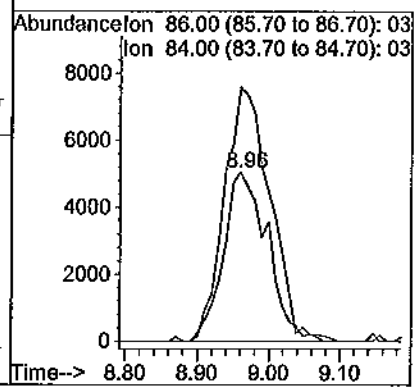


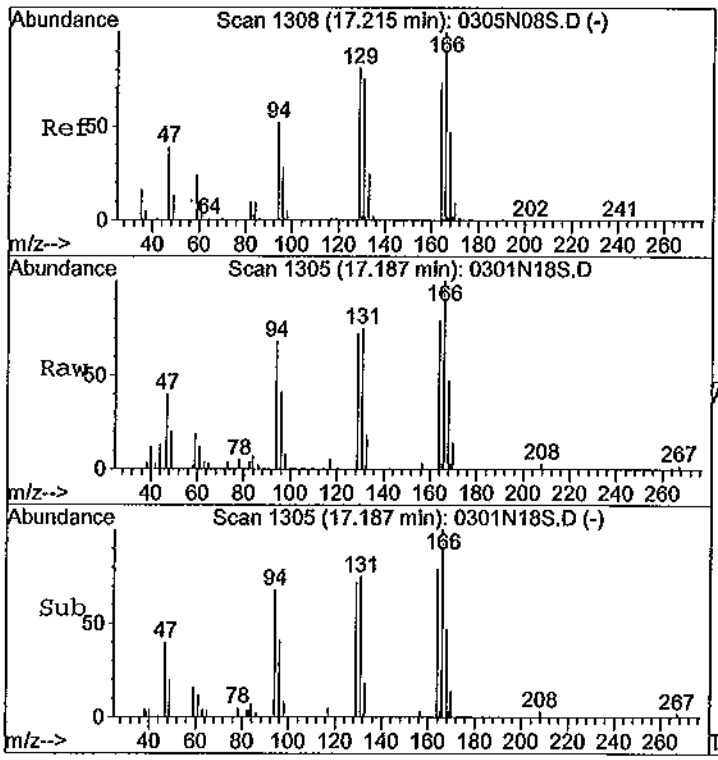


#17
Methylene chloride
Concen: 5.37528 ppb
RT: 8.96 min Scan# 469
Delta R.T. 0.01 min
Lab File: 0301N18S.D
Acq: 1 Mar 12 21:23

Tgt Ion: 86 Resp: 21603

Ion	Ratio	Lower	Upper
86	100		
84	150.2	122.5	183.7

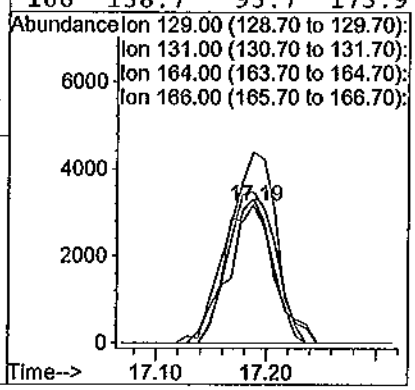




#54
Tetrachloroethene
Concen: 2.28279 ppb
RT: 17.19 min Scan# 1305
Delta R.T. 0.01 min
Lab File: 0301N18S.D
Acq: 1 Mar 12 21:23

Tgt Ion:129 Resp: 9817

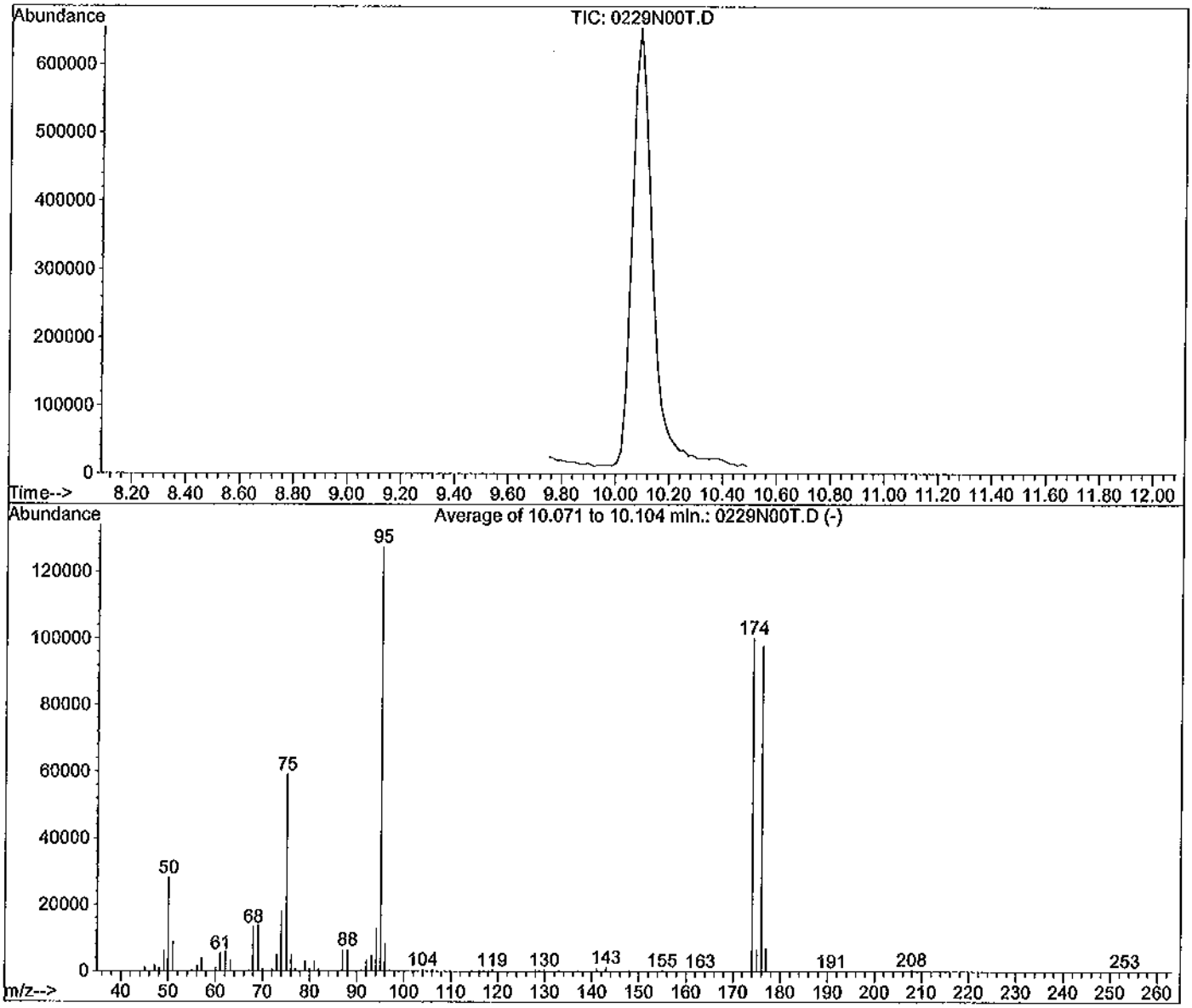
Ion	Ratio	Lower	Upper
129	100		
131	104.5	67.4	125.2
164	109.8	73.1	135.9
166	138.7	93.7	173.9



Data File : M:\NEO\DATA\N120229\0229N00T.D
Acq On : 29 Feb 12 10:15
Sample : 25ug/mL BFB Std 2-13-12
Misc : 2uL

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 10.071 to 10.104 min.

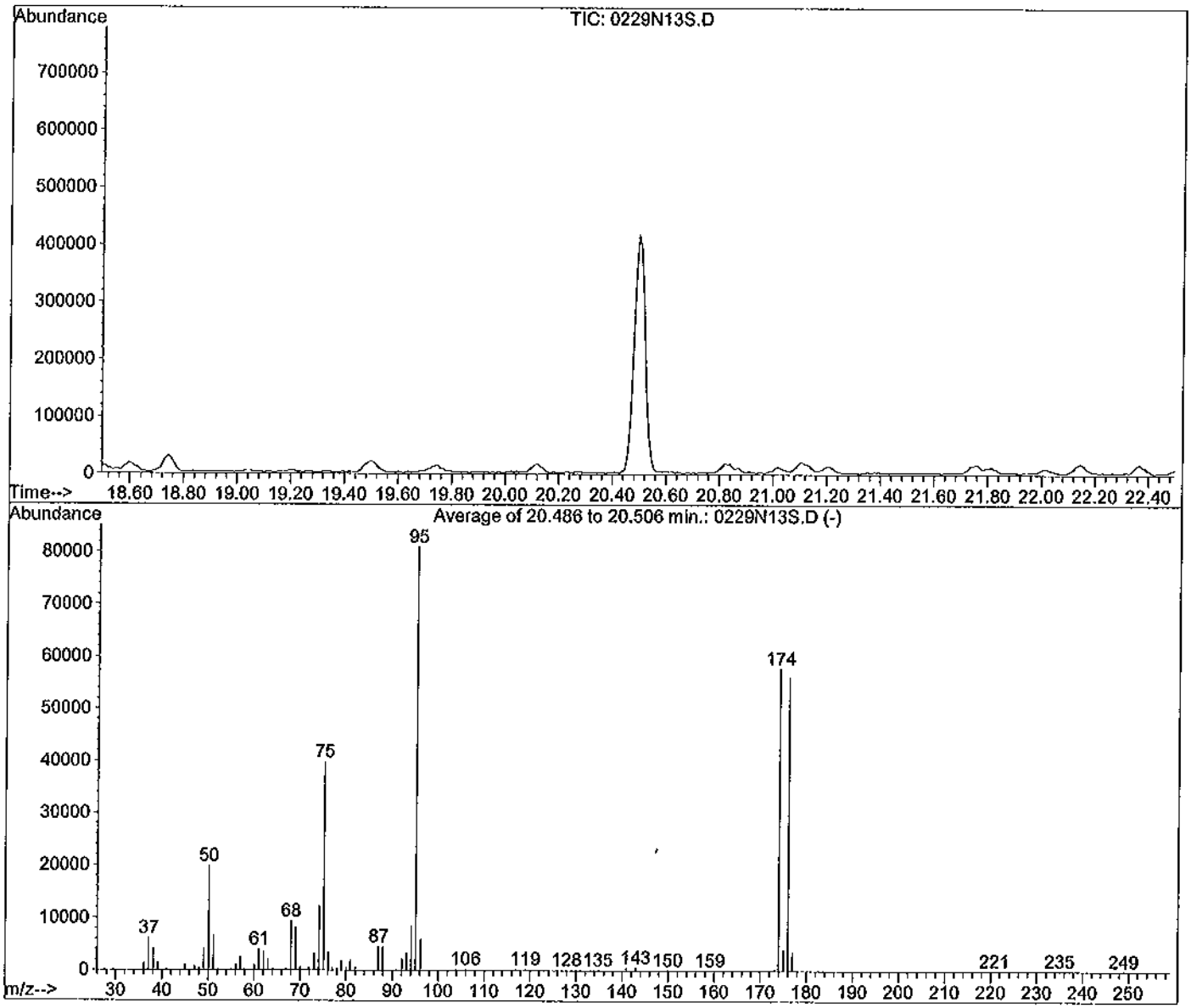
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.1	28115	PASS
75	95	30	60	46.4	59151	PASS
95	95	100	100	100.0	127493	PASS
96	95	5	9	6.5	8337	PASS
173	174	0.00	2	0.1	89	PASS
174	95	50	100	78.7	100285	PASS
175	174	5	9	6.6	6600	PASS
176	174	95	101	97.6	97909	PASS
177	176	5	9	7.2	7030	PASS

BFB

Data File : M:\NEO\DATA\N120229\0229N13S.D
Acq On : 29 Feb 12 18:31
Sample : 25ug/mL BFB Std 2-13-12
Misc : 2uL

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B



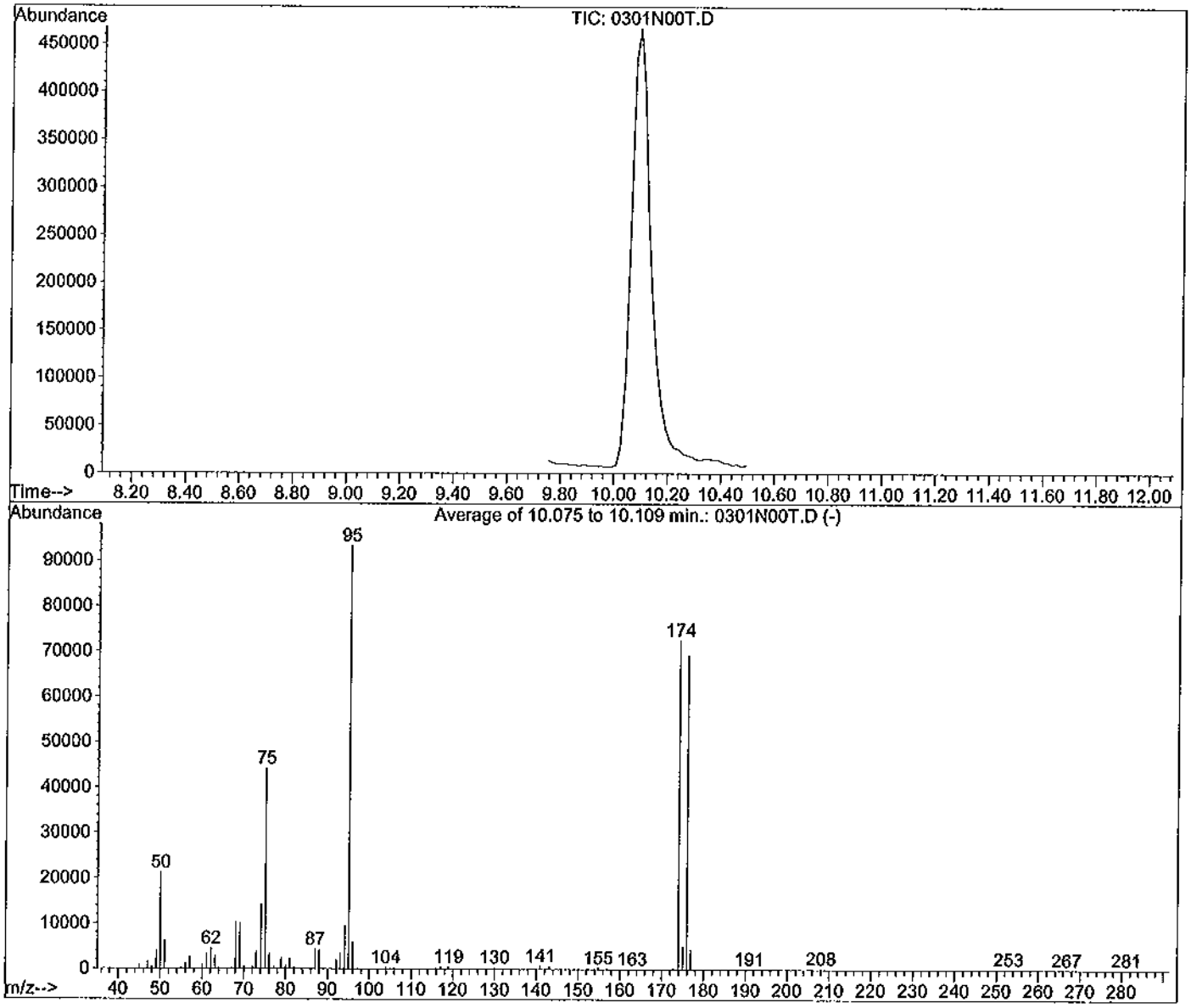
Spectrum Information: Average of 20.486 to 20.506 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.6	19884	PASS
75	95	30	60	49.2	39888	PASS
95	95	100	100	100.0	80992	PASS
96	95	5	9	7.3	5941	PASS
173	174	0.00	2	0.4	251	PASS
174	95	50	100	71.4	57829	PASS
175	174	5	9	7.1	4081	PASS
176	174	95	101	97.4	56317	PASS
177	176	5	9	6.3	3565	PASS

Data File : M:\NEO\DATA\N120229\0301N00T.D
Acq On : 1 Mar 12 9:52
Sample : 25ug/mL BFB Std 2-13-12
Misc : 2uL

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Method : M:\NEO\DATA\N120229\NALLS.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 10.075 to 10.109 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.8	21268	PASS
75	95	30	60	47.3	44216	PASS
95	95	100	100	100.0	93392	PASS
96	95	5	9	6.3	5892	PASS
173	174	0.00	2	0.3	254	PASS
174	95	50	100	77.8	72704	PASS
175	174	5	9	7.0	5077	PASS
176	174	95	101	95.3	69309	PASS
177	176	5	9	6.4	4430	PASS

Date:	Time	Initial	Sample ID		Weight (g)	Volume (ml)	Method	Balance
03/01/12	9:05	RS	AY56028	S01	5.018	5 ml of P&T H2O	8260	V-BALANCE
	9:10		AY56031	S01	5.014	5 ml of P&T H2O	8260	V-BALANCE
	9:15		AY56032	S01	5.008	5 ml of P&T H2O	8260	V-BALANCE
	9:20		AY56033	S01	5.006	5 ml of P&T H2O	8260	V-BALANCE

		02-09-12X	Exp:	02/16/12			
		5ug/ml Vol Work Std #9					
		SOURCES	Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml Vol Work Std #7		02-09-12T	02/16/12	200	
		50ug/ml Vol Work Std #8		02-09-12V	02/16/12	200	
		J&T Brand		02/04/12	06/08/12	1600	
		02-09-12Y	Exp:	02/16/12			
		5ug/ml Vol Work Std #10					
		SOURCES	Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml Vol Work Std #1		02-09-12U	02/16/12	200	
		J&T Brand		02/04/12	06/08/12	1800	
		02-09-12Z	Exp:	02/16/12			
		5ug/ml Vol Work Std #12					
		SOURCES	Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml Vol Work Std #2		02-09-12W	02/16/12	200	
		J&T Brand		02/04/12	06/08/12	1800	
02-09-12AA							
50ug/ml 8260 Surrogate			Conc.		Date	Exp.	
Exp:02/16/12			ug/ml	Lot #	Code	Date	uL
02SI	120002-01	8260B Surr Solution	2000	178653-29564	02-09-12E	04/16/12	100
J&T Brand		Purge & Trap MeOH		K07E34-00579	02/04/12	06/26/12	3900
02-09-12Q			Exp:	02/16/12			
5.0ug/ml 8260 Surrogate			Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml 8260 Surrogate		02-09-12AA	02/16/12	200	
J&T Brand		Purge & Trap MeOH		02/04/12	06/08/12	1800	
02-09-12AB							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-p							
Exp:02/16/12			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	178651-29803	02-09-12C	04/07/12	500
02SI	020229-09	Acrolein	10000	184364-30245	02-02-12I	02/25/12	100
J&T Brand		Purge & Trap MeOH		K07E34-00579	02/04/12	06/08/12	3400

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-NEO

	Expiration Date:		02/11/12							
		5µg/mL Vol Std #9	5µg/mL Surr	50µg/mL Vol Std #7	50µg/mL Vol Std #8	50µg/mL Surr	5µg/mL Vol Std #10	50µg/mL Vol Std #1	5µg/mL Vol Std #2	50µg/mL Vol Std #12
Date	Conc.	02-09-12K	02-09-12O	02-09-12G	02-09-12I	02-09-12N	02-09-12L	02-09-12H	02-09-12J	02-09-12M
Code	µg/L	Exp:02-16-12	Exp:02-16-12	Exp:02-16-12	Exp:02-16-12	Exp:02-16-12	Exp:02-16-12	Exp:02-16-12	Exp:02-16-12	Exp:02-16-12
02-10-12A	2	2	2	n/a	n/a	n/a	2	n/a	2	n/a
02-10-12B	5	5	5	n/a	n/a	n/a	5	n/a	5	n/a
02-10-12C	10	10	10	n/a	n/a	n/a	10	n/a	10	n/a
02-10-12D	20	20	20	n/a	n/a	n/a	20	n/a	20	n/a
02-10-12E	50	n/a	n/a	5	5	5	n/a	5	n/a	5
02-10-12F	100	n/a	n/a	10	10	10	n/a	10	n/a	10
02-10-12G	200	n/a	n/a	20	20	20	n/a	20	n/a	20

250µg/mL TBA	Final Vol
02-09-12P	w/P&T H2O
Exp:02-16-12	mL
1	5
2	5
3	5
4	5
5	5
6	5
7	5

02-13-12A							
25ug/ml BFB STD			Conc.		Date	EXP:	
EXP:03-13-12			ug/ml	Lot#	CODE	Date	ul
02SI	020135-03	4-Bromofluorobenzene	2500	163173-29053	01-12-12A	12/11/12	20
J&T Baker		Purge & Trap MeOH		K07E34-00574	02/02/12	09/28/12	1980
02-13-12B							
25ug/ml BFB STD			Conc.		Date	EXP:	
EXP:03-13-12			ug/ml	Lot#	CODE	Date	ul
02SI	020135-03	4-Bromofluorobenzene	2500	163173-29053	01-12-12A	12/11/12	20
J&T Baker		Purge & Trap MeOH		K07E34-00574	02/02/12	09/28/12	1980

Thor							
02-23-12D							
50ug/ml 8260 Internal Standard			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120302-03	Internal Standard Mix	2000	166255-29842	02-23-12A	12/13/12	375
02SI	020132-02	Fluorobenzene Standard	2000	169170-28866	02-23-12B	12/13/12	375
J.T Baker		Purge & Trap MeOH		K14E06-00598	02/22/12	08/10/12	14250
02-23-12E							
50ug/ml 8260B Surrogate-Thor			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	8260B Surr	Surrogate Standards	2000	178653-29563	02-23-12C	12/13/12	375
J.T Baker		Purge & Trap MeOH		K14E06-00598	02/22/12	08/10/12	14625

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-THOR

	Expiration Date:		02/24/12								
		5µg/mL Vol Std #9	5µg/mL Surr	50µg/mL Vol Std #7	50µg/mL Vol Std #8	50µg/mL Surr	5µg/mL Vol Std #10	50µg/mL Vol Std #1	50µg/mL Vol Std #2	5µg/mL Vol Std #12
Date	Conc.	02-20-12AA	02-20-12AE	02-20-12W	02-20-12Y	02-20-12AD	02-20-12AB	02-20-12X	02-20-12Z	02-20-12AC
Code	µg/L	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12
02-23-12F	0.1	1	1	n/a	n/a	n/a	1	n/a	n/a	1
02-23-12G	0.3	3	6	n/a	n/a	n/a	3	n/a	n/a	3
02-23-12H	0.5	5	10	n/a	n/a	n/a	5	n/a	n/a	5
02-23-12I	1	10	20	n/a	n/a	n/a	10	n/a	n/a	10
02-23-12J	5	n/a	n/a	5	5	10	n/a	5	5	n/a
02-23-12K	10	n/a	n/a	10	10	25	n/a	10	10	n/a
02-23-12L	40	n/a	n/a	40	40	80	n/a	40	40	n/a
02-23-12M	20	n/a	n/a	20	20	40	n/a	20	20	n/a
02-23-12N	100	n/a	n/a	100	100	100	n/a	100	100	n/a

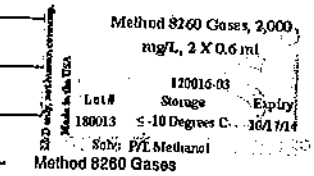
250µg/mL TAPD	Final Vol
02-20-12AF	w/P&T H2O
Exp:02-27-12	mL
3	50
3	50
5	50
10	50
20	50
25	50
35	50
30	50
40	50

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-CHICO

	Expiration Date:		02/25/12							
		5µg/mL Vol Std #9	5µg/mL Surr	50µg/mL Vol Std #7	50µg/mL Vol Std #8	50µg/mL Surr	5µg/mL Vol Std #10	50µg/mL Vol Std #1	50µg/mL Vol Std #2	5µg/mL Vol Std #12
Date	Conc.	02-20-12N	02-20-12R	02-20-12J	02-20-12L	02-20-12Q	02-20-12O	02-20-12K	02-20-12M	02-20-12P
Code	µg/L	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12	Exp:02-27-12
02-24-12A	0.3	3	6	n/a	n/a	n/a	3	n/a	n/a	3
02-24-12B	0.5	5	10	n/a	n/a	n/a	5	n/a	n/a	5
02-24-12C	1	10	20	n/a	n/a	n/a	10	n/a	n/a	10
02-24-12D	5	n/a	n/a	5	5	10	n/a	5	5	n/a
02-24-12E	10	n/a	n/a	10	10	25	n/a	10	10	n/a
02-24-12F	40	n/a	n/a	40	40	80	n/a	40	40	n/a
02-24-12G	100	n/a	n/a	100	100	100	n/a	100	100	n/a
02-24-12H	200	n/a	n/a	200	200	125	n/a	200	200	n/a

250µg/mL TAPD	Final Vol
02-20-12S	w/P&T H2O
Exp:02-27-12	mL
3	50
5	50
10	50
20	50
25	50
35	50
40	50
45	50

2/28/12 RS. A-



Method 8260 Gases
Lot #: 180013 - 29757
Rec: 10/24/11 MFR exp. 10/17/14

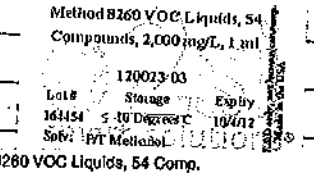
RS

2/28/12 RS B-

Lot #: 176770 - 29813
Rec: 10/24/11 MFR exp. 07/31/13

RS

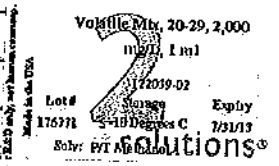
2/28/12 RS. C-



8260 VOC Liquids, 54 Comp.
Lot #: 164454 - 27877
Rec: 12/15/10 MFR exp. 10/04/12

RS

2/28/12 RS. D-

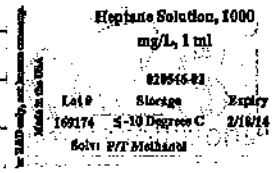


Volatile Mix, 20-29
Lot #: 176771 - 29199
Rec: 8/5/11 MFR exp. 07/31/13

RS

E-

2/28/12 RS.



Heptane Solution
Lot #: 169174 - 29251
Rec: 8/5/11 MFR exp. 02/18/14

RS

2/28/12 RS F-

Ketones Solution, 2,000 mg/L, 1 ml

121020 05

Lot #	Storage	Expiry
169173	≤ -10 Degrees C	2/13/13

Solv: P/T MeOH:Water 9:1

Ketones

Lot #: 169173 - 29215

Rec: 8/5/11 MFR exp. 02/13/13

RS

2/28/12 RS G-

8260B Surrogate Solution, 2,000 mg/L, 5 x 1 ml

120002-01-SPAK

Lot #	Storage	Expiry
178653	≤ -10 Degrees C	9/11/13

Solv: P/T Methanol

8260B Surrogate Solution

Lot #: 178653 - 29561

Rec: 9/22/11 MFR exp. 09/11/13

RS

2/28/12 RS H-

VOC Mix 4-3, 2,000 mg/L, 1 ml

120166-01

Lot #	Storage	Expiry
178651	≤ 6 Degrees C	9/11/13

Solv: P/T Methanol

VOC Mix 4-3, 2000mg/L

Lot #: 178651 - 29810

Rec: 10/24/11 MFR exp. 09/11/13

RS

2/28/12 RS I-

Acrolein Solution, 10,000 mg/L, 2 x 0.6 ml

020220-09-02

Lot #	Storage	Expiry
185699	≤ 6 Degrees C	3/24/12

Solv: Water, HPLC Grade

Acrolein

Lot #: 185699 - 30346

Rec: 2/20/12 MFR exp. 03/24/12

RS

2/28/12 RS J-

Method 8260 Gases (Second Source), 2,000 mg/L, 2 X 0.6 ml

120016 03-SS

Lot #	Storage	Expiry
168038	≤ -10 Degrees C	1/21/14

Solv: P/T Methanol

8260 Gases (SS)

Lot #: 168038 - 28747

Rec: 4/20/11 MFR exp. 01/21/14

RS

2/28/12 K-
RS.

Acrolein Solution (Second Source), 10,000 mg/L, 2 x 0.6 ml
020119-09-02-SS

Lot #	Storage	Expiry
185700	≤ 6 Degrees C	3/24/13

Soln: Water, HPLC Grade

Acrolein Solution SS
Lot #: 185700 - 30348
Rec: 2/20/12 MFR exp. 03/24/12

02-28-12L							
50ug/ml Vol Work Std #7							
Exp:03/06/12							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03	Gas Mix	2000	180013-29757	02-28-12A	03/06/12	100
O2SI	020049-02	HEXACHLOROETHANE	1000	176700-29155	02-20-12B	04/07/12	200
O2SI	020228-02	Benzyl Chloride	1000	176701-29780	02-20-12C	04/07/12	200
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	3500
02-28-12M							
50ug/ml Vol Work Std #1							
Exp:03/06/12							
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	020145-02-02	2-CEVE	2000	176770-29813	02-28-12B	07/27/12	50
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	1950
02-28-12N							
50ug/ml Vol Work Std #8							
Exp:03/06/12							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	122039-02	Volatile Mix, 20-29	2000	176771-29199	02-28-12D	04/07/12	100
O2SI	120023-03	VOC'S-54 COMP	2000	164454-27877	02-28-12C	04/07/12	100
O2SI	020232-02	Vinyl Acetate	2000	182701-30111	02-20-12D	03/11/12	100
O2SI	020620-02	n-Hexane	1000	176773-29792	02-20-12E	04/07/12	200
O2SI	020546-02	Heptane	1000	169174-29251	02-28-12E	04/07/12	200
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	3300
02-28-12O							
50ug/ml Vol Work Std #2							
Exp:03/06/12							
Supplier	ID #	ID	ug/ml				
O2SI	121020-05	HSL'S-Ketone Solution	2000	169173-29215	02-28-12F	02/08/12	100
J&T Brand		Purge & Trap MeOH		02/26/12	02/26/12	06/08/12	3900

2/28/12
RS

02-28-12P		Exp:	03/06/12		
5ug/ml Vol Work Std #9					
SOURCES	Lot	APPL Code	APPL Exp Date	ul	
50ug/ml Vol Work Std #7		02-28-12L	02/27/12	200	
50ug/ml Vol Work Std #8		02-28-12N	02/27/12	200	
J&T Brand		02/26/12	06/08/12	1600	
02-28-12Q		Exp:	03/06/12		
5ug/ml Vol Work Std #10					
SOURCES	Lot	APPL Code	APPL Exp Date	ul	
50ug/ml Vol Work Std #1		02-28-12M	02/27/12	200	
J&T Brand		02/26/12	06/08/12	1800	
02-28-12R		Exp:	03/06/12		
5ug/ml Vol Work Std #12					
SOURCES	Lot	APPL Code	APPL Exp Date	ul	
50ug/ml Vol Work Std #2		02-28-12O	02/27/12	200	
J&T Brand		02/26/12	06/08/12	1800	

02-28-12S							
50ug/ml 8260 Surrogate							
Exp:03/06/12			Conc.		Date	Exp.	
O2SI	120002-01	8260B Surr Solution	ug/ml	Lot #	Code	Date	uL
J&T Brand		Purge & Trap MeOH	2000	178653-29561	02-28-12G	04/16/12	100
02-28-12T				K07E34-00603	02/26/12	06/26/12	3900
5.0ug/ml 8260 Surrogate			Exp:	03/06/12			
			Lot	APPL Code	APPL Exp Date	ul	
J&T Brand		50ug/ml 8260 Surrogate		02-28-12S	02/27/12	200	
		Purge & Trap MeOH		02/26/12	06/08/12	1800	

02-28-12U							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:03/06/12			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	178651-29810	02-28-12H	04/07/12	500
02SI	020229-09	Acrolein	10000	185699-30346	02-28-12I	03/24/12	100
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	3400

2/28/12 RS

02-28-12V							
50ug/ml VOC Std#5							
Exp:03/06/12							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	168038-28747	02-28-12J	02/27/12	50
02SI	020145-02-02	2-CEVE	2000	181404-30009	02-20-12I	02/14/12	50
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	1900
02-28-12W							
50ug/ml VOC Std#6							
Exp:03/06/12							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	163271-27775	01-09-12I	05/14/12	50
02SI	120296-01	Custom 8260 Solution	2000	166038-27771	01-09-12J	05/18/12	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	178905-29558	01-25-12D	04/05/11	50
02SI	020620-02-SS	n-HEXANE	1000	179199-29612	01-25-12F	06/14/12	100
02SI	020049-02-SS	HEXACHLOROETHANE	1000	183795-30198	02-02-12K	03/29/12	100
02SI	020546-02-SS	Heptane(SS)	1000	142276-23578	01-25-12J	06/19/12	100
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	1550
02-28-12W							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:03/06/12			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	163778-29836	02-02-12L	06/14/12	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	185700-30348	02-28-12K	03/24/12	50
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	1700

02-28-12X							
50ug/ml Vol Work Std #7							
Exp:03/06/12							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	180013-29757	02-28-12A	03/06/12	100
02SI	020049-02	HEXACHLOROETHANE	1000	176700-29155	02-20-12B	04/07/12	200
02SI	020228-02	Benzyl Chloride	1000	176701-29780	02-20-12C	04/07/12	200
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	3500
02-28-12Y							
50ug/ml Vol Work Std #1							
Exp:03/06/12							
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	176770-29813	02-28-12B	07/27/12	50
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	1950
02-28-12Z							
50ug/ml Vol Work Std #8							
Exp:03/06/12							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	176771-29199	02-28-12D	04/07/12	100
02SI	120023-03	VOC'S-54 COMP	2000	164454-27877	02-28-12C	04/07/12	100
02SI	020232-02	Vinyl Acetate	2000	182701-30111	02-20-12D	03/11/12	100
02SI	020620-02	n-Hexane	1000	176773-29792	02-20-12E	04/07/12	200
02SI	020546-02	Heptane	1000	169174-29251	02-28-12E	04/07/12	200
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	3300
02-28-12AA							
50ug/ml Vol Work Std #2							
Exp:03/06/12							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	169173-29215	02-28-12F	02/08/12	100
J&T Brand		Purge & Trap MeOH		02/26/12	02/26/12	06/08/12	3900

2/28/12 RS

		02-28-12AB	Exp:	03/06/12			
		5ug/ml Vol Work Std #9					
		SOURCES	Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml Vol Work Std #7		02-28-12X	02/27/12	200	
		50ug/ml Vol Work Std #8		02-28-12Z	02/27/12	200	
		J&T Brand		02/26/12	06/08/12	1600	
		02-28-12AC	Exp:	03/06/12			
		5ug/ml Vol Work Std #10					
		SOURCES	Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml Vol Work Std #1		02-28-12Y	02/27/12	200	
		J&T Brand		02/26/12	06/08/12	1800	
		02-28-12AD	Exp:	03/06/12			
		5ug/ml Vol Work Std #12					
		SOURCES	Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml Vol Work Std #2		02-28-12AA	02/27/12	200	
		J&T Brand		02/26/12	06/08/12	1800	
02-28-12AE							
50ug/ml 8260 Surrogate			Conc.		Date	Exp.	
Exp:03/06/12			ug/ml	Lot #	Code	Date	uL
2/28/12 RS.							
O2SI	120002-01	8260B Surr Solution	2000	178653-29561	02-28-12G	04/16/12	100
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/25/12	3900
02-28-12AF			Exp:	03/06/12			
5.0ug/ml 8260 Surrogate			Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml 8260 Surrogate		02-28-12AE	02/27/12	200	
J&T Brand		Purge & Trap MeOH		02/26/12	06/08/12	1800	
02-28-12AG							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:03/06/12			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01	Volatile Mix 4-3	2000	178651-29810	02-28-12H	04/07/12	500
O2SI	020229-09	Acrolein	10000	185699-30346	02-28-12I	03/24/12	100
J&T Brand		Purge & Trap MeOH		K07E34-00603	02/26/12	06/08/12	3400

2/29/12 RS.	02-29-12A						
	50ug/ml 8260B Surrogate- Neo		Conc.		Date	Exp.	
	Supplier	ID #	ug/ml	Lot #	Code	Date	uL
	O2SI	8260B Surr	2000	178653-29563	01-28-12C	06/14/12	500
	J.T Baker	Purge & Trap MeOH		K07E34-00603	02/26/12	10/10/12	19500

2/29/12 RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-NEO

	Expiration Date:		03/01/12							
		5µg/mL Vol Std #9	5µg/mL Surr	50µg/mL Vol Std #7	50µg/mL Vol Std #8	50µg/mL Surr	5µg/mL Vol Std #10	50µg/mL Vol Std #1	5µg/mL Vol Std #2	50µg/mL Vol Std #12
Date	Conc.	02-28-12P	02-28-12T	02-28-12L	02-28-12N	02-28-12S	02-28-12Q	02-28-12M	02-28-12O	02-28-12R
Code	µg/L	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12
02-29-12B	2	2	2	n/a	n/a	n/a	2	n/a	2	n/a
02-29-12C	5	5	5	n/a	n/a	n/a	5	n/a	5	n/a
02-29-12D	10	10	10	n/a	n/a	n/a	10	n/a	10	n/a
02-29-12E	20	20	20	n/a	n/a	n/a	20	n/a	20	n/a
02-29-12F	50	n/a	n/a	5	5	5	n/a	5	n/a	5
02-29-12G	100	n/a	n/a	10	10	10	n/a	10	n/a	10
02-29-12H	200	n/a	n/a	20	20	20	n/a	20	n/a	20

250µg/mL TBA	Final Vol/
02-28-12U	w/P&TH2O
Exp:03-06-12	mL
1	5
2	5
3	5
4	5
5	5
6	5
7	5

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-Sweetpea

	Expiration Date:		03/01/12							
		5µg/mL Vol Std #9	5µg/mL Surr	50µg/mL Vol Std #7	50µg/mL Vol Std #8	50µg/mL Surr	5µg/mL Vol Std #10	50µg/mL Vol Std #1	50µg/mL Vol Std #2	5µg/mL Vol Std #12
Date	Conc.	02-28-12AB	02-28-12AF	02-28-12X	02-28-12Z	02-28-12AE	02-28-12AC	02-28-12Y	02-28-12AA	02-28-12AD
Code	µg/L	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12
02-29-12I	0.3	3	6	n/a	n/a	n/a	3	n/a	n/a	3
02-29-12J	0.5	5	10	n/a	n/a	n/a	5	n/a	n/a	5
02-29-12K	1	10	20	n/a	n/a	n/a	10	n/a	n/a	10
02-29-12L	5	n/a	n/a	5	5	10	n/a	5	5	n/a
02-29-12M	10	n/a	n/a	10	10	25	n/a	10	10	n/a
02-29-12N	40	n/a	n/a	40	40	80	n/a	40	40	n/a
02-29-12O	100	n/a	n/a	100	100	100	n/a	100	100	n/a
02-29-12P	200	n/a	n/a	200	200	125	n/a	200	200	n/a

250µg/mL TAPO	Final Vol
02-28-12AG	w/P&T H2O
Exp:03-06-12	mL
3	50
5	50
10	50
20	50
25	50
35	50
40	50
45	50

Neo

03-02-12A

3/02/12 PS

50ug/ml 8260 Internal Standard			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120302-03	Internal Standard Mix	2000	166255-29842	02-23-12A	06/14/12	500
O2SI	020132-02	Fluorobenzene Standard	2000	169170-28856	02-23-12B	06/14/12	500
J.T Baker		Purge & Trap MeOH		K07B34-00603	02/26/12	10/10/12	19000

CHICO

03-02-12B

3/02/12 PS

50ug/ml 524 Internal Standard w/ Surrogate			Conc.		Date	Exp.	
			ug/ml	Lot #	Code	Date	uL
O2SI	122450-02	524 Fortification Sol	1000	176776-29297	01-31-12A	03/10/12	200
J&T Baker		Purge & Trap MeOH		K14E06-00503	02/26/11	10/22/12	3800

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-NEO

	Expiration Date:		03/03/12							
		5µg/mL Vol Std #9	5µg/mL Surr	50µg/mL Vol Std #7	50µg/mL Vol Std #8	50µg/mL Surr	5µg/mL Vol Std #10	50µg/mL Vol Std #1	5µg/mL Vol Std #2	50µg/mL Vol Std #12
Date	Conc.	02-28-12P	02-28-12T	02-28-12L	02-28-12N	02-28-12S	02-28-12Q	02-28-12M	02-28-12O	02-28-12R
Code	µg/L	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12
03-02-12C	2	2	2	n/a	n/a	n/a	2	n/a	2	n/a
03-02-12D	5	5	5	n/a	n/a	n/a	5	n/a	5	n/a
03-02-12E	10	10	10	n/a	n/a	n/a	10	n/a	10	n/a
03-02-12F	20	20	20	n/a	n/a	n/a	20	n/a	20	n/a
03-02-12G	50	n/a	n/a	5	5	5	n/a	5	n/a	5
03-02-12H	100	n/a	n/a	10	10	10	n/a	10	n/a	10
03-02-12I	200	n/a	n/a	20	20	20	n/a	20	n/a	20

250µg/mL TBA	Final Vol
02-28-12U	w/P&T H2O
Exp:03-06-12	mL
1	5
2	5
3	5
4	5
5	5
6	5
7	5

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX

	Expiration Date:		03/06/12							
		5µg/mL Vol Std #9	5µg/mL Surr	50µg/mL Vol Std #7	50µg/mL Vol Std #8	50µg/mL Surr	5µg/mL Vol Std #10	50µg/mL Vol Std #1		
Date	Conc.	02-28-12AB	02-28-12AF	02-28-12X	02-28-12Z	02-28-12AE	02-28-12AC	02-28-12Y		
Code	µg/L	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-12	Exp:03-06-		
02-05-12A	0.3	3	6	n/a	n/a	n/a	3	n/a		
02-05-12B	0.5	5	10	n/a	n/a	n/a	5			
02-05-12C	1	10	20	n/a	n/a	n/a	10			
02-05-12D	5	n/a	n/a	5	5	10	n/a			
02-05-12E	10	n/a	n/a	10	10	25	n/a			
02-05-12F	20	n/a	n/a	20	20	40	n/a			
02-05-12G	40	n/a	n/a	40	40	80	n/a			
02-05-12H	100	n/a	n/a	100	100	100	n/a			
02-05-12I	200	n/a	n/a	200	200	125	n/a			

			ce	uL
		12	04/16/12	100
			06/26/12	3900
	APPL Exp Date	ul		
12N	03/12/12	200		
02/26/12	05/08/12	1800		

METALS
EPA SW846 - 6010B

APPL, INC.

METALS
EPA SW846 - 6010B
Forms

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA PACKAGE

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
Base/Command: CSSA

AAB #: 120306A-164516
Contract #: *G012
Prime Contractor: Parsons

Field Sample ID	Lab Sample ID
AOC65-WC05	AY56028
AOC65-WC09	AY56033

Comments: ARF: 67098

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Diane Anderson

Date: 3/15/12 Title: Project Manager

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3050B AAB #: 120306A-164516
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC05 Lab Sample ID: AY56028 Matrix: Soil
% Solids: 88.0 Initial Calibration ID: 120306B
Date Received: 01-Mar-12 Date Prepared: 06-Mar-12 Date Analyzed: 06-Mar-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ARSENIC (AS)	0.2	40.0	2.2	1	F
CADMIUM (CD)	0.03	0.50	0.03	1	J
CHROMIUM (CR)	0.1	20.0	14.4	1	F
COPPER (CU)	0.19	2.0	3.81	1	
LEAD (PB)	0.18	10.0	14.48	1	J
NICKEL (NI)	0.12	2.0	3.05	1	
ZINC (ZN)	0.6	5.0	18.4	1	J

Comments: ARF: 67098

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3050B AAB #: 120306A-164516
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC05 Lab Sample ID: AY56028 Matrix: Soil
% Solids: 88.0 Initial Calibration ID: 120306B
Date Received: 01-Mar-12 Date Prepared: 06-Mar-12 Date Analyzed: 06-Mar-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BARIUM (BA)	0.5	5.0	22.9	5	

Comments: ARF: 67098

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3050B AAB #: 120306A-164516
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC09 Lab Sample ID: AY56033 Matrix: Soil
% Solids: 88.7 Initial Calibration ID: 120306B
Date Received: 01-Mar-12 Date Prepared: 06-Mar-12 Date Analyzed: 06-Mar-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ARSENIC (AS)	0.2	40.0	2.3	1	F
CADMIUM (CD)	0.03	0.50	0.03	1	J
CHROMIUM (CR)	0.1	20.0	6.4	1	F
COPPER (CU)	0.19	2.0	2.99	1	
LEAD (PB)	0.18	10.0	10.62	1	J
NICKEL (NI)	0.12	2.0	2.58	1	
ZINC (ZN)	0.6	5.0	16.9	1	J

Comments: ARF: 67098

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3050B AAB #: 120306A-164516
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC09 Lab Sample ID: AY56033 Matrix: Soil
% Solids: 88.7 Initial Calibration ID: 120306B
Date Received: 01-Mar-12 Date Prepared: 06-Mar-12 Date Analyzed: 06-Mar-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BARIUM (BA)	0.5	5.0	18.1	5	

Comments: ARF: 67098

AFCEE
INORGANIC ANALYSES DATA SHEET 3
INITIAL MULTIPOINT CALIBRATION

Analytical Method: EPA 6010B

AAB #: 120306A-164516

Lab Name: APPL, Inc.

Contract #: *G012

Date of Initial Calibration: 06-Mar-12

Initial Calibration ID: 120306B

Instrument ID: PHOEBE

Concentration Units (mg/L or mg/kg): mg/Kg

Analyte		Std 1	RF 1	Std 2	RF 2	Std 3	RF 3	r	Q
As		0.3500	14.1	100.0	5111.4	200.0	9855.1	0.99989	
Ba		0.5000	1381.4	100.0	240357.1	200.0	459176.6	0.99983	
Cd		0.5000	2867.1	100.0	489698.5	200.0	924198.6	0.99972	
Cr		0.5000	1036.7	100.0	162794.9	200.0	312055.8	0.99985	
Cu		0.5000	645.3	100.0	116564.7	200.0	226495.8	0.99993	
Ni		0.5000	507.5	100.0	78134.7	200.0	147918.0	0.99975	
Pb		0.3000	81.6	100.0	20037.6	200.0	37510.0	0.99964	
Zn		2.0000	3525.7	100.0	145989.3	200.0	276292.8	0.99975	

Comments:

AFCEE FORM I-3

AFCEE
INORGANIC ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method: 6010B AAB #: 120306A-164516

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID: PHOEBE Initial Calibration ID: 120306B

2nd Source ID: ICV 3/6/12 15:01 ICV ID: ICV 3/6/12 15:01

CCV #1 ID: CCV1 3/6/12 15:25 CCV #2 ID: CCV2 3/6/12 16:12

Concentration Units (mg/L or mg/kg): mg/Kg

Analyte		2nd Source Calibration Verification			Initial Calibration Verification			Continuing Calibration Verification						Q
		Expected	Found	%D	Expected	Found	%D	Expected	Found 1	%D	Expected	Found 2	%D	
As		100.0	96.0	4.1%	100.0	96.0	4.1%	100.0	103.6	3.6%	75.0	76.4	1.8%	
Ba		100.0	99.0	1.0%	100.0	99.0	1.0%	100.0	103.1	3.1%	75.0	75.9	1.2%	
Cd		100.0	104.5	4.5%	100.0	104.5	4.5%	100.0	105.0	5.0%	75.0	77.5	3.3%	
Cr		100.0	105.0	5.0%	100.0	105.0	5.0%	100.0	103.4	3.4%	75.0	75.7	0.9%	
Cu		100.0	100.1	0.1%	100.0	100.1	0.1%	100.0	102.9	2.9%	75.0	74.5	0.7%	
Ni		100.0	106.6	6.6%	100.0	106.6	6.6%	100.0	104.9	4.9%	75.0	76.7	2.3%	
Pb		100.0	103.9	3.9%	100.0	103.9	3.9%	100.0	106.6	6.6%	75.0	78.6	4.8%	
Zn		100.0	106.3	6.3%	100.0	106.3	6.3%	100.0	105.0	5.0%	75.0	77.6	3.5%	

Comments:

AFCEE FORM I-4 Page 1 of 2

AFCEE
INORGANIC ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method: 6010B AAB #: 120306A-164516

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID: PHOEBE Initial Calibration ID: 120306B

2nd Source ID: ICV 3/6/12 15:01 ICV ID: ICV 3/6/12 15:01

CCV #1 ID: CCV1 3/6/12 17:11 CCV #2 ID:

Concentration Units (mg/L or mg/kg): mg/kg

		2nd Source Calibration			Initial Calibration			Continuing Calibration						
Analyte		Verification			Verification			Verification						Q
		Expected	Found	%D	Expected	Found	%D	Expected	Found 1	%D	Expected	Found 2	%D	
As		100.0	96.0	4.1%	100.0	96.0	4.1%	100.0	99.1	0.9%				
Ba		100.0	99.0	1.0%	100.0	99.0	1.0%	100.0	98.1	1.9%				
Cd		100.0	104.5	4.5%	100.0	104.5	4.5%	100.0	98.8	1.2%				
Cr		100.0	105.0	5.0%	100.0	105.0	5.0%	100.0	98.0	2.0%				
Cu		100.0	100.1	0.1%	100.0	100.1	0.1%	100.0	97.9	2.1%				
Ni		100.0	106.6	6.6%	100.0	106.6	6.6%	100.0	98.8	1.3%				
Pb		100.0	103.9	3.9%	100.0	103.9	3.9%	100.0	100.9	0.9%				
Zn		100.0	106.3	6.3%	100.0	106.3	6.3%	100.0	98.6	1.5%				

Comments:

AFCEE FORM I-4 Page 2 of 2

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
Concentration Units: mg/kg
Initial Calibration ID: 120306B

AAB #: 120306A-164516
Contract #: *G012
Method Blank ID: 120306A-BLK
30509 D43-44-12

Analyte	Method Blank	RL	Q
ARSENIC (AS)	< RL	40.0	U
BARIUM (BA)	< RL	1.0	U
CADMIUM (CD)	< RL	0.50	U
CHROMIUM (CR)	< RL	20.0	U
COPPER (CU)	< RL	2.0	U
LEAD (PB)	< RL	10.0	U
NICKEL (NI)	< RL	2.0	U
ZINC (ZN)	< RL	5.0	U

Comments: ARF: 67098, Sample: AY56033

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANKS

Analytical Method: 6010B AAB #: 120306A-164516

Lab Name: APPL, Inc. Contract #: *G012

Concentration Units (mg/L or mg/kg): mg/Kg

Initial Calibration Blank ID: ICB 3/6/12 15:06 Initial Calibration ID: 120306B

CCB #1 ID: CCB 3/6/12 15:28 CCB #2 ID: CCB 3/6/12 16:16 CCB #3 ID: CCB 3/6/12 17:14

Method Blank ID: 120306A-3050G-BLK Initial Calibration ID: 120306B

Analyte		Initial Calibration Blank	Continuing Calibration Blank			Method Blank	RL	Q
			1	2	3			
As		<RL	<RL	<RL	<RL	<RL	40.0	
Ba		<RL	<RL	<RL	<RL	<RL	1.00	
Cd		<RL	<RL	<RL	<RL	<RL	0.5	
Cr		<RL	<RL	<RL	<RL	<RL	20.0	
Cu		<RL	<RL	<RL	<RL	<RL	2.0	
Ni		<RL	<RL	<RL	<RL	<RL	2.0	
Pb		<RL	<RL	<RL	<RL	<RL	10.0	
Zn		<RL	<RL	<RL	<RL	<RL	5.0	

Comments:

AFCEE FORM I-5 Page 1 of 1

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 6010B
AAB #: 120306A-164516
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120306A LCS
Initial Calibration ID: 120306B
Concentration Units: mg/kg

Analyte	Expected	Found	% R	Control Limits	Q
ARSENIC (AS)	25.0	25.3	101	75-125	
BARIUM (BA)	25.0	25.1	100	75-125	
CADMIUM (CD)	5.00	5.28	106	75-125	
CHROMIUM (CR)	25.0	27.4	110	75-125	
COPPER (CU)	25.00	25.96	104	75-125	
LEAD (PB)	25.00	26.72	107	75-125	
NICKEL (NI)	25.00	27.62	110	75-125	
ZINC (ZN)	50.0	52.8	106	75-125	

Comments: ARF: 67098, Sample: AY56033

AFCEE
INORGANIC ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: EPA 6010B AAB#: 120306A-164516

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID	Date Collected	Date Received	Date Analyzed	Max. Holding Time (days)	Time Held (days)	Q
AOC65-WC05	29-Feb-12	01-Mar-12	06-Mar-12	180	6	
AOC65-WC05	29-Feb-12	01-Mar-12	06-Mar-12	180	6	
AOC65-WC09	29-Feb-12	01-Mar-12	06-Mar-12	180	6	
AOC65-WC09	29-Feb-12	01-Mar-12	06-Mar-12	180	6	

Comments: ARF: 67098

AFCEE
INORGANIC ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: 6010B

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID #: PHOEBE ICAL ID: 120306B

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Date Analysis Started	Time Analysis Started	Date Analysis Completed	Time Analysis Completed
CalBlk	06-Mar-12	14:43	06-Mar-12	14:43
STD 1	06-Mar-12	14:48	06-Mar-12	14:48
STD 2	06-Mar-12	14:53	06-Mar-12	14:53
STD 3	06-Mar-12	14:56	06-Mar-12	14:56
ICV	06-Mar-12	15:01	06-Mar-12	15:01
ICB	06-Mar-12	15:06	06-Mar-12	15:06
ICSA	06-Mar-12	15:15	06-Mar-12	15:15
ICSAB	06-Mar-12	15:22	06-Mar-12	15:22
CCV1	06-Mar-12	15:25	06-Mar-12	15:25
CCB	06-Mar-12	15:28	06-Mar-12	15:28
120306A-3050G-BLK	06-Mar-12	15:36	06-Mar-12	15:36
120306A-3050G-LCS	06-Mar-12	15:40	06-Mar-12	15:40
AY56028S03	06-Mar-12	15:44	06-Mar-12	15:44
AY56033S02	06-Mar-12	15:58	06-Mar-12	15:58
AY56033S02-A	06-Mar-12	16:09	06-Mar-12	16:09
CCV2	06-Mar-12	16:12	06-Mar-12	16:12
CCB	06-Mar-12	16:16	06-Mar-12	16:16
AY56033S02-1/5	06-Mar-12	16:20	06-Mar-12	16:20
AY56028S03-1/5	06-Mar-12	16:24	06-Mar-12	16:24
AY56033S02-1/25	06-Mar-12	17:05	06-Mar-12	17:05
CCV1	06-Mar-12	17:11	06-Mar-12	17:11
CCB	06-Mar-12	17:14	06-Mar-12	17:14

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	06 Mar 2012	14:43	CalBlk 120306EA I:PB O:EA		120306B6010	1.
2	06 Mar 2012	14:48	STD 1 120306EA I:PB O:EA		120306B6010	1.
3	06 Mar 2012	14:53	STD 2 120306EA I:PB O:EA		120306B6010	1.
4	06 Mar 2012	14:56	STD 3 120306EA I:PB O:EA		120306B6010	1.
5	06 Mar 2012	15:01	ICV 120306EA I:PB O:EA		120306B6010	1.
6	06 Mar 2012	15:06	ICB 120306EA I:PB O:EA		120306B6010	1.
8	06 Mar 2012	15:15	ICSA 120306EA I:PB O:EA		120306B6010	1.
9	06 Mar 2012	15:22	ICSAB 120306EA I:PB O:EA		120306B6010	1.
10	06 Mar 2012	15:25	CCV1 120306EA I:PB O:EA		120306B6010	1.
11	06 Mar 2012	15:28	CCB 120306EA I:PB O:EA		120306B6010	1.
12	06 Mar 2012	15:36	120306A-3050G-BLK		120306B6010	1.
13	06 Mar 2012	15:40	120306A-3050G-LCS		120306B6010	1.
14	06 Mar 2012	15:44	AY56028S03		120306B6010	1.
18	06 Mar 2012	15:58	AY56033S02		120306B6010	1.
21	06 Mar 2012	16:09	AY56033S02-A		120306B6010	1.
22	06 Mar 2012	16:12	CCV2 120306EA I:PB O:EA		120306B6010	1.
23	06 Mar 2012	16:16	CCB 120306EA I:PB O:EA		120306B6010	1.
24	06 Mar 2012	16:20	AY56033S02-1/5		120306B6010	5.
25	06 Mar 2012	16:24	AY56028S03-1/5		120306B6010	5.
~~32~~	~~06 Mar 2012~~	~~17:00~~	~~AY56033S02--1/5-A~~		~~120306B6010~~	~~5.~~
33	06 Mar 2012	17:05	AY56033S02-1/25		120306B6010	25.
34	06 Mar 2012	17:11	CCV1 120306EA I:PB O:EA		120306B6010	1.
35	06 Mar 2012	17:14	CCB 120306EA I:PB O:EA		120306B6010	1.

DA 3-14-12

A.P.P.L. INC.

9

ICP SERIAL DILUTION

CLIENT SAMPLE NO.

AOC65-WC09

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 67098 SDG: 67098

Matrix: soil

Analysis Date: 03/06/12 Concentration Units: mg/kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Chromium (Cr)	5.691		6.657		17.0		M
Lead (Pb)	9.42		11.86		25.9		M

Comments:

03/06/12 15:58 AY56033S02

03/06/12 16:20 AY56033S02-1/5

A.P.P.L. INC.

9

ICP SERIAL DILUTION

CLIENT SAMPLE NO.

AOC65-WC09

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 67098 SDG: 67098

Matrix: soil

Analysis Date: 03/06/12 Concentration Units: mg/kg

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Barium (Ba)	16.08		15.55		3.30		

Comments:

03/06/12 16:20 AY56033S02-1/5

03/06/12 17:05 AY56033S02-1/25

A.P.P.L. INC.

5B

POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.

AOC65-WC09

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 67098 SDG: 67098

Analysis Date: 03/06/12 Concentration Units: mg/kg

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic (As)	75-125	40.15		1.998		44.248	86.2		
Cadmium (Cd)	75-125	5.134		ND		8.850	58.0		M
Chromium (Cr)	75-125	40.37		5.691		44.248	78.4		
Copper (Cu)	75-125	39.57		2.651		44.248	83.4		
Nickel (Ni)	75-125	36.67		2.288		44.248	77.7		
Lead (Pb)	75-125	42.08		9.42		44.248	73.8		M
Zinc (Zn)	75-125	77.27		14.95		88.496	70.4		M

Comments:

03/06/12 15:58 AY56033S02

03/06/12 16:09 AY56033S02-A

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC. Contract: *G012
ARF #: 67098 SDG: 67098
ICP ID No PHOEBE ICS Source: Environmental Express

Analysis Date 03/06/12 Concentration Units: mg/L

ANALYTE	TRUE			Initial Found		
	SOL A	SOL AB	SOL A 15:15	Recovery	SOL AB 15:22	%R(1)
Aluminum	200	200	195.1	97.6	200.6	100.3
Arsenic		0.5	0.001856	<RL	0.4818	96.4
Barium		0.5	0.001103	<RL	0.4681	93.6
Calcium	200	200	196.1	98.1	197.4	98.7
Cadmium		1	ND	<RL	0.9427	94.3
Chromium		0.5	ND	<RL	0.4884	97.7
Copper		0.5	ND	<RL	0.4963	99.3
Iron	200	200	184.1	92.1	182	91.0
Magnesium	200	200	190.8	95.4	190.7	95.4
Nickel		1	0.000425	<RL	0.9527	95.3
Lead		1	0.001486	<RL	0.9891	98.9
Zinc		1	ND	<RL	0.9437	94.4

(1) Control Limits: Metals 80-120

METALS
EPA SW846 - 6010B
Calibration Data

APPL, INC.

Reprocessing Begun
Logged In Analyst: chemist_metals Technique: ICP Continuous

Results Data Set (original): 120306B6010X
Results Library (original): C:\PE\chemist\RESULTS\Results.mdb
Results Data Set (reprocessed):
Results Library (reprocessed):

Sequence No.: 1
Sample ID: CalBlk 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 03/06/12 2:43:44 PM
Data Type: Reprocessed on 03/07/12 2:12:06 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CalBlk 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ag 338.289	-34.5	75.31	218.36%	[0.00]	ug/L
Al 308.215	225.0	5.57	2.48%	[0.00]	ug/L
As 188.979	-0.1	2.27	>999.9%	[0.00]	ug/L
B	57.3	4.14	7.22%	[0.00]	ug/L
Ba 233.527	219.5	7.26	3.31%	[0.00]	ug/L
Be 313.107	-9357.1	98.30	1.05%	[0.00]	ug/L
Ca 315.887	471.4	24.54	5.21%	[0.00]	ug/L
Cd 214.440	603.6	14.36	2.38%	[0.00]	ug/L
Co 228.616	128.2	21.53	16.78%	[0.00]	ug/L
Cr 267.716	1076.6	23.06	2.14%	[0.00]	ug/L
Cu 327.393	-166.0	25.00	15.06%	[0.00]	ug/L
Fe 273.955	369.6	297.63	80.52%	[0.00]	ug/L
K 766.490	-621.3	114.69	18.46%	[0.00]	ug/L
Mg 285.213	-294.8	16.48	5.59%	[0.00]	ug/L
Mn 257.610	-90.4	4.41	4.88%	[0.00]	ug/L
Mo 202.031	178.1	17.19	9.65%	[0.00]	ug/L
Na 589.592	-98.4	155.14	157.64%	[0.00]	ug/L
Ni 231.604	-214.9	11.57	5.38%	[0.00]	ug/L
P 213.617	-16.3	4.28	26.25%	[0.00]	ug/L
Pb 220.353	-25.6	12.46	48.61%	[0.00]	ug/L
Sb 206.836	15.1	2.77	18.35%	[0.00]	ug/L
Se 196.026	-13.5	3.11	22.99%	[0.00]	ug/L
Sn 189.927	203.8	2.68	1.31%	[0.00]	ug/L
Sr 421.552	1818.4	292.59	16.09%	[0.00]	ug/L
Ti 337.279	-712.0	8.58	1.20%	[0.00]	ug/L
Tl 190.801	-177.7	6.58	3.70%	[0.00]	ug/L
V 292.402	-247.6	120.13	48.52%	[0.00]	ug/L
Zn 206.200	99.6	3.02	3.04%	[0.00]	ug/L

Sequence No.: 2
Sample ID: STD 1 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 03/06/12 2:48:34 PM
Data Type: Reprocessed on 03/07/12 2:12:07 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 1 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ag 338.289	99.1	20.24	20.43%	[1.00]	ug/L
Al 308.215	252.9	15.49	6.12%	[100.00]	ug/L
As 188.979	14.1	4.17	29.64%	[3.50]	ug/L
B	304.8	12.20	4.00%	[50.00]	ug/L
Ba 233.527	1381.4	16.34	1.18%	[5.00]	ug/L
Be 313.107	14538.9	212.66	1.46%	[2.00]	ug/L
Ca 315.887	2389.9	44.69	1.87%	[100.00]	ug/L
Cd 214.440	2867.1	37.50	1.31%	[5.00]	ug/L
Co 228.616	583.6	32.89	5.64%	[5.00]	ug/L
Cr 267.716	1036.7	10.59	1.02%	[5.00]	ug/L
Cu 327.393	645.3	41.34	6.41%	[5.00]	ug/L
Fe 273.955	2117.7	10.80	0.51%	[50.00]	ug/L
K 766.490	4185.3	323.92	7.74%	[1000.00]	ug/L
Mg 285.213	2504.3	22.74	0.91%	[50]	ug/L
Mn 257.610	441.1	6.26	1.42%	[5.00]	ug/L
Mo 202.031	271.7	18.43	6.78%	[5.00]	ug/L
Na 589.592	12593.0	285.97	2.27%	[1000.00]	ug/L
Ni 231.604	507.5	12.51	2.47%	[5.00]	ug/L
P 213.617	209.3	7.82	3.74%	[25.00]	ug/L
Pb 220.353	81.6	12.68	15.54%	[3.00]	ug/L
Sb 206.836	28.9	2.90	10.05%	[5.00]	ug/L
Se 196.026	30.7	14.69	47.93%	[5.00]	ug/L
Sn 189.927	13.3	1.10	8.29%	[5.00]	ug/L
Sr 421.552	5725.9	134.84	2.35%	[5.00]	ug/L
Ti 337.279	234.5	18.67	7.96%	[5.00]	ug/L
Tl 190.801	85.7	7.31	8.53%	[5.00]	ug/L
V 292.402	1501.6	85.33	5.68%	[5.00]	ug/L
Zn 206.200	3525.7	9.52	0.27%	[20.00]	ug/L

Sequence No.: 3
Sample ID: STD 2 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 03/06/12 2:53:31 PM
Data Type: Reprocessed on 03/07/12 2:12:08 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 2 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ag 338.289	75954.2	432.16	0.57%	[500.0]	ug/L
Al 308.215	46191.1	183.47	0.40%	[20000.00]	ug/L
As 188.979	5111.4	59.04	1.16%	[1000.00]	ug/L
B	5997.8	40.60	0.68%	[1000.00]	ug/L
Ba 233.527	240357.1	618.12	0.26%	[1000.00]	ug/L
Be 313.107	6339738.5	19569.08	0.31%	[1000.00]	ug/L
Ca 315.887	876316.2	3805.25	0.43%	[50000]	ug/L
Cd 214.440	489698.5	1978.05	0.40%	[1000.00]	ug/L
Co 228.616	93622.7	330.38	0.35%	[1000.00]	ug/L
Cr 267.716	162794.9	511.69	0.31%	[1000.00]	ug/L
Cu 327.393	116564.7	583.02	0.50%	[1000.00]	ug/L
Fe 273.955	693249.9	2491.83	0.36%	[20000]	ug/L
K 766.490	80924.7	335.98	0.42%	[20000]	ug/L
Mg 285.213	1662789.8	5508.81	0.33%	[50000]	ug/L
Mn 257.610	76381.7	372.59	0.49%	[1000.00]	ug/L
Mo 202.031	54286.5	683.08	1.26%	[1000.00]	ug/L
Na 589.592	289627.2	922.67	0.32%	[25000]	ug/L
Ni 231.604	78134.7	343.37	0.44%	[1000.00]	ug/L
P 213.617	41439.2	751.17	1.81%	[5000]	ug/L
Pb 220.353	20037.6	339.71	1.70%	[1000.00]	ug/L
Sb 206.836	7161.2	79.25	1.11%	[1000.00]	ug/L
Se 196.026	4894.4	126.43	2.58%	[1000.00]	ug/L
Sn 189.927	10471.0	133.71	1.28%	[1000.00]	ug/L
Sr 421.552	1020493.2	3807.76	0.37%	[1000.00]	ug/L
Ti 337.279	76440.4	268.75	0.35%	[1000.00]	ug/L
Tl 190.801	13510.5	216.10	1.60%	[1000.00]	ug/L
V 292.402	299684.0	1331.52	0.44%	[1000.00]	ug/L
Zn 206.200	145989.3	623.08	0.43%	[1000.00]	ug/L

Sequence No.: 4
Sample ID: STD 3 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 03/06/12 2:56:43 PM
Data Type: Reprocessed on 03/07/12 2:12:10 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 3 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Ag 338.289	147667.0	1334.72	0.90%	[1000.00]	ug/L
Al 308.215	89982.4	329.62	0.37%	[40000.00]	ug/L
As 188.979	9855.1	77.67	0.79%	[2000.00]	ug/L
B	11756.7	91.42	0.78%	[2000.00]	ug/L
Ba 233.527	459176.6	3666.64	0.80%	[2000.00]	ug/L
Be 313.107	12135630.0	138636.20	1.14%	[2000.00]	ug/L
Ca 315.887	1720958.3	16028.85	0.93%	[100000.0]	ug/L
Cd 214.440	924198.6	8227.99	0.89%	[2000.00]	ug/L
Co 228.616	177425.4	1602.15	0.90%	[2000.00]	ug/L
Cr 267.716	312055.8	2486.57	0.80%	[2000.00]	ug/L
Cu 327.393	226495.8	2201.67	0.97%	[2000.00]	ug/L
Fe 273.955	1312960.6	11180.20	0.85%	[40000]	ug/L
K 766.490	161949.1	396.80	0.25%	[40000]	ug/L
Mg 285.213	3221531.9	29082.80	0.90%	[100000]	ug/L
Mn 257.610	148164.1	412.75	0.28%	[2000.00]	ug/L
Mo 202.031	101952.2	784.07	0.77%	[2000.00]	ug/L
Na 589.592	571318.4	4739.84	0.83%	[50000]	ug/L
Ni 231.604	147918.0	1290.35	0.87%	[2000.00]	ug/L
P 213.617	78181.5	739.05	0.95%	[10000]	ug/L
Pb 220.353	37510.0	289.39	0.77%	[2000.00]	ug/L
Sb 206.836	13676.3	60.09	0.44%	[2000.00]	ug/L
Se 196.026	9299.1	82.39	0.89%	[2000.00]	ug/L
Sn 189.927	20123.7	62.16	0.31%	[2000.00]	ug/L
Sr 421.552	2017882.2	16760.60	0.83%	[2000.00]	ug/L
Ti 337.279	150287.8	680.06	0.45%	[2000.00]	ug/L
Tl 190.801	25234.3	45.95	0.18%	[2000.00]	ug/L
V 292.402	580068.5	4986.17	0.86%	[2000.00]	ug/L
Zn 206.200	276292.8	2495.52	0.90%	[2000.00]	ug/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 338.289	3	Lin Thru 0	0.0	148.5	0.00000	0.999935	
Al 308.215	3	Lin Thru 0	0.0	2.262	0.00000	0.999944	
As 188.979	3	Lin Thru 0	0.0	4.964	0.00000	0.999890	
B	3	Lin Thru 0	0.0	5.902	0.00000	0.999967	
Ba 233.527	3	Lin Thru 0	0.0	231.7	0.00000	0.999827	
Be 313.107	3	Lin Thru 0	0.0	6122	0.00000	0.999842	
Ca 315.887	3	Lin Thru 0	0.0	17.27	0.00000	0.999973	
Cd 214.440	3	Lin Thru 0	0.0	467.6	0.00000	0.999721	
Co 228.616	3	Lin Thru 0	0.0	89.69	0.00000	0.999760	
Cr 267.716	3	Lin Thru 0	0.0	157.4	0.00000	0.999852	
Cu 327.393	3	Lin Thru 0	0.0	113.9	0.00000	0.999932	
Fe 273.955	3	Lin Thru 0	0.0	33.19	0.00000	0.999755	
K 766.490	3	Lin Thru 0	0.0	4.048	0.00000	1.000000	
Mg 285.213	3	Lin Thru 0	0.0	32.42	0.00000	0.999918	
Mn 257.610	3	Lin Thru 0	0.0	74.54	0.00000	0.999924	
Mo 202.031	3	Lin Thru 0	0.0	51.64	0.00000	0.999671	
Na 589.592	3	Lin Thru 0	0.0	11.46	0.00000	0.999983	
Ni 231.604	3	Lin Thru 0	0.0	74.79	0.00000	0.999750	
P 213.617	3	Lin Thru 0	0.0	7.912	0.00000	0.999718	
Pb 220.353	3	Lin Thru 0	0.0	19.01	0.00000	0.999636	
Sb 206.836	3	Lin Thru 0	0.0	6.903	0.00000	0.999825	
Se 196.026	3	Lin Thru 0	0.0	4.699	0.00000	0.999783	
Sn 189.927	3	Lin Thru 0	0.0	10.14	0.00000	0.999869	
Sr 421.552	3	Lin Thru 0	0.0	1011	0.00000	0.999990	
Ti 337.279	3	Lin Thru 0	0.0	75.40	0.00000	0.999976	
Tl 190.801	3	Lin Thru 0	0.0	12.80	0.00000	0.999610	

V 292.402	3	Lin Thru 0	0.0	292.0	0.00000	0.999913
Zn 206.200	3	Lin Thru 0	0.0	139.7	0.00000	0.999745

Sequence No.: 5
Sample ID: ICV 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 11
Date Collected: 03/06/12 3:01:29 PM
Data Type: Reprocessed on 03/07/12 2:12:11 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	72256.9	486.5	ug/L	2.28	486.5	ug/L	2.28	0.47%
QC value within limits for Ag 338.289 Recovery = 97.31%								
Al 308.215	56759.1	25010	ug/L	136.8	25010	ug/L	136.8	0.55%
QC value within limits for Al 308.215 Recovery = 100.03%								
As 188.979	4763.0	959.5	ug/L	8.10	959.5	ug/L	8.10	0.84%
QC value within limits for As 188.979 Recovery = 95.95%								
B	5629.2	1040	ug/L	12.5	1040	ug/L	12.5	1.21%
QC value within limits for B Recovery = 103.97%								
Ba 233.527	230439.5	990.4	ug/L	5.04	990.4	ug/L	5.04	0.51%
QC value within limits for Ba 233.527 Recovery = 99.04%								
Be 313.107	6147473.3	1008	ug/L	5.0	1008	ug/L	5.0	0.49%
QC value within limits for Be 313.107 Recovery = 100.78%								
Ca 315.887	428150.7	24690	ug/L	198.6	24690	ug/L	198.6	0.80%
QC value within limits for Ca 315.887 Recovery = 98.74%								
Cd 214.440	489332.4	1045	ug/L	7.6	1045	ug/L	7.6	0.73%
QC value within limits for Cd 214.440 Recovery = 104.54%								
Co 228.616	95867.0	1067	ug/L	6.4	1067	ug/L	6.4	0.60%
QC value within limits for Co 228.616 Recovery = 106.71%								
Cr 267.716	165190.1	1050	ug/L	5.4	1050	ug/L	5.4	0.52%
QC value within limits for Cr 267.716 Recovery = 104.97%								
Cu 327.393	114066.1	1001	ug/L	2.1	1001	ug/L	2.1	0.21%
QC value within limits for Cu 327.393 Recovery = 100.14%								
Fe 273.955	846213.1	25340	ug/L	157.5	25340	ug/L	157.5	0.62%
QC value within limits for Fe 273.955 Recovery = 101.37%								
K 766.490	96669.0	23850	ug/L	181.3	23850	ug/L	181.3	0.76%
QC value within limits for K 766.490 Recovery = 95.40%								
Mg 285.213	806117.9	24840	ug/L	158.9	24840	ug/L	158.9	0.64%
QC value within limits for Mg 285.213 Recovery = 99.36%								
Mn 257.610	78479.3	1052	ug/L	3.8	1052	ug/L	3.8	0.36%
QC value within limits for Mn 257.610 Recovery = 105.16%								
Mo 202.031	50275.7	975.2	ug/L	5.66	975.2	ug/L	5.66	0.58%
QC value within limits for Mo 202.031 Recovery = 97.52%								
Na 589.592	278566.5	24280	ug/L	186.2	24280	ug/L	186.2	0.77%
QC value within limits for Na 589.592 Recovery = 97.12%								
Ni 231.604	79967.6	1066	ug/L	5.0	1066	ug/L	5.0	0.47%
QC value within limits for Ni 231.604 Recovery = 106.58%								
P 213.617	39189.9	4953	ug/L	45.1	4953	ug/L	45.1	0.91%
QC value within limits for P 213.617 Recovery = 99.06%								
Pb 220.353	19762.1	1039	ug/L	6.3	1039	ug/L	6.3	0.61%
QC value within limits for Pb 220.353 Recovery = 103.95%								
Sb 206.836	6956.7	1008	ug/L	9.0	1008	ug/L	9.0	0.89%
QC value within limits for Sb 206.836 Recovery = 100.78%								
Se 196.026	4824.4	1027	ug/L	22.3	1027	ug/L	22.3	2.17%
QC value within limits for Se 196.026 Recovery = 102.68%								
Sn 189.927	5316.3	524.1	ug/L	6.14	524.1	ug/L	6.14	1.17%
QC value within limits for Sn 189.927 Recovery = 104.82%								
Sr 421.552	991996.0	980.3	ug/L	7.04	980.3	ug/L	7.04	0.72%
QC value within limits for Sr 421.552 Recovery = 98.03%								
Ti 337.279	74059.7	981.1	ug/L	6.14	981.1	ug/L	6.14	0.63%
QC value within limits for Ti 337.279 Recovery = 98.11%								
Tl 190.801	13109.8	1043	ug/L	7.0	1043	ug/L	7.0	0.67%
QC value within limits for Tl 190.801 Recovery = 104.31%								
V 292.402	291329.9	1016	ug/L	5.6	1016	ug/L	5.6	0.56%
QC value within limits for V 292.402 Recovery = 101.59%								
Zn 206.200	147889.8	1063	ug/L	7.8	1063	ug/L	7.8	0.74%
QC value within limits for Zn 206.200 Recovery = 106.31%								

All analyte(s) passed QC.

Sequence No.: 6
Sample ID: ICB 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 03/06/12 3:06:12 PM
Data Type: Reprocessed on 03/07/12 2:12:12 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	-18.0	-0.121	ug/L	0.2492	-0.121	ug/L	0.2492	205.97%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	6.7	2.981	ug/L	3.9996	2.981	ug/L	3.9996	134.16%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	0.6	0.127	ug/L	0.4080	0.127	ug/L	0.4080	321.97%
QC value within limits for As 188.979 Recovery = Not calculated								
B	52.4	8.872	ug/L	0.0408	8.872	ug/L	0.0408	0.46%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	11.0	0.048	ug/L	0.0969	0.048	ug/L	0.0969	200.04%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	-290.6	-0.048	ug/L	0.0699	-0.048	ug/L	0.0699	145.64%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	1.1	0.071	ug/L	0.2589	0.071	ug/L	0.2589	367.03%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	27.1	0.058	ug/L	0.0114	0.058	ug/L	0.0114	19.43%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	-15.1	-0.168	ug/L	0.3570	-0.168	ug/L	0.3570	212.90%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	34.6	0.220	ug/L	0.0283	0.220	ug/L	0.0283	12.87%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	-11.1	-0.097	ug/L	0.1405	-0.097	ug/L	0.1405	144.25%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	-168.9	-5.102	ug/L	0.7105	-5.102	ug/L	0.7105	13.93%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	38.8	9.580	ug/L	49.7762	9.580	ug/L	49.7762	519.60%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	18.1	0.559	ug/L	0.2660	0.559	ug/L	0.2660	47.59%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	17.0	0.228	ug/L	0.1952	0.228	ug/L	0.1952	85.73%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	12.5	0.242	ug/L	0.0664	0.242	ug/L	0.0664	27.37%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	-20.5	-1.787	ug/L	13.3965	-1.787	ug/L	13.3965	749.55%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	28.0	0.374	ug/L	0.0748	0.374	ug/L	0.0748	20.01%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	9.7	1.221	ug/L	0.4207	1.221	ug/L	0.4207	34.46%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	19.6	1.033	ug/L	0.7683	1.033	ug/L	0.7683	74.35%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	1.6	0.231	ug/L	0.5070	0.231	ug/L	0.5070	219.34%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	2.0	0.424	ug/L	3.6599	0.424	ug/L	3.6599	863.46%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	12.2	1.202	ug/L	0.1685	1.202	ug/L	0.1685	14.01%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	148.0	0.146	ug/L	0.0521	0.146	ug/L	0.0521	35.58%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	-11.6	-0.154	ug/L	0.4785	-0.154	ug/L	0.4785	309.80%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	15.7	1.224	ug/L	0.4917	1.224	ug/L	0.4917	40.16%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	34.8	0.126	ug/L	0.3957	0.126	ug/L	0.3957	312.87%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	-53.1	-0.378	ug/L	0.0696	-0.378	ug/L	0.0696	18.42%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 8
Sample ID: ICSA 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 12
Date Collected: 03/06/12 3:15:58 PM
Data Type: Reprocessed on 03/07/12 2:12:14 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	-1.4	-0.010	ug/L	0.4300	-0.010	ug/L	0.4300	>999.9%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	442418.5	195100	ug/L	868.6	195100	ug/L	868.6	0.45%
QC value within limits for Al 308.215 Recovery = 97.54%								
As 188.979	9.2	1.856	ug/L	0.6333	1.856	ug/L	0.6333	34.13%
QC value within limits for As 188.979 Recovery = Not calculated								
B	-3799.2	-31.76	ug/L	6.371	-31.76	ug/L	6.371	20.06%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	8122.6	1.103	ug/L	0.5804	1.103	ug/L	0.5804	52.64%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	17987.6	-0.122	ug/L	0.0448	-0.122	ug/L	0.0448	36.82%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	3397500.2	196100	ug/L	1115.6	196100	ug/L	1115.6	0.57%
QC value within limits for Ca 315.887 Recovery = 98.07%								
Cd 214.440	5828.3	-0.498	ug/L	0.1443	-0.498	ug/L	0.1443	28.98%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	837.7	-0.147	ug/L	0.3192	-0.147	ug/L	0.3192	217.34%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	1029.0	-0.734	ug/L	0.0935	-0.734	ug/L	0.0935	12.74%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	-205.0	-1.800	ug/L	0.2708	-1.800	ug/L	0.2708	15.05%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	6123696.9	184100	ug/L	569.8	184100	ug/L	569.8	0.31%
QC value within limits for Fe 273.955 Recovery = 92.03%								
K 766.490	642.5	48.76	ug/L	24.103	48.76	ug/L	24.103	49.43%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	6191783.6	190800	ug/L	689.6	190800	ug/L	689.6	0.36%
QC value within limits for Mg 285.213 Recovery = 95.42%								
Mn 257.610	660.2	0.017	ug/L	0.2180	0.017	ug/L	0.2180	>999.9%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	-386.7	0.180	ug/L	0.5268	0.180	ug/L	0.5268	292.30%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	1726.3	-14.73	ug/L	7.099	-14.73	ug/L	7.099	48.18%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	717.5	0.425	ug/L	0.6501	0.425	ug/L	0.6501	153.13%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	79.4	10.03	ug/L	0.754	10.03	ug/L	0.754	7.51%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	28.3	1.486	ug/L	0.6141	1.486	ug/L	0.6141	41.32%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	-10.7	-1.547	ug/L	0.4927	-1.547	ug/L	0.4927	31.84%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	29.7	6.313	ug/L	0.8112	6.313	ug/L	0.8112	12.85%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	8.6	0.846	ug/L	0.0115	0.846	ug/L	0.0115	1.36%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	4861.5	-0.311	ug/L	0.2388	-0.311	ug/L	0.2388	76.73%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	643.9	1.641	ug/L	1.3793	1.641	ug/L	1.3793	84.07%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	12.9	-0.984	ug/L	1.1001	-0.984	ug/L	1.1001	111.78%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	12826.0	-0.843	ug/L	0.4576	-0.843	ug/L	0.4576	54.29%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	2866.5	-0.263	ug/L	0.2353	-0.263	ug/L	0.2353	89.33%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 9
Sample ID: ICSAB 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 13
Date Collected: 03/06/12 3:22:01 PM
Data Type: Reprocessed on 03/07/12 2:12:15 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	138016.0	929.3	ug/L	6.66	929.3	ug/L	6.66	0.72%
QC value within limits for Ag 338.289 Recovery = 92.93%								
Al 308.215	454942.0	200600	ug/L	2989.0	200600	ug/L	2989.0	1.49%
QC value within limits for Al 308.215 Recovery = 100.31%								
As 188.979	2391.7	481.8	ug/L	4.84	481.8	ug/L	4.84	1.01%
QC value within limits for As 188.979 Recovery = 96.36%								
B	-3773.9	-33.25	ug/L	10.299	-33.25	ug/L	10.299	30.97%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	116188.5	468.1	ug/L	3.06	468.1	ug/L	3.06	0.65%
QC value within limits for Ba 233.527 Recovery = 93.62%								
Be 313.107	2979883.6	483.7	ug/L	4.18	483.7	ug/L	4.18	0.86%
QC value within limits for Be 313.107 Recovery = 96.74%								
Ca 315.887	3419211.0	197400	ug/L	3381.4	197400	ug/L	3381.4	1.71%
QC value within limits for Ca 315.887 Recovery = 98.70%								
Cd 214.440	446707.9	942.7	ug/L	8.74	942.7	ug/L	8.74	0.93%
QC value within limits for Cd 214.440 Recovery = 94.27%								
Co 228.616	45021.9	493.5	ug/L	4.98	493.5	ug/L	4.98	1.01%
QC value within limits for Co 228.616 Recovery = 98.69%								
Cr 267.716	77934.0	488.4	ug/L	3.08	488.4	ug/L	3.08	0.63%
QC value within limits for Cr 267.716 Recovery = 97.68%								
Cu 327.393	56534.5	496.3	ug/L	5.18	496.3	ug/L	5.18	1.04%
QC value within limits for Cu 327.393 Recovery = 99.26%								
Fe 273.955	6057432.1	182000	ug/L	1480.5	182000	ug/L	1480.5	0.81%
QC value within limits for Fe 273.955 Recovery = 91.01%								
K 766.490	751.0	70.19	ug/L	43.609	70.19	ug/L	43.609	62.13%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	6187759.7	190700	ug/L	2764.2	190700	ug/L	2764.2	1.45%
QC value within limits for Mg 285.213 Recovery = 95.35%								
Mn 257.610	38554.1	508.3	ug/L	6.87	508.3	ug/L	6.87	1.35%
QC value within limits for Mn 257.610 Recovery = 101.66%								
Mo 202.031	24066.5	473.8	ug/L	3.98	473.8	ug/L	3.98	0.84%
QC value within limits for Mo 202.031 Recovery = 94.77%								
Na 589.592	2228.2	25.67	ug/L	5.058	25.67	ug/L	5.058	19.70%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	72012.4	952.7	ug/L	9.66	952.7	ug/L	9.66	1.01%
QC value within limits for Ni 231.604 Recovery = 95.27%								
P 213.617	244.3	30.87	ug/L	6.940	30.87	ug/L	6.940	22.48%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	18803.6	989.1	ug/L	10.35	989.1	ug/L	10.35	1.05%
QC value within limits for Pb 220.353 Recovery = 98.91%								
Sb 206.836	3397.6	492.2	ug/L	11.48	492.2	ug/L	11.48	2.33%
QC value within limits for Sb 206.836 Recovery = 98.44%								
Se 196.026	2360.1	502.3	ug/L	3.54	502.3	ug/L	3.54	0.70%
QC value within limits for Se 196.026 Recovery = 100.46%								
Sn 189.927	8.4	0.829	ug/L	1.2542	0.829	ug/L	1.2542	151.24%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	5197.2	-0.004	ug/L	0.1797	-0.004	ug/L	0.1797	>999.9%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	700.3	2.334	ug/L	2.4285	2.334	ug/L	2.4285	104.07%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	6374.0	500.7	ug/L	3.42	500.7	ug/L	3.42	0.68%
QC value within limits for Tl 190.801 Recovery = 100.14%								
V 292.402	149617.0	480.2	ug/L	4.00	480.2	ug/L	4.00	0.83%
QC value within limits for V 292.402 Recovery = 96.03%								
Zn 206.200	134261.7	943.7	ug/L	8.75	943.7	ug/L	8.75	0.93%
QC value within limits for Zn 206.200 Recovery = 94.37%								

All analyte(s) passed QC.

Sequence No.: 10
Sample ID: CCV1 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 03/06/12 3:25:25 PM
Data Type: Reprocessed on 03/07/12 2:12:16 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	76425.4	514.6	ug/L	2.14	514.6	ug/L	2.14	0.42%
QC value within limits for Ag 338.289 Recovery = 102.92%								
Al 308.215	46542.4	20450	ug/L	210.3	20450	ug/L	210.3	1.03%
QC value within limits for Al 308.215 Recovery = 102.23%								
As 188.979	5143.2	1036	ug/L	9.8	1036	ug/L	9.8	0.94%
QC value within limits for As 188.979 Recovery = 103.60%								
B	5929.3	1080	ug/L	23.5	1080	ug/L	23.5	2.18%
QC value within limits for B Recovery = 107.96%								
Ba 233.527	239768.7	1031	ug/L	4.3	1031	ug/L	4.3	0.42%
QC value within limits for Ba 233.527 Recovery = 103.12%								
Be 313.107	6371589.4	1044	ug/L	7.3	1044	ug/L	7.3	0.70%
QC value within limits for Be 313.107 Recovery = 104.44%								
Ca 315.887	895058.7	51710	ug/L	158.9	51710	ug/L	158.9	0.31%
QC value within limits for Ca 315.887 Recovery = 103.42%								
Cd 214.440	491631.6	1050	ug/L	5.1	1050	ug/L	5.1	0.48%
QC value within limits for Cd 214.440 Recovery = 105.04%								
Co 228.616	93910.4	1045	ug/L	5.3	1045	ug/L	5.3	0.50%
QC value within limits for Co 228.616 Recovery = 104.54%								
Cr 267.716	162800.6	1034	ug/L	5.6	1034	ug/L	5.6	0.54%
QC value within limits for Cr 267.716 Recovery = 103.36%								
Cu 327.393	117242.1	1029	ug/L	3.3	1029	ug/L	3.3	0.32%
QC value within limits for Cu 327.393 Recovery = 102.92%								
Fe 273.955	693988.2	20710	ug/L	101.0	20710	ug/L	101.0	0.49%
QC value within limits for Fe 273.955 Recovery = 103.56%								
K 766.490	82285.0	20280	ug/L	33.6	20280	ug/L	33.6	0.17%
QC value within limits for K 766.490 Recovery = 101.40%								
Mg 285.213	1695490.2	52260	ug/L	110.1	52260	ug/L	110.1	0.21%
QC value within limits for Mg 285.213 Recovery = 104.51%								
Mn 257.610	77271.2	1034	ug/L	15.1	1034	ug/L	15.1	1.46%
QC value within limits for Mn 257.610 Recovery = 103.35%								
Mo 202.031	55012.9	1066	ug/L	7.5	1066	ug/L	7.5	0.70%
QC value within limits for Mo 202.031 Recovery = 106.63%								
Na 589.592	293803.5	25600	ug/L	38.3	25600	ug/L	38.3	0.15%
QC value within limits for Na 589.592 Recovery = 102.39%								
Ni 231.604	78710.3	1049	ug/L	6.2	1049	ug/L	6.2	0.59%
QC value within limits for Ni 231.604 Recovery = 104.86%								
P 213.617	41719.7	5273	ug/L	28.1	5273	ug/L	28.1	0.53%
QC value within limits for P 213.617 Recovery = 105.46%								
Pb 220.353	20257.6	1066	ug/L	6.6	1066	ug/L	6.6	0.62%
QC value within limits for Pb 220.353 Recovery = 106.55%								
Sb 206.836	7205.6	1044	ug/L	6.6	1044	ug/L	6.6	0.64%
QC value within limits for Sb 206.836 Recovery = 104.39%								
Se 196.026	4893.9	1042	ug/L	20.9	1042	ug/L	20.9	2.01%
QC value within limits for Se 196.026 Recovery = 104.16%								
Sn 189.927	10615.6	1047	ug/L	7.8	1047	ug/L	7.8	0.75%
QC value within limits for Sn 189.927 Recovery = 104.65%								
Sr 421.552	1038494.9	1026	ug/L	2.5	1026	ug/L	2.5	0.25%
QC value within limits for Sr 421.552 Recovery = 102.59%								
Ti 337.279	76905.1	1018	ug/L	14.0	1018	ug/L	14.0	1.37%
QC value within limits for Ti 337.279 Recovery = 101.79%								
Tl 190.801	13651.4	1086	ug/L	12.2	1086	ug/L	12.2	1.13%
QC value within limits for Tl 190.801 Recovery = 108.56%								
V 292.402	299565.2	1046	ug/L	4.9	1046	ug/L	4.9	0.47%
QC value within limits for V 292.402 Recovery = 104.62%								
Zn 206.200	146258.5	1050	ug/L	6.0	1050	ug/L	6.0	0.57%
QC value within limits for Zn 206.200 Recovery = 105.03%								

All analyte(s) passed QC.

Sequence No.: 11
Sample ID: CCB 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 03/06/12 3:28:52 PM
Data Type: Reprocessed on 03/07/12 2:12:17 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	-65.4	-0.440	ug/L	0.0672	-0.440	ug/L	0.0672	15.27%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	-0.7	-0.285	ug/L	7.8539	-0.285	ug/L	7.8539	>999.9%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	1.6	0.331	ug/L	1.2291	0.331	ug/L	1.2291	370.94%
QC value within limits for As 188.979 Recovery = Not calculated								
B	42.8	7.250	ug/L	1.7740	7.250	ug/L	1.7740	24.47%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	8.1	0.036	ug/L	0.0221	0.036	ug/L	0.0221	62.06%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	29.0	0.005	ug/L	0.0273	0.005	ug/L	0.0273	542.35%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	84.4	4.891	ug/L	1.2668	4.891	ug/L	1.2668	25.90%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	23.6	0.051	ug/L	0.0175	0.051	ug/L	0.0175	34.63%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	12.4	0.139	ug/L	0.1339	0.139	ug/L	0.1339	96.66%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	12.5	0.080	ug/L	0.1556	0.080	ug/L	0.1556	195.51%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	24.4	0.214	ug/L	0.8475	0.214	ug/L	0.8475	396.02%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	-80.8	-2.453	ug/L	0.3598	-2.453	ug/L	0.3598	14.67%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	-74.0	-18.29	ug/L	57.539	-18.29	ug/L	57.539	314.61%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	89.1	2.746	ug/L	0.1639	2.746	ug/L	0.1639	5.97%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	5.0	0.066	ug/L	0.1106	0.066	ug/L	0.1106	166.44%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	0.5	0.009	ug/L	0.3269	0.009	ug/L	0.3269	>999.9%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	-18.2	-1.590	ug/L	6.9316	-1.590	ug/L	6.9316	435.96%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	11.8	0.157	ug/L	0.2578	0.157	ug/L	0.2578	164.10%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	11.9	1.500	ug/L	0.7070	1.500	ug/L	0.7070	47.13%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	11.1	0.586	ug/L	0.2875	0.586	ug/L	0.2875	49.07%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	-1.7	-0.249	ug/L	0.4359	-0.249	ug/L	0.4359	174.89%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	0.2	0.044	ug/L	2.7893	0.044	ug/L	2.7893	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	16.6	1.639	ug/L	0.3657	1.639	ug/L	0.3657	22.31%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	123.0	0.122	ug/L	0.1163	0.122	ug/L	0.1163	95.68%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	5.3	0.071	ug/L	0.2071	0.071	ug/L	0.2071	292.05%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	18.3	1.435	ug/L	0.4656	1.435	ug/L	0.4656	32.45%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	58.4	0.201	ug/L	0.0776	0.201	ug/L	0.0776	38.55%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	-81.1	-0.580	ug/L	0.1454	-0.580	ug/L	0.1454	25.09%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 22
Sample ID: CCV2 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 03/06/12 4:12:43 PM
Data Type: Reprocessed on 03/07/12 2:12:28 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	55433.3	373.2	ug/L	5.31	373.2	ug/L	5.31	1.42%
QC value within limits for Ag 338.289 Recovery = 99.53%								
Al 308.215	35166.5	15450	ug/L	220.9	15450	ug/L	220.9	1.43%
QC value within limits for Al 308.215 Recovery = 103.00%								
As 188.979	3790.9	763.6	ug/L	7.41	763.6	ug/L	7.41	0.97%
QC value within limits for As 188.979 Recovery = 101.82%								
B	4523.3	821.5	ug/L	13.27	821.5	ug/L	13.27	1.62%
QC value within limits for B Recovery = 109.53%								
Ba 233.527	176441.4	758.9	ug/L	12.55	758.9	ug/L	12.55	1.65%
QC value within limits for Ba 233.527 Recovery = 101.18%								
Be 313.107	4620150.9	757.4	ug/L	3.76	757.4	ug/L	3.76	0.50%
QC value within limits for Be 313.107 Recovery = 100.99%								
Ca 315.887	677636.7	39150	ug/L	357.3	39150	ug/L	357.3	0.91%
QC value within limits for Ca 315.887 Recovery = 104.40%								
Cd 214.440	362549.2	774.6	ug/L	14.17	774.6	ug/L	14.17	1.83%
QC value within limits for Cd 214.440 Recovery = 103.27%								
Co 228.616	68924.2	767.1	ug/L	14.02	767.1	ug/L	14.02	1.83%
QC value within limits for Co 228.616 Recovery = 102.28%								
Cr 267.716	119196.5	756.6	ug/L	12.28	756.6	ug/L	12.28	1.62%
QC value within limits for Cr 267.716 Recovery = 100.89%								
Cu 327.393	84811.5	744.5	ug/L	12.07	744.5	ug/L	12.07	1.62%
QC value within limits for Cu 327.393 Recovery = 99.27%								
Fe 273.955	508668.6	15180	ug/L	261.0	15180	ug/L	261.0	1.72%
QC value within limits for Fe 273.955 Recovery = 101.19%								
K 766.490	60459.3	14900	ug/L	111.3	14900	ug/L	111.3	0.75%
QC value within limits for K 766.490 Recovery = 99.34%								
Mg 285.213	1288955.9	39730	ug/L	365.7	39730	ug/L	365.7	0.92%
QC value within limits for Mg 285.213 Recovery = 105.94%								
Mn 257.610	58657.0	784.5	ug/L	12.55	784.5	ug/L	12.55	1.60%
QC value within limits for Mn 257.610 Recovery = 104.60%								
Mo 202.031	38957.2	755.1	ug/L	12.57	755.1	ug/L	12.57	1.67%
QC value within limits for Mo 202.031 Recovery = 100.68%								
Na 589.592	214714.1	18710	ug/L	160.7	18710	ug/L	160.7	0.86%
QC value within limits for Na 589.592 Recovery = 99.76%								
Ni 231.604	57603.1	767.3	ug/L	14.54	767.3	ug/L	14.54	1.89%
QC value within limits for Ni 231.604 Recovery = 102.31%								
P 213.617	29438.1	3721	ug/L	65.4	3721	ug/L	65.4	1.76%
QC value within limits for P 213.617 Recovery = 99.22%								
Pb 220.353	14941.8	785.9	ug/L	2.15	785.9	ug/L	2.15	0.27%
QC value within limits for Pb 220.353 Recovery = 104.79%								
Sb 206.836	5259.5	761.9	ug/L	2.32	761.9	ug/L	2.32	0.30%
QC value within limits for Sb 206.836 Recovery = 101.59%								
Se 196.026	3623.9	771.3	ug/L	3.17	771.3	ug/L	3.17	0.41%
QC value within limits for Se 196.026 Recovery = 102.84%								
Sn 189.927	7928.6	781.6	ug/L	1.34	781.6	ug/L	1.34	0.17%
QC value within limits for Sn 189.927 Recovery = 104.22%								
Sr 421.552	763777.1	754.5	ug/L	6.19	754.5	ug/L	6.19	0.82%
QC value within limits for Sr 421.552 Recovery = 100.60%								
Ti 337.279	57677.8	763.4	ug/L	12.88	763.4	ug/L	12.88	1.69%
QC value within limits for Ti 337.279 Recovery = 101.79%								
Tl 190.801	10211.5	812.2	ug/L	2.76	812.2	ug/L	2.76	0.34%
QC value within limits for Tl 190.801 Recovery = 108.29%								
V 292.402	218399.2	762.3	ug/L	11.34	762.3	ug/L	11.34	1.49%
QC value within limits for V 292.402 Recovery = 101.65%								
Zn 206.200	108071.1	776.0	ug/L	14.43	776.0	ug/L	14.43	1.86%
QC value within limits for Zn 206.200 Recovery = 103.46%								

All analyte(s) passed QC.

Sequence No.: 23
Sample ID: CCB 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 03/06/12 4:16:08 PM
Data Type: Reprocessed on 03/07/12 2:12:29 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	-53.2	-0.358	ug/L	0.4758	-0.358	ug/L	0.4758	132.76%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	7.8	3.324	ug/L	6.6636	3.324	ug/L	6.6636	200.44%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	0.1	0.016	ug/L	0.5839	0.016	ug/L	0.5839	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
B	82.9	14.04	ug/L	0.851	14.04	ug/L	0.851	6.06%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	6.1	0.025	ug/L	0.1098	0.025	ug/L	0.1098	431.35%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	604.6	0.098	ug/L	0.0249	0.098	ug/L	0.0249	25.30%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	1065.7	61.68	ug/L	33.688	61.68	ug/L	33.688	54.62%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	24.3	0.052	ug/L	0.0158	0.052	ug/L	0.0158	30.45%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	21.7	0.243	ug/L	0.1068	0.243	ug/L	0.1068	43.94%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	7.9	0.048	ug/L	0.0971	0.048	ug/L	0.0971	203.33%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	26.2	0.230	ug/L	0.5164	0.230	ug/L	0.5164	224.25%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	-118.2	-3.573	ug/L	0.0509	-3.573	ug/L	0.0509	1.42%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	-15.4	-3.867	ug/L	39.0242	-3.867	ug/L	39.0242	>999.9%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	129.5	3.956	ug/L	1.9619	3.956	ug/L	1.9619	49.59%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	12.6	0.168	ug/L	0.0907	0.168	ug/L	0.0907	54.10%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	21.5	0.415	ug/L	0.4426	0.415	ug/L	0.4426	106.73%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	340.0	29.64	ug/L	17.758	29.64	ug/L	17.758	59.91%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	17.3	0.229	ug/L	0.2337	0.229	ug/L	0.2337	102.01%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	5.4	0.683	ug/L	0.6178	0.683	ug/L	0.6178	90.42%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	14.7	0.771	ug/L	0.7066	0.771	ug/L	0.7066	91.59%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	-0.1	-0.016	ug/L	0.3111	-0.016	ug/L	0.3111	>999.9%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	-3.2	-0.689	ug/L	2.1160	-0.689	ug/L	2.1160	307.23%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	7.0	0.693	ug/L	0.2483	0.693	ug/L	0.2483	35.84%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	163.4	0.161	ug/L	0.2231	0.161	ug/L	0.2231	138.62%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	-4.7	-0.063	ug/L	0.2027	-0.063	ug/L	0.2027	322.79%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	21.8	1.692	ug/L	0.8132	1.692	ug/L	0.8132	48.07%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	-228.8	-0.776	ug/L	0.5308	-0.776	ug/L	0.5308	68.37%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	-253.3	-1.815	ug/L	0.0504	-1.815	ug/L	0.0504	2.78%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 34
Sample ID: CCV1 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 03/06/12 5:11:31 PM
Data Type: Reprocessed on 03/07/12 2:12:40 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	72630.4	489.0	ug/L	6.85	489.0	ug/L	6.85	1.40%
QC value within limits for Ag 338.289 Recovery = 97.81%								
Al 308.215	46814.3	20570	ug/L	122.4	20570	ug/L	122.4	0.60%
QC value within limits for Al 308.215 Recovery = 102.85%								
As 188.979	4918.4	990.7	ug/L	15.02	990.7	ug/L	15.02	1.52%
QC value within limits for As 188.979 Recovery = 99.07%								
B	5949.2	1079	ug/L	8.6	1079	ug/L	8.6	0.80%
QC value within limits for B Recovery = 107.94%								
Ba 233.527	228186.2	981.4	ug/L	10.83	981.4	ug/L	10.83	1.10%
QC value within limits for Ba 233.527 Recovery = 98.14%								
Be 313.107	6104163.4	1001	ug/L	5.5	1001	ug/L	5.5	0.55%
QC value within limits for Be 313.107 Recovery = 100.07%								
Ca 315.887	876035.3	50610	ug/L	236.7	50610	ug/L	236.7	0.47%
QC value within limits for Ca 315.887 Recovery = 101.22%								
Cd 214.440	462433.4	987.9	ug/L	11.72	987.9	ug/L	11.72	1.19%
QC value within limits for Cd 214.440 Recovery = 98.79%								
Co 228.616	88710.9	987.3	ug/L	11.98	987.3	ug/L	11.98	1.21%
QC value within limits for Co 228.616 Recovery = 98.73%								
Cr 267.716	154434.2	980.3	ug/L	11.03	980.3	ug/L	11.03	1.12%
QC value within limits for Cr 267.716 Recovery = 98.03%								
Cu 327.393	111540.8	979.2	ug/L	11.96	979.2	ug/L	11.96	1.22%
QC value within limits for Cu 327.393 Recovery = 97.92%								
Fe 273.955	657501.7	19620	ug/L	226.4	19620	ug/L	226.4	1.15%
QC value within limits for Fe 273.955 Recovery = 98.09%								
K 766.490	79369.5	19560	ug/L	79.0	19560	ug/L	79.0	0.40%
QC value within limits for K 766.490 Recovery = 97.81%								
Mg 285.213	1690397.6	52100	ug/L	182.1	52100	ug/L	182.1	0.35%
QC value within limits for Mg 285.213 Recovery = 104.20%								
Mn 257.610	77441.9	1036	ug/L	4.3	1036	ug/L	4.3	0.41%
QC value within limits for Mn 257.610 Recovery = 103.58%								
Mo 202.031	50968.2	987.9	ug/L	12.47	987.9	ug/L	12.47	1.26%
QC value within limits for Mo 202.031 Recovery = 98.79%								
Na 589.592	279897.9	24380	ug/L	100.7	24380	ug/L	100.7	0.41%
QC value within limits for Na 589.592 Recovery = 97.54%								
Ni 231.604	74128.7	987.5	ug/L	11.35	987.5	ug/L	11.35	1.15%
QC value within limits for Ni 231.604 Recovery = 98.75%								
P 213.617	37718.0	4767	ug/L	61.0	4767	ug/L	61.0	1.28%
QC value within limits for P 213.617 Recovery = 95.34%								
Pb 220.353	19191.9	1009	ug/L	4.5	1009	ug/L	4.5	0.44%
QC value within limits for Pb 220.353 Recovery = 100.95%								
Sb 206.836	6964.5	1009	ug/L	5.4	1009	ug/L	5.4	0.54%
QC value within limits for Sb 206.836 Recovery = 100.89%								
Se 196.026	4631.1	985.7	ug/L	1.57	985.7	ug/L	1.57	0.16%
QC value within limits for Se 196.026 Recovery = 98.57%								
Sn 189.927	10238.1	1009	ug/L	5.8	1009	ug/L	5.8	0.58%
QC value within limits for Sn 189.927 Recovery = 100.93%								
Sr 421.552	1007507.5	995.3	ug/L	3.56	995.3	ug/L	3.56	0.36%
QC value within limits for Sr 421.552 Recovery = 99.53%								
Ti 337.279	76799.6	1017	ug/L	3.5	1017	ug/L	3.5	0.35%
QC value within limits for Ti 337.279 Recovery = 101.65%								
Tl 190.801	13153.2	1047	ug/L	4.5	1047	ug/L	4.5	0.43%
QC value within limits for Tl 190.801 Recovery = 104.67%								
V 292.402	285485.9	996.5	ug/L	10.17	996.5	ug/L	10.17	1.02%
QC value within limits for V 292.402 Recovery = 99.65%								
Zn 206.200	137246.1	985.5	ug/L	12.54	985.5	ug/L	12.54	1.27%
QC value within limits for Zn 206.200 Recovery = 98.55%								

All analyte(s) passed QC.

Sequence No.: 35
Sample ID: CCB 120306EA I:PB O:EA
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 03/06/12 5:14:52 PM
Data Type: Reprocessed on 03/07/12 2:12:41 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 120306EA I:PB O:EA

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Ag 338.289	-66.8	-0.449	ug/L	0.5387	-0.449	ug/L	0.5387	119.84%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215	-5.7	-2.556	ug/L	2.3938	-2.556	ug/L	2.3938	93.66%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979	-4.0	-0.798	ug/L	0.7919	-0.798	ug/L	0.7919	99.19%
QC value within limits for As 188.979 Recovery = Not calculated								
B	82.3	13.93	ug/L	2.684	13.93	ug/L	2.684	19.26%
QC value within limits for B Recovery = Not calculated								
Ba 233.527	-15.9	-0.068	ug/L	0.0321	-0.068	ug/L	0.0321	46.94%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107	769.1	0.125	ug/L	0.0418	0.125	ug/L	0.0418	33.38%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887	254.3	14.70	ug/L	2.564	14.70	ug/L	2.564	17.44%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440	10.7	0.023	ug/L	0.0074	0.023	ug/L	0.0074	32.46%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616	0.5	0.006	ug/L	0.1761	0.006	ug/L	0.1761	>999.9%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716	-65.8	-0.419	ug/L	0.2388	-0.419	ug/L	0.2388	57.05%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393	54.3	0.476	ug/L	0.2937	0.476	ug/L	0.2937	61.66%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955	-145.7	-4.422	ug/L	0.9837	-4.422	ug/L	0.9837	22.25%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490	64.4	15.89	ug/L	66.266	15.89	ug/L	66.266	416.93%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213	87.9	2.698	ug/L	1.2711	2.698	ug/L	1.2711	47.12%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610	10.1	0.134	ug/L	0.1582	0.134	ug/L	0.1582	117.88%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031	14.8	0.286	ug/L	0.1743	0.286	ug/L	0.1743	60.88%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592	423.8	36.98	ug/L	8.240	36.98	ug/L	8.240	22.28%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604	11.6	0.154	ug/L	0.2330	0.154	ug/L	0.2330	151.26%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617	-3.0	-0.385	ug/L	1.5328	-0.385	ug/L	1.5328	397.95%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353	11.6	0.608	ug/L	0.8022	0.608	ug/L	0.8022	131.92%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836	5.3	0.770	ug/L	0.1880	0.770	ug/L	0.1880	24.43%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026	-5.1	-1.081	ug/L	2.2705	-1.081	ug/L	2.2705	210.08%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927	10.4	1.024	ug/L	0.4787	1.024	ug/L	0.4787	46.73%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552	73.9	0.073	ug/L	0.1355	0.073	ug/L	0.1355	185.65%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279	-7.4	-0.099	ug/L	0.4242	-0.099	ug/L	0.4242	427.57%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801	24.9	1.943	ug/L	0.8017	1.943	ug/L	0.8017	41.26%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402	-2.8	-0.008	ug/L	0.4006	-0.008	ug/L	0.4006	>999.9%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200	-247.2	-1.773	ug/L	0.0685	-1.773	ug/L	0.0685	3.86%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

METALS
EPA SW846 - 6010B
Raw Data

APPL, INC.

Sequence No.: 14
Sample ID: AY56028S03
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1.14 g
Dilution:

Autosampler Location: 77
Date Collected: 03/06/12 3:44:26 PM
Data Type: Reprocessed on 03/07/12 2:12:20 PM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY56028S03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	3839.5	25.85	ug/L	0.541	2.268	mg/kg	0.0475	2.09%
Al 308.215	209040.1	89980	ug/L	618.3	7893	mg/kg	54.2	0.69%
As 188.979	110.1	22.17	ug/L	5.229	1.945	mg/kg	0.4587	23.59%
B	293.3	384.9	ug/L	5.69	33.76	mg/kg	0.499	1.48%
Ba 233.527	50991.3	201.0	ug/L	1.87	17.63	mg/kg	0.164	0.93%
Be 313.107	5932.9	-5.279	ug/L	0.0631	-0.463	mg/kg	0.0055	1.19%
Ca 315.887	38581471.4	2233000	ug/L	9247.4	195900	mg/kg	811.2	0.41%
Cd 214.440	1402.2	-17.22	ug/L	0.005	-1.511	mg/kg	0.0005	0.03%
Co 228.616	1993.3	1.232	ug/L	1.2778	0.108	mg/kg	0.1121	103.67%
Cr 267.716	27053.2	144.1	ug/L	1.68	12.64	mg/kg	0.148	1.17%
Cu 327.393	4352.1	38.21	ug/L	0.258	3.351	mg/kg	0.0226	0.67%
Fe 273.955	1902231.5	55360	ug/L	343.4	4856	mg/kg	30.1	0.62%
K 766.490	113020.3	26060	ug/L	162.4	2286	mg/kg	14.2	0.62%
Mg 285.213	949210.6	28060	ug/L	176.5	2462	mg/kg	15.5	0.63%
Mn 257.610	90684.7	1185	ug/L	19.8	103.9	mg/kg	1.73	1.67%
Mo 202.031	116.3	-16.52	ug/L	0.836	-1.449	mg/kg	0.0733	5.06%
Na 589.592	16156.7	306.4	ug/L	32.81	26.88	mg/kg	2.878	10.71%
Ni 231.604	4168.0	30.59	ug/L	0.848	2.684	mg/kg	0.0744	2.77%
P 213.617	9146.3	1156	ug/L	13.2	101.4	mg/kg	1.16	1.15%
Pb 220.353	2761.9	145.3	ug/L	2.32	12.74	mg/kg	0.204	1.60%
Sb 206.836	0.0	0.000	ug/L	3.1285	0.000	mg/kg	0.2744	>999.9%
Se 196.026	-49.5	-10.54	ug/L	12.538	-0.925	mg/kg	1.0999	118.91%
Sn 189.927	-248.9	-24.54	ug/L	1.413	-2.153	mg/kg	0.1240	5.76%
Sr 421.552	1105419.7	1069	ug/L	7.2	93.73	mg/kg	0.632	0.67%
Ti 337.279	44459.6	557.8	ug/L	8.33	48.93	mg/kg	0.730	1.49%
Tl 190.801	-155.6	-5.148	ug/L	0.7726	-0.452	mg/kg	0.0678	15.01%
V 292.402	46331.2	131.0	ug/L	1.14	11.49	mg/kg	0.100	0.87%
Zn 206.200	35757.0	184.7	ug/L	2.30	16.20	mg/kg	0.202	1.25%

Sequence No.: 25
Sample ID: AY56028S03-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1.14 g
Dilution: 5X

Autosampler Location: 86
Date Collected: 03/06/12 4:24:56 PM
Data Type: Reprocessed on 03/07/12 2:12:31 PM
Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY56028S03-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	754.8	5.083	ug/L	0.2564	2.229	mg/kg	0.1125	5.05%
Al 308.215	47696.1	20520	ug/L	337.7	9000	mg/kg	148.1	1.65%
As 188.979	14.7	2.958	ug/L	1.1172	1.298	mg/kg	0.4900	37.76%
B	59.6	88.85	ug/L	6.996	38.97	mg/kg	3.068	7.87%
Ba 233.527	11667.0	45.88	ug/L	0.273	20.12	mg/kg	0.120	0.59%
Be 313.107	1213.3	-1.287	ug/L	0.0374	-0.565	mg/kg	0.0164	2.90%
Ca 315.887	8953857.7	518300	ug/L	3359.8	227300	mg/kg	1473.6	0.65%
Cd 214.440	391.4	-3.880	ug/L	0.1172	-1.702	mg/kg	0.0514	3.02%
Co 228.616	516.8	0.903	ug/L	0.0392	0.396	mg/kg	0.0172	4.34%
Cr 267.716	6233.6	33.17	ug/L	0.421	14.55	mg/kg	0.185	1.27%
Cu 327.393	569.5	5.000	ug/L	0.2429	2.193	mg/kg	0.1066	4.86%
Fe 273.955	452425.3	13180	ug/L	62.7	5780	mg/kg	27.5	0.48%
K 766.490	22963.6	5241	ug/L	144.7	2299	mg/kg	63.4	2.76%
Mg 285.213	215919.3	6378	ug/L	86.2	2798	mg/kg	37.8	1.35%
Mn 257.610	20631.7	269.4	ug/L	5.45	118.1	mg/kg	2.39	2.02%
Mo 202.031	54.3	-3.280	ug/L	0.2024	-1.439	mg/kg	0.0888	6.17%
Na 589.592	3834.9	78.65	ug/L	7.315	34.49	mg/kg	3.208	9.30%
Ni 231.604	1006.7	7.626	ug/L	0.3537	3.345	mg/kg	0.1551	4.64%
P 213.617	1987.5	251.2	ug/L	0.62	110.2	mg/kg	0.27	0.25%
Pb 220.353	670.9	35.29	ug/L	0.701	15.48	mg/kg	0.307	1.99%
Sb 206.836	-8.1	-1.173	ug/L	0.4411	-0.515	mg/kg	0.1935	37.60%
Se 196.026	-22.0	-4.689	ug/L	1.8389	-2.057	mg/kg	0.8065	39.22%
Sn 189.927	-200.9	-19.80	ug/L	0.066	-8.685	mg/kg	0.0290	0.33%
Sr 421.552	239295.1	230.9	ug/L	3.21	101.3	mg/kg	1.41	1.39%
Ti 337.279	9699.8	121.3	ug/L	2.25	53.19	mg/kg	0.987	1.86%
Tl 190.801	-44.6	-1.993	ug/L	1.0887	-0.874	mg/kg	0.4775	54.64%
V 292.402	10490.3	29.45	ug/L	0.188	12.92	mg/kg	0.083	0.64%
Zn 206.200	8598.3	45.00	ug/L	0.334	19.73	mg/kg	0.147	0.74%

Sequence No.: 18
Sample ID: AY56033S02
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1.13 g
Dilution:

Autosampler Location: 81
Date Collected: 03/06/12 3:58:05 PM
Data Type: Reprocessed on 03/07/12 2:12:24 PM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY56033S02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	3636.7	24.49	ug/L	0.562	2.167	mg/kg	0.0497	2.30%
Al 308.215	173888.9	74430	ug/L	612.5	6587	mg/kg	54.2	0.82%
As 188.979	112.1	22.58	ug/L	1.594	1.998	mg/kg	0.1411	7.06%
B	301.5	368.2	ug/L	4.29	32.59	mg/kg	0.380	1.16%
Ba 233.527	40622.5	157.3	ug/L	1.01	13.92	mg/kg	0.089	0.64%
Be 313.107	5281.4	-5.746	ug/L	0.0490	-0.509	mg/kg	0.0043	0.85%
Ca 315.887	38010360.4	2200000	ug/L	10122.0	194700	mg/kg	895.8	0.46%
Cd 214.440	1490.2	-16.58	ug/L	0.173	-1.467	mg/kg	0.0153	1.04%
Co 228.616	1995.9	1.853	ug/L	0.7249	0.164	mg/kg	0.0642	39.13%
Cr 267.716	14731.3	64.31	ug/L	0.451	5.691	mg/kg	0.0399	0.70%
Cu 327.393	3411.9	29.95	ug/L	0.421	2.651	mg/kg	0.0372	1.40%
Fe 273.955	1695176.0	49100	ug/L	241.8	4345	mg/kg	21.4	0.49%
K 766.490	101207.7	23190	ug/L	218.9	2052	mg/kg	19.4	0.94%
Mg 285.213	3318967.8	101200	ug/L	820.6	8953	mg/kg	72.6	0.81%
Mn 257.610	89764.8	1169	ug/L	7.9	103.4	mg/kg	0.70	0.68%
Mo 202.031	175.1	-15.71	ug/L	1.167	-1.390	mg/kg	0.1033	7.43%
Na 589.592	19295.0	596.5	ug/L	14.44	52.78	mg/kg	1.277	2.42%
Ni 231.604	3824.8	25.85	ug/L	0.207	2.288	mg/kg	0.0183	0.80%
P 213.617	6188.8	782.2	ug/L	7.00	69.22	mg/kg	0.620	0.90%
Pb 220.353	2023.8	106.5	ug/L	1.01	9.420	mg/kg	0.0890	0.94%
Sb 206.836	-37.2	-5.389	ug/L	3.8011	-0.477	mg/kg	0.3364	70.54%
Se 196.026	-32.2	-6.843	ug/L	15.1223	-0.606	mg/kg	1.3383	221.00%
Sn 189.927	-254.9	-25.13	ug/L	0.537	-2.224	mg/kg	0.0475	2.14%
Sr 421.552	1225534.9	1188	ug/L	9.2	105.1	mg/kg	0.82	0.78%
Ti 337.279	37288.8	461.8	ug/L	4.54	40.87	mg/kg	0.402	0.98%
Tl 190.801	-159.9	-6.774	ug/L	0.8141	-0.599	mg/kg	0.0720	12.02%
V 292.402	37834.6	102.7	ug/L	0.47	9.092	mg/kg	0.0412	0.45%
Zn 206.200	33593.4	168.9	ug/L	0.77	14.95	mg/kg	0.068	0.46%

Sequence No.: 24
Sample ID: AY56033S02-1/5
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1.13 g
Dilution: 5X

Autosampler Location: 85
Date Collected: 03/06/12 4:20:17 PM
Data Type: Reprocessed on 03/07/12 2:12:30 PM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY56033S02-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	749.8	5.048	ug/L	0.1914	2.234	mg/kg	0.0847	3.79%
Al 308.215	39936.7	17060	ug/L	256.0	7550	mg/kg	113.3	1.50%
As 188.979	11.6	2.332	ug/L	0.3869	1.032	mg/kg	0.1712	16.59%
B	92.7	93.03	ug/L	9.075	41.16	mg/kg	4.016	9.76%
Ba 233.527	9437.9	36.33	ug/L	0.215	16.08	mg/kg	0.095	0.59%
Be 313.107	1286.2	-1.423	ug/L	0.0472	-0.630	mg/kg	0.0209	3.32%
Ca 315.887	9252905.8	535600	ug/L	2222.6	237000	mg/kg	983.4	0.41%
Cd 214.440	379.8	-4.011	ug/L	0.0057	-1.775	mg/kg	0.0025	0.14%
Co 228.616	509.1	0.736	ug/L	0.1754	0.326	mg/kg	0.0776	23.81%
Cr 267.716	3482.7	15.04	ug/L	0.120	6.657	mg/kg	0.0533	0.80%
Cu 327.393	357.8	3.141	ug/L	0.1215	1.390	mg/kg	0.0537	3.87%
Fe 273.955	416055.3	12060	ug/L	105.9	5334	mg/kg	46.8	0.88%
K 766.490	21335.9	4829	ug/L	58.3	2137	mg/kg	25.8	1.21%
Mg 285.213	767203.6	23370	ug/L	74.6	10340	mg/kg	33.0	0.32%
Mn 257.610	20799.9	270.5	ug/L	4.27	119.7	mg/kg	1.89	1.58%
Mo 202.031	66.3	-3.348	ug/L	0.2156	-1.481	mg/kg	0.0954	6.44%
Na 589.592	4541.2	131.9	ug/L	8.04	58.34	mg/kg	3.556	6.09%
Ni 231.604	955.8	6.647	ug/L	0.1232	2.941	mg/kg	0.0545	1.85%
P 213.617	1397.9	176.7	ug/L	0.67	78.18	mg/kg	0.296	0.38%
Pb 220.353	509.6	26.80	ug/L	0.100	11.86	mg/kg	0.044	0.37%
Sb 206.836	-9.8	-1.415	ug/L	0.1080	-0.626	mg/kg	0.0478	7.64%
Se 196.026	-31.2	-6.649	ug/L	1.3213	-2.942	mg/kg	0.5847	19.87%
Sn 189.927	-240.2	-23.68	ug/L	0.343	-10.48	mg/kg	0.152	1.45%
Sr 421.552	269526.2	260.6	ug/L	0.93	115.3	mg/kg	0.41	0.36%
Ti 337.279	8547.5	105.4	ug/L	4.71	46.65	mg/kg	2.083	4.46%
Tl 190.801	-37.0	-1.675	ug/L	1.6184	-0.741	mg/kg	0.7161	96.61%
V 292.402	8727.8	23.35	ug/L	0.205	10.33	mg/kg	0.091	0.88%
Zn 206.200	8069.8	40.37	ug/L	0.227	17.86	mg/kg	0.100	0.56%

Sequence No.: 12
Sample ID: 120306A-3050G-BLK
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1 g
Dilution:

Autosampler Location: 75
Date Collected: 03/06/12 3:36:03 PM
Data Type: Reprocessed on 03/07/12 2:12:18 PM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: 120306A-3050G-BLK

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	-22.7	-0.153	ug/L	0.0987	-0.015	mg/kg	0.0099	64.60%
Al 308.215	-19.8	-8.997	ug/L	1.9635	-0.900	mg/kg	0.1964	21.82%
As 188.979	-1.1	-0.230	ug/L	0.6144	-0.023	mg/kg	0.0614	267.30%
B	19.0	3.571	ug/L	1.1970	0.357	mg/kg	0.1197	33.52%
Ba 233.527	9.1	0.020	ug/L	0.0528	0.002	mg/kg	0.0053	269.08%
Be 313.107	74.3	0.012	ug/L	0.0249	0.001	mg/kg	0.0025	207.19%
Ca 315.887	1362.7	78.72	ug/L	0.746	7.872	mg/kg	0.0746	0.95%
Cd 214.440	13.8	0.022	ug/L	0.0172	0.002	mg/kg	0.0017	79.51%
Co 228.616	2.8	0.026	ug/L	0.0669	0.003	mg/kg	0.0067	253.55%
Cr 267.716	-1.7	-0.012	ug/L	0.1640	-0.001	mg/kg	0.0164	>999.9%
Cu 327.393	29.3	0.258	ug/L	0.0801	0.026	mg/kg	0.0080	31.10%
Fe 273.955	3626.3	109.2	ug/L	0.75	10.92	mg/kg	0.075	0.69%
K 766.490	1.0	0.170	ug/L	46.0648	0.017	mg/kg	4.6065	>999.9%
Mg 285.213	102.9	3.138	ug/L	0.5103	0.314	mg/kg	0.0510	16.26%
Mn 257.610	39.8	0.535	ug/L	0.2421	0.054	mg/kg	0.0242	45.23%
Mo 202.031	10.8	0.215	ug/L	0.2268	0.022	mg/kg	0.0227	105.33%
Na 589.592	13.9	1.150	ug/L	10.6519	0.115	mg/kg	1.0652	926.60%
Ni 231.604	32.4	0.429	ug/L	0.0615	0.043	mg/kg	0.0062	14.33%
P 213.617	179.8	22.73	ug/L	0.594	2.273	mg/kg	0.0594	2.61%
Pb 220.353	19.5	1.028	ug/L	0.3296	0.103	mg/kg	0.0330	32.08%
Sb 206.836	7.8	1.128	ug/L	0.5327	0.113	mg/kg	0.0533	47.21%
Se 196.026	-6.9	-1.461	ug/L	2.9087	-0.146	mg/kg	0.2909	199.15%
Sn 189.927	-49.5	-4.876	ug/L	0.3663	-0.488	mg/kg	0.0366	7.51%
Sr 421.552	1323.6	1.307	ug/L	0.2547	0.131	mg/kg	0.0255	19.49%
Ti 337.279	20.2	0.268	ug/L	0.1962	0.027	mg/kg	0.0196	73.26%
Tl 190.801	15.1	1.184	ug/L	0.8505	0.118	mg/kg	0.0850	71.86%
V 292.402	-44.3	-0.174	ug/L	0.3309	-0.017	mg/kg	0.0331	190.12%
Zn 206.200	70.5	0.496	ug/L	0.1892	0.050	mg/kg	0.0189	38.15%

Sequence No.: 13
Sample ID: 120306A-3050G-LCS
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1 g
Dilution:

Autosampler Location: 76
Date Collected: 03/06/12 3:40:11 PM
Data Type: Reprocessed on 03/07/12 2:12:19 PM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: 120306A-3050G-LCS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	15030.4	101.2	ug/L	1.43	10.12	mg/kg	0.143	1.41%
Al 308.215	4769.7	2043	ug/L	35.3	204.3	mg/kg	3.53	1.73%
As 188.979	1256.6	253.1	ug/L	2.62	25.31	mg/kg	0.262	1.03%
B	1468.8	257.2	ug/L	3.69	25.72	mg/kg	0.369	1.44%
Ba 233.527	58299.2	251.3	ug/L	3.18	25.13	mg/kg	0.318	1.27%
Be 313.107	327650.1	54.38	ug/L	0.660	5.438	mg/kg	0.0660	1.21%
Ca 315.887	451737.1	26110	ug/L	121.0	2611	mg/kg	12.1	0.46%
Cd 214.440	24771.6	52.80	ug/L	0.302	5.280	mg/kg	0.0302	0.57%
Co 228.616	24386.4	271.3	ug/L	1.94	27.13	mg/kg	0.194	0.71%
Cr 267.716	43269.1	274.1	ug/L	3.44	27.41	mg/kg	0.344	1.25%
Cu 327.393	29568.6	259.6	ug/L	3.05	25.96	mg/kg	0.305	1.18%
Fe 273.955	36207.8	1011	ug/L	11.7	101.1	mg/kg	1.17	1.16%
K 766.490	20777.7	5108	ug/L	42.8	510.8	mg/kg	4.28	0.84%
Mg 285.213	841443.5	25930	ug/L	94.1	2593	mg/kg	9.4	0.36%
Mn 257.610	20537.4	273.7	ug/L	1.07	27.37	mg/kg	0.107	0.39%
Mo 202.031	13177.8	254.9	ug/L	1.51	25.49	mg/kg	0.151	0.59%
Na 589.592	293929.2	25640	ug/L	51.6	2564	mg/kg	5.2	0.20%
Ni 231.604	20748.9	276.2	ug/L	2.05	27.62	mg/kg	0.205	0.74%
P 213.617	16833.0	2127	ug/L	16.6	212.7	mg/kg	1.66	0.78%
Pb 220.353	5080.4	267.2	ug/L	2.95	26.72	mg/kg	0.295	1.11%
Sb 206.836	1764.0	255.5	ug/L	2.53	25.55	mg/kg	0.253	0.99%
Se 196.026	1240.0	263.9	ug/L	5.30	26.39	mg/kg	0.530	2.01%
Sn 189.927	2677.6	264.0	ug/L	2.07	26.40	mg/kg	0.207	0.78%
Sr 421.552	261172.1	257.9	ug/L	0.58	25.79	mg/kg	0.058	0.23%
Ti 337.279	19795.2	261.5	ug/L	1.53	26.15	mg/kg	0.153	0.59%
Tl 190.801	3407.1	271.0	ug/L	0.74	27.10	mg/kg	0.074	0.27%
V 292.402	75130.1	263.1	ug/L	3.03	26.31	mg/kg	0.303	1.15%
Zn 206.200	73747.1	528.3	ug/L	7.12	52.83	mg/kg	0.712	1.35%

Sequence No.: 21
Sample ID: AY56033S02-A
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1.13 g
Dilution:

Autosampler Location: 84
Date Collected: 03/06/12 4:09:06 PM
Data Type: Reprocessed on 03/07/12 2:12:27 PM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY56033S02-A

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	27386.1	184.4	ug/L	1.44	16.32	mg/kg	0.127	0.78%
Al 308.215	175274.6	74990	ug/L	589.5	6637	mg/kg	52.2	0.79%
As 188.979	2252.1	453.7	ug/L	8.13	40.15	mg/kg	0.720	1.79%
B	2951.9	819.3	ug/L	4.20	72.50	mg/kg	0.372	0.51%
Ba 233.527	123351.8	514.4	ug/L	5.85	45.53	mg/kg	0.518	1.14%
Be 313.107	490138.3	75.04	ug/L	0.782	6.641	mg/kg	0.0692	1.04%
Ca 315.887	37908876.3	2194000	ug/L	10252.4	194200	mg/kg	907.3	0.47%
Cd 214.440	36273.4	58.01	ug/L	0.942	5.134	mg/kg	0.0833	1.62%
Co 228.616	36344.1	384.4	ug/L	5.59	34.01	mg/kg	0.494	1.45%
Cr 267.716	76513.9	456.2	ug/L	5.20	40.37	mg/kg	0.460	1.14%
Cu 327.393	50932.8	447.1	ug/L	4.34	39.57	mg/kg	0.384	0.97%
Fe 273.955	1667940.5	48190	ug/L	550.1	4265	mg/kg	48.7	1.14%
K 766.490	134532.8	31420	ug/L	159.4	2780	mg/kg	14.1	0.51%
Mg 285.213	4520091.1	138200	ug/L	1117.9	12230	mg/kg	98.9	0.81%
Mn 257.610	121075.8	1587	ug/L	12.5	140.4	mg/kg	1.11	0.79%
Mo 202.031	20367.3	375.2	ug/L	4.40	33.20	mg/kg	0.390	1.17%
Na 589.592	542445.3	46250	ug/L	328.4	4093	mg/kg	29.1	0.71%
Ni 231.604	32974.5	414.3	ug/L	6.22	36.67	mg/kg	0.551	1.50%
P 213.617	32687.3	4131	ug/L	61.3	365.6	mg/kg	5.42	1.48%
Pb 220.353	9040.1	475.5	ug/L	7.96	42.08	mg/kg	0.704	1.67%
Sb 206.836	2889.1	418.5	ug/L	6.96	37.04	mg/kg	0.616	1.66%
Se 196.026	1997.5	425.1	ug/L	15.06	37.62	mg/kg	1.333	3.54%
Sn 189.927	3932.9	387.7	ug/L	6.85	34.31	mg/kg	0.606	1.77%
Sr 421.552	1606801.4	1564	ug/L	10.8	138.4	mg/kg	0.95	0.69%
Ti 337.279	69386.9	886.5	ug/L	5.70	78.45	mg/kg	0.504	0.64%
Tl 190.801	4460.5	362.1	ug/L	4.54	32.04	mg/kg	0.402	1.25%
V 292.402	151887.4	502.8	ug/L	4.90	44.49	mg/kg	0.434	0.98%
Zn 206.200	131703.5	873.2	ug/L	11.90	77.27	mg/kg	1.053	1.36%

Sequence No.: 33
Sample ID: AY56033S02-1/25
Analyst: EA
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1.13 g
Dilution: 25X

Autosampler Location: 93
Date Collected: 03/06/12 5:05:46 PM
Data Type: Reprocessed on 03/07/12 2:12:39 PM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AY56033S02-1/25

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Ag 338.289	46.1	0.311	ug/L	0.3666	0.687	mg/kg	0.8111	118.02%
Al 308.215	9231.6	3941	ug/L	194.5	8720	mg/kg	430.4	4.94%
As 188.979	-21.2	-4.276	ug/L	1.8294	-9.461	mg/kg	4.0474	42.78%
B	34.5	23.08	ug/L	0.971	51.07	mg/kg	2.148	4.21%
Ba 233.527	1856.3	7.028	ug/L	0.4019	15.55	mg/kg	0.889	5.72%
Be 313.107	458.7	-0.314	ug/L	0.0349	-0.695	mg/kg	0.0772	11.10%
Ca 315.887	2185358.9	126500	ug/L	8566.1	279900	mg/kg	18951.4	6.77%
Cd 214.440	125.7	-0.849	ug/L	0.0656	-1.879	mg/kg	0.1452	7.73%
Co 228.616	133.2	0.336	ug/L	0.0686	0.744	mg/kg	0.1517	20.40%
Cr 267.716	672.1	2.594	ug/L	0.2223	5.739	mg/kg	0.4919	8.57%
Cu 327.393	99.2	0.871	ug/L	0.0753	1.927	mg/kg	0.1667	8.65%
Fe 273.955	87380.4	2519	ug/L	130.6	5574	mg/kg	288.9	5.18%
K 766.490	4986.8	1127	ug/L	55.5	2494	mg/kg	122.8	4.92%
Mg 285.213	181796.8	5539	ug/L	364.0	12250	mg/kg	805.4	6.57%
Mn 257.610	4837.1	62.86	ug/L	3.223	139.1	mg/kg	7.13	5.13%
Mo 202.031	50.0	-0.148	ug/L	0.3352	-0.327	mg/kg	0.7416	226.57%
Na 589.592	1807.4	95.37	ug/L	5.849	211.0	mg/kg	12.94	6.13%
Ni 231.604	214.7	1.429	ug/L	0.1693	3.162	mg/kg	0.3747	11.85%
P 213.617	260.6	32.93	ug/L	1.458	72.86	mg/kg	3.225	4.43%
Pb 220.353	123.4	6.491	ug/L	0.4950	14.36	mg/kg	1.095	7.63%
Sb 206.836	-3.0	-0.435	ug/L	1.5856	-0.963	mg/kg	3.5080	364.14%
Se 196.026	2.5	0.530	ug/L	0.4931	1.172	mg/kg	1.0910	93.11%
Sn 189.927	-211.2	-20.82	ug/L	0.077	-46.06	mg/kg	0.170	0.37%
Sr 421.552	62801.9	60.71	ug/L	3.840	134.3	mg/kg	8.50	6.33%
Ti 337.279	1907.1	23.42	ug/L	1.567	51.81	mg/kg	3.467	6.69%
Tl 190.801	-4.8	-0.120	ug/L	0.7773	-0.266	mg/kg	1.7197	646.74%
V 292.402	1704.0	4.368	ug/L	0.2317	9.663	mg/kg	0.5126	5.31%
Zn 206.200	1446.5	6.258	ug/L	0.3082	13.85	mg/kg	0.682	4.92%

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NBS 03/05/12

NBS 03/05/12
6020/6020A
(A)

ICP-MS STANDARDS 6020/6020A/3015/3051A

Today's Date: 03/05/12
Expires: 03/12/12
Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL DI Water
Lot # K23022
20mL HCL / 2000mL DI Water
Lot #K43032
Expires: 03/12/12

Internal Standard Mix: Prep 03/05/2012

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	Env. Express	1038407-28139
50 uL	CCV-B	Env. Express	1038410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 03/05/12

Standard 3 03/12/12

Amount	STD	Manufacturer	Lot #
25 uL	CCV-A	Env. Express	1038407-28139
25 uL	CCV-B	Env. Express	1038410-28140
25 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 03/05/12

NBS 03/05/12

Standard 2 03/12/12

Amount	STD	
500 uL	Standard 4	03/05/12

Prepared in 50 mL of 1% HNO3/1.0% HCL 03/05/12

Standard 1 03/12/12

Amount	STD	
50 uL	Standard 4	03/05/12

Prepared in 50 mL of 1% HNO3/1.0% HCL 03/05/12

ICP-MS ICV 03/12/12

Amount	STD		
50 uL	QCS ICV A	CPI	11C174-28548
50 uL	QCS ICV B	CPI	11C174-28549

Prepared in 50 mL of 1% HNO3/1.0% HCL 03/05/12

ICSA Prep: 03/12/12

1 mL	ICSA	CPI	11C066-28529

Prepared in 5 mL of 1% HNO3/1.0% HCL 03/05/12

ICSAB Prep: 03/12/12

1mL	ICSA	CPI	11C066-28529
0.025mL	INT	O2SI	1023805-28210

Prepared in 5 mL of 1% HNO3/1.0% HCL 03/05/12

ICP-LOR 03/12/12

Amount	STD		
50 uL	CCV-A	Env. Express	1038407-28139
50 uL	CCV-B	Env. Express	1038410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 10 mL of 1% HNO3/1.0% HCL 03/05/12

NBS 03/05/12

NBS 03/05/12

Internal Standard Concentration

Amt	STD	Element	Vendor	Lot#	Final Conc. In Std		Expires
500uL	1000 ug/mL	Li	CPI	10L079-27839	5000 ug/L		06/10/12
500uL	1000 ug/mL	In	CPI	10J155-28574	5000 ug/L		09/26/12
500uL	1000 ug/mL	Ho	CPI	10A107-28576	5000 ug/L		09/25/12
500uL	1000 ug/mL	Tb	CPI	11B064-28575	5000 ug/L		09/25/12
500uL	1000 ug/mL	Sc	o2si	1024073-28527	5000 ug/L		08/16/12
500uL	1000 ug/mL	Ge	Environmental Express	1116011-29381	5000 ug/L		02/08/13

Prep:	03/05/12	NBS	Prep in -	1%HNO3/1.0%HCL:	Lot #KK23022/43032	In 100mL
Expires:	04/04/12					

KWS 03/06/12

KWS 03/06/12

Hg WORKING STANDARD

1ml X 10ug/ml Hg STOCK STD. (02/17/12KWS)/200ml 1% HNO3 Lot#K47023
1ml X 10ug/ml Hg STOCK ICV (02/17/12KWS)/200ml 1% HNO3 Lot#K47023
Final concentration is 50 ug/L. Expires..03/06/12.....

DA 3-6-12
6010B/C
(A)

1%HNO3 / 5%HCl BLK						6010B/6010C ICSA				
AMOUNT	REAGENT	MANUFACTURER	LOT	OPEN DATE	AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
100 mL	HCL	BDH	411040	12/28/11	1mL	Al	CPI	10E012-27886	04/20/12
20 mL	HNO3	JT BAKER	K23022	12/27/11	1mL	Ca	CPI	11A006-28526	09/15/12
Prepared in 2000 ml DI Water					1mL	Mg	CPI	10H213-27880	04/20/12
STD 1 / LDL 6010B/6010C					1mL	Fe	O2SI	1022245-27699	04/22/12
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE	Prepared in 50 ml 1%HNO3/5%HCl				
0.5 mL	6010 LDL	ABSOLUTE	091409-25205	09/14/12	6010B/6010C ICSAB				
Prepared in 50 ml 1%HNO3/5%HCl					1mL	Al	CPI	10E012-27886	04/20/12
STD 3 / HDL 6010B/6010C					1mL	Ca	CPI	11A006-28526	09/15/12
1ML	CCV-A	ABSOLUTE	091409-25206	09/14/12	1mL	Mg	CPI	10H213-27880	04/20/12
1ML	CCV-B	ABSOLUTE	091109-25208	09/14/12	1mL	Fe	O2SI	1022245-27699	04/22/12
1ML	CCV-C	ABSOLUTE	091009-25207	09/10/12	0.5mL	JT SPECIAL M	O2SI	150496-01-03	03/01/12
Prepared in 100 ml 1%HNO3 / 5%HCl					Prepared in 50 ml 1%HNO3/5%HCl				
STD 2 / CCV1 6010B/6010C/6010C					6010B/6010C ICV				
AMOUNT	STD	PREP DATE	EXP DATE		0.5ML	QCS ICV A	CPI	11C174-28548	09/17/12
25mL	STD 3	Today	1 week		0.5ML	QCS ICV B	CPI	11C174-28549	09/17/12
25mL	1%HNO3/5%HCl	Today	1 week		Prepared in 50ml 1%HNO3/5%HCl				
CCV2 6010B/6010C									
AMOUNT	STD	PREP DATE	EXP DATE						
15mL	STD 3	Today	1 week						
25mL	1%HNO3/5%HCl	Today	1 week						

DA 3-6-12

_M3050GRO

Metals Digestion Worksheet

Method Name 3050B Digestion (GROSS UP) **Prep Method** M3050GROSSa **Set** 120306A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT# #1032278-30261
Spiked ID 2	LCSW LOT# #1032271-30259
Spiked ID 3	
Spiked ID 4	
Spiked By	LO Date: 03/06/12 10:15:00 AM
Witnessed By	NM Date: 03/06/12 10:15:00 AM

Starting Temp:	95 C
Ending Temp:	95 C
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	YES
End Date/Time	03/06/12 13:00

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120306A Blk				1.00g	100mL	03/06/12 10:15	equip: Modblock1
2	120306A LCS		1mL	1+2	1.00g	100mL	03/06/12 10:15	equip: Modblock1
3	AY56028	AY56028S03			1.14g	100mL	03/06/12 10:15	equip: Modblock1
4	AY56030	AY56030S03			1.11g	100mL	03/06/12 10:15	equip: Modblock1
5	AY56031	AY56031S02			1.09g	100mL	03/06/12 10:15	equip: Modblock1
6	AY56032	AY56032S03			1.11g	100mL	03/06/12 10:15	equip: Modblock1
7	AY56033	AY56033S02			1.13g	100mL	03/06/12 10:15	equip: Modblock1
8	AY56033 MS	AY56033S02	2mL	1+2	1.13g	100mL	03/06/12 10:15	equip: Modblock1
9	AY56033 MSD	AY56033S02	2mL	1+2	1.13g	100mL	03/06/12 10:15	equip: Modblock1

Solvent and Lot#
1:1 HNO3 NA
HNO3 J.T.B K47023 0147
H2O2 EMD NA
HCL BDH 4111060 0146

Sample COC Transfer	
Sample prep employee Initials	LO
Analyst's Initials	DT
Date	3-6-12
Time	13:00
Moved to	Metals

Technician Initials	
Scanned By	NM
Sample Preparation	NM
Digestion	NM
Bring up to volume	LO
Modified	03/06/12 4:33:41 PM

Reviewed By: [signature] **Date:** 3-6-12

MERCURY

EPA Method 7471B

APPL, INC.

MERCURY

EPA Method 7471B

AFCEE Forms

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA PACKAGE

Analytical Method: EPA 7471B
Lab Name: APPL, Inc
Base/Command: CSSA

AAB #: 120306A-164498
Contract #: *G012
Prime Contractor: Parsons

Field Sample ID	Lab Sample ID
AOC65-WC05	AY56028
AOC65-WC09	AY56033

Comments: ARF: 67098

I certify this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: Diane Anderson

Date: 3/15/2 Title: Project Manager

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7471B Preparatory Method: 7471B AAB #: 120306A-164498
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC05 Lab Sample ID: AY56028 Matrix: Soil
% Solids: 88.0 Initial Calibration ID: 120306B
Date Received: 01-Mar-12 Date Prepared: 06-Mar-12 Date Analyzed: 06-Mar-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.01	0.1	0.02	1	F

Comments: ARF: 67098

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7471B Preparatory Method: 7471B AAB #: 120306A-164498
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC09 Lab Sample ID: AY56033 Matrix: Soil
% Solids: 88.7 Initial Calibration ID: 120306B
Date Received: 01-Mar-12 Date Prepared: 06-Mar-12 Date Analyzed: 06-Mar-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.01	0.1	0.02	1	F

Comments: ARF: 67098

AFCEE
INORGANIC ANALYSES DATA SHEET 3
MERCURY INITIAL MULTIPOINT CALIBRATION

Analytical Method: 7471 Gross Up
AAB #: 120306A-164498
Lab Name: APPL, Inc
Contract #: *G012
Instrument ID: P6300
Date of Initial Calibration: 06-Mar-12
Initial Calibration ID: 120306B
Concentration Units (mg/L or mg/kg): mg/kg

Analyte	Std 1	RF 1	Std 2	RF 2	Std 3	RF 3	Std 4	RF 4	Std 5	RF 5	r	Q
Mercury	0.000208	0.005	0.000521	0.011	0.001042	0.021	0.002083	0.040	0.005208	0.098	0.99991	

r = correlation coefficient

Comments:

AFCEE FORM I-3A

AFCEE
INORGANIC ANALYSES DATA SHEET 3
MERCURY INITIAL MULTIPOINT CALIBRATION

Analytical Method: 7471 Gross Up

AAB #: 120306A-164498

Lab Name: APPL, Inc

Contract #: *G012

Instrument ID: PE300

Date of Initial Calibration: 06-Mar-12

Initial Calibration ID: 120306B

Concentration Units (mg/L or mg/kg): mg/kg

Analyte	Std 6	RF 6									r	Q
Mercury	0.01042	0.197									0.99991	

r = correlation coefficient

Comments:

AFCEE FORM I-3A

AFCEE
INORGANIC ANALYSES DATA SHEET 4
CALIBRATION VERIFICATION

Analytical Method: 7471 Gross Up
AAB #: 120306A-164498
Lab Name: APPL, Inc.
Contract #: *G012
Instrument ID: PE300
Initial Calibration ID: 120306B
2nd Source ID: ICV 03/06/12 13:31
ICV ID: ICV 03/06/12 13:31
CCV #1 ID: CCV 03/06/12 13:36
CCV #2 ID: CCV 03/06/12 13:53
Concentration Units (mg/L or mg/kg): mg/kg

Analyte	2nd Source Calibration Verification			Initial Calibration Verification			Continuing Calibration Verification					Q
	Expected	Found	%D	Expected	Found	%D	Expected	Found 1	%D	Found 2	%D	
Mercury (Hg)	0.00417	0.00440	5.5%	0.00417	0.00440	5.5%	0.005208	0.00522	0.2%	0.00535	2.8%	

Comments:

AFCEE FORM I-4 Page 1 of 1

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 7471B
Lab Name: APPL, Inc
Concentration Units: mg/kg
Initial Calibration ID: 120306B

AAB #: 120306A-164498
Contract #: *G012
Method Blank ID: 120306A-BLK

Analyte	Method Blank	RL	Q
MERCURY (HG)	< RL	0.1	U

Comments: ARF: 67098, Sample: AY56033

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANKS

Analytical Method: 7471 Gross Up AAB #: 120306A-164498

Lab Name: APPL, Inc. Contract #: *G012

Concentration Units (mg/L or mg/kg): mg/kg

Initial Calibration Blank ID: ICB 03/06/12 13:35 Initial Calibration ID: 120306B

CCB #1 ID: CCB 03/06/12 13:39 CCB #2 ID: CCB 03/06/12 13:56 CCB #3 ID:

Method Blank ID: 120306A-BLK Initial Calibration ID: 120306B

Analyte	Initial Calibration Blank	Continuing Calibration Blank			Method Blank	RL	Q
		1	2	3			
Mercury (Hg)	<RL	<RL	<RL		<RL	0.1	

Comments:

AFCEE FORM I-5 Page 1 of 1

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 7471B
Lab Name: APPL, Inc
LCS ID: 120306A LCS
Concentration Units: mg/kg

AAB #: 120306A-164498
Contract #: *G012
Initial Calibration ID: 120306B

Analyte	Expected	Found	% R	Control Limits	Q
MERCURY (HG)	0.67	0.73	109	77-120	

Comments: ARF: 67098, Sample: AY56033

AFCEE
INORGANIC ANALYSES DATA SHEET 8
HOLDING TIMES

Analytical Method: EPA 7471B AAB#: 120306A-164498

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID	Date Collected	Date Received	Date Analyzed	Max. Holding Time (days)	Time Held (days)	Q
AOC65-WC05	29-Feb-12	01-Mar-12	06-Mar-12	28	6	
AOC65-WC09	29-Feb-12	01-Mar-12	06-Mar-12	28	6	

Comments: ARF: 67098

AFCEE
INORGANIC ANALYSES DATA SHEET 9
INSTRUMENT ANALYSIS SEQUENCE LOG

Analytical Method: 7471B ICAL ID: 120306B

Lab Name: APPL, Inc. Contract #: *G012

Instrument ID #: PE300

Field Sample ID/Std ID/ Blank ID/QC Sample ID	Date Analysis Started	Time Analysis Started	Date Analysis Completed	Time Analysis Completed
Calib Blank	06-Mar-12	13:16	06-Mar-12	13:16
0.208	06-Mar-12	13:17	06-Mar-12	13:17
0.520833	06-Mar-12	13:18	06-Mar-12	13:18
1.041667	06-Mar-12	13:20	06-Mar-12	13:20
2.083333	06-Mar-12	13:22	06-Mar-12	13:22
5.208	06-Mar-12	13:24	06-Mar-12	13:24
10.417	06-Mar-12	13:26	06-Mar-12	13:26
ICV	06-Mar-12	13:31	06-Mar-12	13:31
ICB	06-Mar-12	13:35	06-Mar-12	13:35
CCV	06-Mar-12	13:36	06-Mar-12	13:36
CCB	06-Mar-12	13:39	06-Mar-12	13:39
120302A-BLK	06-Mar-12	13:40	06-Mar-12	13:40
120302A-LCS	06-Mar-12	13:41	06-Mar-12	13:41
AY56028S03	06-Mar-12	13:43	06-Mar-12	13:43
AY56033S02	06-Mar-12	13:48	06-Mar-12	13:48
CCV	06-Mar-12	13:53	06-Mar-12	13:53
CCB	06-Mar-12	13:56	06-Mar-12	13:56

Sample_ID	EL	Date	Time	Mean_SA	Units	Batch_ID	Wt	Dilu
Calib Blank	Hg	03/06/12	13:16:17		µg/L			
0.2083 03-06-12 LO	Hg	03/06/12	13:17:31		µg/L			
0.520833	Hg	03/06/12	13:18:44		µg/L			
1.041667	Hg	03/06/12	13:20:45		µg/L			
2.083333	Hg	03/06/12	13:22:48		µg/L			
5.208	Hg	03/06/12	13:24:50		µg/L			
10.417	Hg	03/06/12	13:26:54		µg/L			
ICV 03-06-12 LO	Hg	03/06/12	13:31:40	4.399845	µg/L			
ICB 03-06-12 LO	Hg	03/06/12	13:35:11	0.04102	µg/L			
CCV 03-06-12 LO	Hg	03/06/12	13:36:26	5.219042	µg/L			
CCB 03-06-12 LO	Hg	03/06/12	13:39:06	0.050761	µg/L			
120306A BLK	Hg	03/06/12	13:40:19	0.013607	mg/kg	120306A-7471GROSS	0.6	
120306A LCS	Hg	03/06/12	13:41:32	0.731401	mg/kg	120306A-7471GROSS	0.6	
AY56028S03	Hg	03/06/12	13:43:33	0.020212	mg/kg	120306A-7471GROSS	0.68	
~~AY56030S03~~	~~Hg~~	~~03/06/12~~	~~13:44:46~~	~~0.017985~~	~~mg/kg~~	~~120306A-7471GROSS~~	~~0.67~~	—
~~AY56031S02~~	~~Hg~~	~~03/06/12~~	~~13:45:59~~	~~0.01638~~	~~mg/kg~~	~~120306A-7471GROSS~~	~~0.65~~	—
~~AY56032S03~~	~~Hg~~	~~03/06/12~~	~~13:47:13~~	~~0.019613~~	~~mg/kg~~	~~120306A-7471GROSS~~	~~0.66~~	—
AY56033S02	Hg	03/06/12	13:48:26	0.017158	mg/kg	120306A-7471GROSS	0.68	
~~AY56033S02 MS~~	~~Hg~~	~~03/06/12~~	~~13:49:41~~	~~0.667767~~	~~mg/kg~~	~~120306A-7471GROSS~~	~~0.68~~	—
~~AY56033S02 MSD~~	~~Hg~~	~~03/06/12~~	~~13:51:44~~	~~0.64106~~	~~mg/kg~~	~~120306A-7471GROSS~~	~~0.68~~	—
CCV 03-06-12 LO	Hg	03/06/12	13:53:47	5.35165	µg/L			
CCB 03-06-12 LO	Hg	03/06/12	13:56:29	0.115667	µg/L			

R=0.99991

MERCURY

EPA Method 7471B

Calibration Data

APPL, INC.

Parsons

Hg BY METHOD 7471B ARF#67098
QCG 120306A-7471GROSS
ANALYSIS DATE: 03/06/12

R=0.99991

NAME	TRUE	RESULT	% RECOVERY
ICV	4.17ppb	4.400	105.5%
ICB	0ppb	0.041	
CCV-1	5.208ppb	5.219	100.2%
CCB-1	0ppb	0.051	
CCV-2	5.208ppb	5.352	102.8%
CCB-2	0ppb	0.116	

Method Name: Hg-7471 - KWS Element: Hg

Date: 03/06/2012
Results Data Set: 120306A-7471GRO

Element: Hg Seq. No.: 14 Date: 03/06/2012
Sample ID: Sample

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.001	13:14:59

Auto-zero performed.

Element: Hg Seq. No.: 15 Date: 03/06/2012
Sample ID: Calib Blank

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.000	13:16:07
2			0.000	13:16:12
3			0.000	13:16:17
Mean:			0.000	
SD :			0.000	
%RSD:			221.64	

Auto-zero performed.

Element: Hg Seq. No.: 16 Date: 03/06/2012
Sample ID: 0.2083 03-06-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.005	13:17:20
2			0.005	13:17:25
3			0.006	13:17:31
Mean:			0.005	
SD :			0.000	
%RSD:			7.50	

Standard number 1 applied. [0.2083333]
Correlation Coefficient: 1.0000 Slope: 0.0245

Element: Hg Seq. No.: 17 Date: 03/06/2012
Sample ID: 0.520833

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.011	13:18:33
2			0.011	13:18:39
3			0.012	13:18:44
Mean:			0.011	
SD :			0.000	
%RSD:			2.84	

Standard number 2 applied. [0.520833]
Correlation Coefficient: 0.9933 Slope: 0.0220
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 18 Date: 03/06/2012
Sample ID: 1.041667

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.020	13:20:35
2			0.021	13:20:40
3			0.021	13:20:45
Mean:			0.021	
SD :			0.001	
%RSD:			3.11	

Standard number 3 applied. [1.041667]
Correlation Coefficient: 0.9953 Slope: 0.0204
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 19 Date: 03/06/2012
Sample ID: 2.083333

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.039	13:22:37
2			0.040	13:22:42
3			0.041	13:22:48
Mean:			0.040	
SD :			0.001	
%RSD:			1.84	

Standard number 4 applied. [2.083333]
Correlation Coefficient: 0.9982 Slope: 0.0196
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 20 Date: 03/06/2012
Sample ID: 5.208

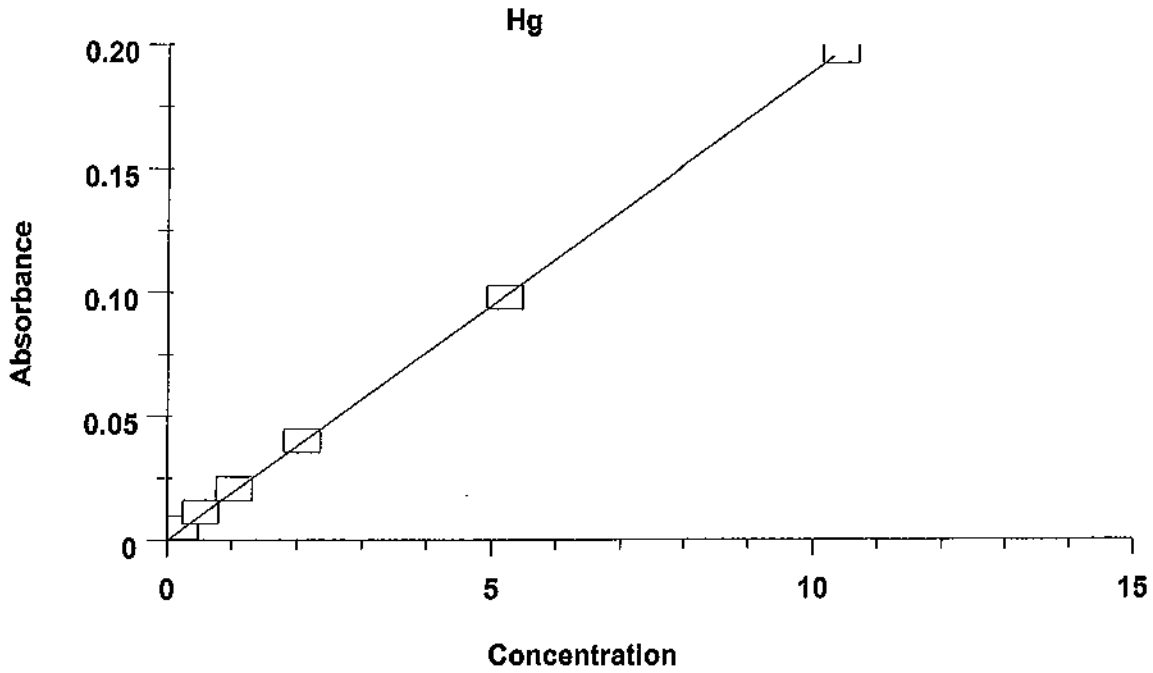
Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.095	13:24:40
2			0.099	13:24:45
3			0.101	13:24:50
Mean:			0.098	
SD :			0.003	
%RSD:			2.92	

Standard number 5 applied. [5.208]
Correlation Coefficient: 0.9996 Slope: 0.0190
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 21 Date: 03/06/2012
Sample ID: 10.417

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1			0.192	13:26:43
2			0.198	13:26:48
3			0.202	13:26:54
Mean:			0.197	
SD :			0.005	
%RSD:			2.42	

The calibration curve may not be linear.
Standard number 6 applied. [10.417]
Correlation Coefficient: 0.9999 Slope: 0.0189



Calibration data for Hg

Standard ID	Mean Signal (Absorbance)	Entered Concentration (µg/L)	Calculated Concentration (µg/L)	Standard Deviation	%RSD
Calib Blank	0.000	----	0.000	0.000236	
0.2083 03-06-12 LO	0.005	0.2083333	0.2694	0.000383	7.503062
0.520833	0.011	0.520833	0.5936	0.000319	2.839080
1.041667	0.021	1.041667	1.094	0.000646	3.113961
2.083333	0.040	2.083333	2.117	0.000740	1.844055
5.208	0.098	5.208	5.179	0.002867	2.921581
10.417	0.197	10.417	10.41	0.004780	2.422702

Correlation Coefficient: 0.99991 Slope: 0.01895

MERCURY

EPA Method 7471B

Raw Data

APPL, INC.

Element: Hg Seq. No.: 22 Date: 03/06/2012
Sample ID: ICV 03-06-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	4.260	4.260	0.081	13:31:29
2	4.418	4.418	0.084	13:31:35
3	4.522	4.522	0.086	13:31:40
Mean:	4.400	4.400	0.083	
SD :	0.1315	0.1315	0.002	
%RSD:	2.99	2.99	2.99	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 23 Date: 03/06/2012
Sample ID: ICB 03-06-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.03195	0.03195	0.001	13:35:01
2	0.04657	0.04657	0.001	13:35:06
3	0.04454	0.04454	0.001	13:35:11
Mean:	0.04102	0.04102	0.001	
SD :	0.007916	0.007916	0.000	
%RSD:	19.30	19.30	19.30	

QC value within specified limits.

Element: Hg Seq. No.: 24 Date: 03/06/2012
Sample ID: CCV 03-06-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	5.054	5.054	0.096	13:36:16
2	5.256	5.256	0.100	13:36:21
3	5.347	5.347	0.101	13:36:26
Mean:	5.219	5.219	0.099	
SD :	0.1500	0.1500	0.003	
%RSD:	2.87	2.87	2.87	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 25 Date: 03/06/2012
Sample ID: CCB 03-06-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.04632	0.04632	0.001	13:38:55
2	0.04324	0.04324	0.001	13:39:00
3	0.06272	0.06272	0.001	13:39:06
Mean:	0.05076	0.05076	0.001	
SD :	0.01047	0.01047	0.000	
%RSD:	20.63	20.63	20.63	

QC value within specified limits.

Element: Hg Seq. No.: 26 Date: 03/06/2012
Sample ID: 120306A BLK

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.01376	0.08601	0.002	13:40:08
2	0.01329	0.08307	0.002	13:40:14
3	0.01377	0.08606	0.002	13:40:19
Mean:	0.01361	0.08505	0.002	
SD :	0.000274	0.001712	0.000	
%RSD:	2.01	2.01	2.01	

Element: Hg Seq. No.: 27 Date: 03/06/2012
Sample ID: 120306A LCS

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.7033	4.395	0.083	13:41:21
2	0.7332	4.582	0.087	13:41:27
3	0.7578	4.736	0.090	13:41:32
Mean:	0.7314	4.571	0.087	
SD :	0.02729	0.1706	0.003	
%RSD:	3.73	3.73	3.73	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 28 Date: 03/06/2012
Sample ID: AY56028S03

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.01873	0.1327	0.003	13:43:22
2	0.01985	0.1406	0.003	13:43:28
3	0.02205	0.1562	0.003	13:43:33
Mean:	0.02021	0.1432	0.003	
SD :	0.001691	0.01197	0.000	
%RSD:	8.36	8.36	8.36	

Element: Hg Seq. No.: 29 Date: 03/06/2012
Sample ID: AY56030S03

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.01632	0.1139	0.002	13:44:35
2	0.01902	0.1327	0.003	13:44:41
3	0.01862	0.1299	0.002	13:44:46
Mean:	0.01798	0.1255	0.002	
SD :	0.001458	0.01017	0.000	
%RSD:	8.11	8.11	8.11	

Element: Hg Seq. No.: 30 Date: 03/06/2012
Sample ID: AY56031S02

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.01446	0.09787	0.002	13:45:49
2	0.01621	0.1098	0.002	13:45:54
3	0.01847	0.1251	0.002	13:45:59
Mean:	0.01638	0.1109	0.002	
SD :	0.002014	0.01363	0.000	
%RSD:	12.29	12.29	12.29	

Element: Hg Seq. No.: 31 Date: 03/06/2012
Sample ID: AY56032S03

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.01938	0.1332	0.003	13:47:02
2	0.01935	0.1330	0.003	13:47:07
3	0.02011	0.1383	0.003	13:47:13
Mean:	0.01961	0.1348	0.003	
SD :	0.000434	0.002980	0.000	
%RSD:	2.21	2.21	2.21	

Element: Hg Seq. No.: 32 Date: 03/06/2012
Sample ID: AY56033S02

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.01751	0.1241	0.002	13:48:15
2	0.01877	0.1330	0.003	13:48:21
3	0.01519	0.1076	0.002	13:48:26
Mean:	0.01716	0.1215	0.002	
SD :	0.001820	0.01289	0.000	
%RSD:	10.61	10.61	10.61	

Element: Hg Seq. No.: 33 Date: 03/06/2012
Sample ID: AY56033S02 MS

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.6540	4.633	0.088	13:49:31
2	0.6701	4.746	0.090	13:49:36
3	0.6792	4.811	0.091	13:49:41
Mean:	0.6678	4.730	0.090	
SD :	0.01275	0.09033	0.002	
%RSD:	1.91	1.91	1.91	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 34 Date: 03/06/2012
Sample ID: AY56033S02 MSD

Repl #	SampleConc mg/kg	StndConc µg/L	BlnkCorr Signal	Time
1	0.6195	4.388	0.083	13:51:33
2	0.6465	4.579	0.087	13:51:39
3	0.6572	4.655	0.088	13:51:44
Mean:	0.6411	4.541	0.086	
SD :	0.01946	0.1378	0.003	
%RSD:	3.03	3.03	3.03	

An extra autosampler wash has been performed.

Element: Hg Seq. No.: 35 Date: 03/06/2012
Sample ID: CCV 03-06-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	5.155	5.155	0.098	13:53:36
2	5.401	5.401	0.102	13:53:42
3	5.499	5.499	0.104	13:53:47
Mean:	5.352	5.352	0.101	
SD :	0.1771	0.1771	0.003	
%RSD:	3.31	3.31	3.31	

QC value within specified limits.
An extra autosampler wash has been performed.

Element: Hg Seq. No.: 36 Date: 03/06/2012
Sample ID: CCB 03-06-12 LO

Repl #	SampleConc µg/L	StndConc µg/L	BlnkCorr Signal	Time
1	0.1192	0.1192	0.002	13:56:19
2	0.1177	0.1177	0.002	13:56:24
3	0.1101	0.1101	0.002	13:56:29
Mean:	0.1157	0.1157	0.002	
SD :	0.004860	0.004860	0.000	
%RSD:	4.20	4.20	4.20	

QC value within specified limits.

Metals Standards Log Book # 34 Page # 074

NBS 03/05/12

NBS 03/05/12
6020/6020A
(A)

ICP-MS STANDARDS 6020/6020A/3015/3051A

Today's Date: 03/05/12
Expires: 03/12/12
Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL DI Water
Lot # K23022
20mL HCL / 2000mL DI Water
Lot #K43032
Expires: 03/12/12

Internal Standard Mix: Prep 03/05/2012

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	Env. Express	1038407-28139
50 uL	CCV-B	Env. Express	1038410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 03/05/12

Standard 3 03/12/12

Amount	STD	Manufacturer	Lot #
25 uL	CCV-A	Env. Express	1038407-28139
25 uL	CCV-B	Env. Express	1038410-28140
25 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 03/05/12

Standard 2 03/12/12
Amount STD
500 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL 03/05/12

Standard 1 03/12/12
Amount STD
50 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL 03/05/12

ICP-MS ICV 03/12/12

Amount	STD		
50 uL	QCS ICV A	CPI	11C174-28548
50 uL	QCS ICV B	CPI	11C174-28549

Prepared in 50 mL of 1% HNO3/1.0% HCL 03/05/12

ICSA Prep: 03/12/12

1 mL	ICSA	CPI	11C068-28529

Prepared in 5 mL of 1% HNO3/1.0% HCL 03/05/12

ICSAB Prep: 03/12/12

1mL	ICSA	CPI	11C068-28529
0.025mL	INT	O2SI	1023505-28210

Prepared in 5 mL of 1% HNO3/1.0% HCL 03/05/12

ICP-LDR 03/12/12

Amount	STD		
50 uL	CCV-A	Env. Express	1038407-28139
50 uL	CCV-B	Env. Express	1038410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 10 mL of 1% HNO3/1.0% HCL 03/05/12

NBS 03/05/12

NBS 03/05/12

Internal Standard Concentration

Amt	STD	Element	Vendor	Lot#	Final Conc. in Std	Expires
500uL	1000 ug/mL	Li	CPI	10L079-27839	5000 ug/L	06/10/12
500uL	1000 ug/mL	In	CPI	10J155-28574	5000 ug/L	09/25/12
500uL	1000 ug/mL	Ho	CPI	10A107-28575	5000 ug/L	09/26/12
500uL	1000 ug/mL	Tb	CPI	11B054-28575	5000 ug/L	09/25/12
500uL	1000 ug/mL	Sc	o2si	1024073-28527	5000 ug/L	08/18/12
500uL	1000 ug/mL	Ge	Environmental Express	1116011-29381	5000 ug/L	02/06/13

Prep: 03/05/12 NBS Prep In - 1%HNO3/1.0%HCL: Lot #KK23022/43032 In 100mL
Expires: 04/04/12

KWS 03/06/12

KWS 03/06/12

Hg WORKING STANDARD

1ml X 10ug/ml Hg STOCK STD. (02/17/12KWS)/200ml 1% HNO3 Lot#K47023
1ml X 10ug/ml Hg STOCK ICV (02/17/12KWS)/200ml 1% HNO3 Lot#K47023
Final concentration is 50 ug/L. Expires..03/06/12.....

81 3-6-12
6010B-C
(A)

1%HNO3 / 5%HCl BLK					6010B/6010C ICSA				
AMOUNT	REAGENT	MANUFACTURER	LOT	OPEN DATE	AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
100 mL	HCl	BDH	411040	12/28/11	1mL	Al	CPI	10E012-27685	04/20/12
20 mL	HNO3	JT BAKER	K23022	12/27/11	1mL	Ca	CPI	11A006-28528	09/16/12
Prepared in 2000 ml DI Water					1mL	Mg	CPI	10H213-27686	04/20/12
STD 1 / LDL 6010B/6010C					1mL	Fe	O2SI	1022245-27699	04/22/12
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE	Prepared in 50 ml 1%HNO3/5%HCl				
0.5 mL	6010 LDL	ABSOLUTE	091409-25205	09/14/12	6010B/6010C ICSAB				
Prepared in 50 ml 1%HNO3/5%HCl					1mL	Al	CPI	10E012-27685	04/20/12
STD 3 / HDL 6010B/6010C					1mL	Ca	CPI	11A006-28528	09/16/12
1ML	CCV-A	ABSOLUTE	091409-25206	09/14/12	1mL	Mg	CPI	10H213-27686	04/20/12
1ML	CCV-B	ABSOLUTE	091109-25208	09/14/12	1mL	Fe	O2SI	1022245-27699	04/22/12
1ML	CCV-C	ABSOLUTE	091009-25207	09/10/12	0.5mL	IT SPECIAL M	O2SI	150495-01-01	03/01/12
Prepared in 100 ml 1%HNO3 / 5%HCl					Prepared in 50 ml 1%HNO3/5%HCl				
STD 2 / CCV1 6010B/6010C/6010C					6010B/6010C ICV				
AMOUNT	STD	PREP DATE	EXP DATE		0.5ML	QCS ICV A	CPI	11C174-28548	09/17/12
25mL	STD 3	Today	1 week		0.5ML	QCS ICV B	CPI	11C174-28549	09/17/12
25mL	1%HNO3/5%HCl	Today	1 week		Prepared in 50ml 1%HNO3/5%HCl				
CCV2 6010B/6010C									
AMOUNT	STD	PREP DATE	EXP DATE						
15mL	STD 3	Today	1 week						
25mL	1%HNO3/5%HCl	Today	1 week						

81 3-7-12

062

Metals Standards Log Book # 34 Page # 063

RBS 2/17/12

KWS 2/17/12

Hg STANDARD

CPI Lot # 11D140-28885
10ug/ml in 1% HNO3 LOT#K47023
Prep. Date 02/17/12
Exp. Date 03/16/12
By KWS

Manufacturer: J.T. Baker

Hg STOCK ICV

Ultra Scientific Lot #
K00200-26307
10ug/ml in 1% HNO3 LOT#K47023
Prep.Date 02/17/12
Exp. Date 03/16/12
By KWS
Manufacturer: J.T. Baker

STANNOUS CHLORIDE

125g SnCl2 MACRON Lot #K12620
100 mL HCl J.T. BAKER Lot #K29026
Brought to 500 mL with DI Water
Prep. Date 02/17/12
Exp. Date 02/16/13
By KWS

RBS 2/17/12

NBS 02/17/12

NBS 02/17/12

6520/6020 A

(A)

ICP-MS STANDARDS 6020/6020A/3016/3051A

Today's Date: 02/17/12
Expires: 02/24/12
Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL DI Water
Lot # K23022
20mL HCL / 2000mL DI Water
Lot #K43032
Expires: 02/24/12

Internal Standard Mix: Prep 02/16/2012

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	Env. Express	1036407-28139
50 uL	CCV-B	Env. Express	1036410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 02/17/12

Standard 3 02/24/12

Amount	STD	Manufacturer	Lot #
25 uL	CCV-A	Env. Express	1036407-28139
25 uL	CCV-B	Env. Express	1036410-28140
25 uL	CCV-C	Env. Express	1100309-28141

Prepared in 100 mL of 1% HNO3/1.0% HCL 02/17/12

Standard 2 02/24/12

Amount	STD	
500 uL	Standard 4	02/17/12

Prepared in 50 mL of 1% HNO3/1.0% HCL 02/17/12

Standard 1 02/24/12

Amount	STD	
50 uL	Standard 4	02/17/12

Prepared in 50 mL of 1% HNO3/1.0% HCL 02/17/12

ICP-MS ICV 02/24/12

Amount	STD		
50 uL	QCS ICV A	CPI	11C174-28548
50 uL	QCS ICV B	CPI	11C174-28549

Prepared in 50 mL of 1% HNO3/1.0% HCL 02/17/12

ICSA Prep: 02/24/12

1 mL	ICSA	CPI	11C068-28529

Prepared in 5 mL of 1% HNO3/1.0% HCL 02/17/12

ICSAB Prep: 02/24/12

1mL	ICSA	CPI	11C068-28529
0.025mL	INT	O2SI	1023805-28210

Prepared in 5 mL of 1% HNO3/1.0% HCL 02/17/12

ICP-LDR 02/24/12

Amount	STD		
50 uL	CCV-A	Env. Express	1036407-28139
50 uL	CCV-B	Env. Express	1036410-28140
50 uL	CCV-C	Env. Express	1100309-28141

Prepared in 10 mL of 1% HNO3/1.0% HCL 02/17/12

NBS 02/20/12

NBS 02/20/12

Internal Standard Concentration

Amt	STD	Element	Vendor	Lot#	Final Conc. in Std	Expires
500uL	1000 ug/mL	Li	CPI	10L079-27839	5000 ug/L	06/10/12
500uL	1000 ug/mL	In	CPI	10J155-28574	5000 ug/L	09/25/12
500uL	1000 ug/mL	Ho	CPI	10A107-28576	5000 ug/L	09/25/12
500uL	1000 ug/mL	Tb	CPI	11B054-28575	5000 ug/L	09/25/12
500uL	1000 ug/mL	Sc	o2si	1024073-28527	5000 ug/L	08/18/12
500uL	1000 ug/mL	Ge	Environmental Express	1116011-29381	5000 ug/L	02/08/13

Prep:	02/20/12	NBS	Prep in -	1%HNO3/1.0%HCL:	Lot #KK23022/43032	In 100mL
Expires:	03/21/12					

_M7471GRO

Mercury Digestion Worksheet

Method Name 7471A Mercury Digestion (GROSS UP **Prep Method** M7471GRO **Set** 120306A **Units** mL

Spikes	
Spiked ID 1	Hg WORKING STANDARD prep 03-06-12
Spiked ID 2	Hg WORKING ICV prep 03-06-12
Spiked ID 3	
Spiked ID 4	
Spiked By	LO Date: 03/06/12 9:35:00 AM
Witnessed By	NM Date: 03/06/12 9:35:00 AM

Starting Temp:	96 C
Ending Temp:	96 C
Temp Type:	Modblock3
End Date/Time	03/06/12 10:40:00 AM

Mercury Calibration

Sample	Spike Amount	Spike ID	Final Volume
0 ppb		1	96 ml
0.2 ppb	0.4 ml	1	96 ml
0.5 ppb	1 ml	1	96 ml
1 ppb	2 ml	1	96 ml
2 ppb	4 ml	1	96 ml
5 ppb	10 ml	1	96 ml
5 ppb	10 ml	1	96 ml
10 ppb	20 ml	1	96 ml
ICV	8 ml	2	96 ml

Start Date/Time of Calibration 03/06/12 9:35

Sufficient Vol for Matrix QC:	YES

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120306A Blk				0.60g	96mL	03/06/12 9:35	equip: Modblock3
2	120306A LCS		8mL	1	0.60g	96mL	03/06/12 9:35	equip: Modblock3
3	AY56028	AY56028S03			0.68g	96mL	03/06/12 9:35	equip: Modblock3
4	AY56030	AY56030S03			0.67g	96mL	03/06/12 9:35	equip: Modblock3
5	AY56031	AY56031S02			0.65g	96mL	03/06/12 9:35	equip: Modblock3
6	AY56032	AY56032S03			0.66g	96mL	03/06/12 9:35	equip: Modblock3
7	AY56033	AY56033S02			0.68g	96mL	03/06/12 9:35	equip: Modblock3
8	AY56033 MS	AY56033S02	8mL	1	0.68g	96mL	03/06/12 9:35	equip: Modblock3
9	AY56033 MSD	AY56033S02	8mL	1	0.68g	96mL	03/06/12 9:35	equip: Modblock3

Solvent and Lot#
AQUAREGIA 2-16-12
KMnO4 12-15-11
DECOLORIZER 12-14-11

Sample COC Transfer	
Sample prep employee Initials	LO
Analyst's initials	EA
Date	3-6-12
Time	10:40
Moved to	Metals

Technician's Initials	
Scanned By	NM
Sample Preparation	NM
Digestion	NM
Bring up to volume	LO
Modified	03/06/12 4:28:59 PM

Reviewed By: EA **Date:** 3-6-12

Rec 4/3/12

Laboratory Report

Parsons

CSSA

#1

Project #: 748402.01000

ARF: 67315

Samples collected: March 22, 2012

APPL, Inc.

Summary Package

for

Project #: 748402.01000 CSSA

ARF 67315

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

CASE NARRATIVE

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Case Narrative

ARF: 67315

Project: 748402.01000 CSSA

California State Certification Number: CA1312 (DW & WW)

NELAP Certification number: 05233CA (HW)

Texas Certificate Number: T104704242-10-3

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sample Receipt Information:

The samples were received March 23, 2012, at 1.5°C. The samples were assigned Analytical Request Form (ARF) number 67315. The sample numbers and requested analyses were compared to the chains of custody. No exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
AOC65-WC10	AY57613	SOIL	03/22/12	03/23/12
AOC65-WC11	AY57614	SOIL	03/22/12	03/23/12

EPA Method 8260B

Texas Seven Days Leach Test

Digestion Information:

The soil samples were leached according to T30S335.521(d) Appendix 4. Seven-Day Distilled Water Leachate Test. The leachates were purged according to EPA methods 5030B. All holding times were met.

Sample Analysis Information:

The samples were analyzed according to EPA method 8260B using a Hewlett Packard Gas Chromatograph with a mass spectrometer detector. All holding times were met.

Quality Control/Assurance:

Spike Recovery:

A Laboratory Control Spike (LCS) was used for quality assurance. A second-source standard was used for the LCS. All LCS and second-source criteria were met.

There was no sample designated by the client for MS/MSD analysis.

Surrogates:

All surrogate recoveries met acceptance criteria.

Method blanks:

No target compound was detected at or above its reporting limit in the method blank.

Calibration:

Initial and continuing calibrations were analyzed according to the method. All calibration criteria were met.

Tuning:

The instrument was tuned using BFB. All method criteria were met.

Internal Standards:

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All acceptance criteria were met.

Summary:

No analytical exception was noted. All data generated are acceptable.

Total Dissolved Solids

EPA Method 160.1

Sample Preparation Information:

The soil samples were leached according to T30S335.521(d) Appendix 4. Seven-Day Distilled Water Leachate Test.

Analysis Information:

The leachates were analyzed according to the method. All holding times were met.

Quality Control/Assurance

Blanks:

No target analyte was detected above the RL in the method blank.

Spikes:

Laboratory Control Spikes (LCS/LCSD) were used for quality assurance. All LCS recoveries met acceptance criteria.

No sample was designated by the client for MS/MSD analysis.

Summary:

No analytical exception was noted. All data are acceptable.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

4-12-12

Sharon Dehmlow, Laboratory Director / Date

CHAIN OF CUSTODY

AND ARF

APPL - Analysis Request Form 67315

Client: Parsons
Address: 8000 Centre Park Drive Ste 200
Austin, TX 78754
Attn: Tammy Chang
Phone: 512-719-6092 Fax: 512-719-6099
Job: 748402.01000 CSSA
PO #: 748336.30000-00 (prime *G012)
Chain of Custody (Y/N): Y # 032212APPFA
RAD Screen (Y/N): Y pH (Y/N): N
Turn Around Type: STD

Received by: TBV
Date Received: 03/23/12 Time: 10:50
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -5
Chest Temp(s): 1.5°C
Color: VOA,A-GRN
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Diane Anderson mp
QC Report Type: DVP3/AFCEE/ERPIMS/TX
Due Date: 04/13/12

Comments:
pdf ARF to Tammy & Pam; send 2 DVP3 to Tammy
Data screening project: analyze samples ONCE; report deficiencies; do NOT re-analyze
Case Narrative. CSSA + AFCEE 3.1 QAPP. Only report MS/MSD when requested.
Use AFCEE forms with AFCEE flagging to report sample & QC data only.
APPL forms for everything else and APPL DVP3.
EDD: ERPIMS 4 Lab PC4 checked TXF to Pam.Ford@parsons.com
Leaching 7days; See attached instructions
All testing performed after 7-day leach test MAK 4-10-12

3-26 Sent ARF

Sample Distribution:
VOA: 2-$826AW
Wetlab: 2-$TDS, 2-MOIST

Charges:

Invoice To:
BOA 748336.30000 TO# 3
8000 Centre Park Drive Ste 200
Austin, TX 78754-5140
Attn: Ellen Felfe

	Client ID	APPL ID	Sampled	Analyses Requested
1.	AOC65-WC10	AY57613S	03/22/12 16:50	$826AW, $TDS, MOIST
2.	AOC65-WC11	AY57614S	03/22/12 17:00	$826AW, $TDS, MOIST

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -5

Camp Stanley Storage Activity Chain Of Custody

67315 1.5

C ID:	032212APPFA	Relinquish_Date:	3/22/2012	Cooler ID:	A
ject Location:	CSSA	Relinquished_By:	EWR	LabCode:	APPF
Number:	748402.01000	Relinquish_Time:	7:00 PM	Carrier:	FedEx
ation Date:	3/22/2012	Collection Team:	EWR	Airbill Carrier:	876436443506
k Manager	Ken Rice	Sample Data Type	Screening	TAT:	Standard TAT

Sampler(s): Elisa W. Rice
Elisa W. Rice

ID:	AOC65-WC10	LOGDATE:	3/22/2012	MATRIX:	SO	TBLOT:			
:	0	LOGTIME:	16:50	SACODE:	N	SMCODE:	CS	ABLOT:	
:	0	FLDSAMPID	AOC65-WC10_032212_N1650					EBLOT:	
arks:								Containers:	2

Analysis Required:

E160.1	TOTAL DISSOLVED SOL	SW8260B	VOLATILE ORGANIC CO

Tx 7day leach test

ID:	AOC65-WC11	LOGDATE:	3/22/2012	MATRIX:	SO	TBLOT:			
:	0	LOGTIME:	17:00	SACODE:	N	SMCODE:	CS	ABLOT:	
:	0	FLDSAMPID	AOC65-WC11_032212_N1700					EBLOT:	
arks:								Containers:	2

Analysis Required:

E160.1	TOTAL DISSOLVED SOL	SW8260B	VOLATILE ORGANIC CO

Tx 7day leach test

-10-

quished by: EWR Date 3.22.12 Time 1900
ved by: Date 3/23/12 Time 1050

Relinquished by: Date Time
Recieved by: Date Time

Relinquished by: Date Time
Recieved by: Date Time

COOLER RECEIPT FORM

1) Project: 748402.01000 CSSA Date Received: 3/23/12

2) Coolers: Number of Coolers: 1

3) (YES) NO Were coolers and samples screened for radioactivity?

4) (YES) NO Were custody seals on outside of cooler? How many? 2 Date on seal? 3/22/12

5) Name on seal?

6) (YES) NO NA Were custody seals unbroken and intact at the time of arrival?

7) (YES) NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex

8) Shipping slip numbers: 1) 2764 3644 3506 2) 3)

9) (YES) NO NA Was the shipping slip scanned into the database?

10) YES NO (NA) If cooler belongs to APPL, has it been logged into the ice chest database?

11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.): Bubble Wrap, Wet Ice

12) YES NO (NA) For hand delivered samples was sufficient ice present to start the cooling process?

13) (YES) NO Was a temperature blank included in the cooler?

14) Serial number of certified NIST thermometer used: 143967 Correction factor: 0

15) Cooler temp(s): 1) 1.5°C 2) 3) 4) 5) 6) 7) 8)

Chain of custody:

16) (YES) NO Was a chain of custody received?

17) (YES) NO Were the custody papers signed in the appropriate places?

18) (YES) NO Was the project identifiable from custody papers?

19) (YES) NO Did the chain of custody include date and time of sampling?

20) (YES) NO Is location where sample was taken listed on the chain of custody?

Sample Labels:

21) (YES) NO Were container labels in good condition?

22) (YES) NO Was the client ID on the label?

23) (YES) NO Was the date of sampling on the label?

24) (YES) NO Was the time of sampling on the label?

25) (YES) NO Did all container labels agree with custody papers?

Sample Containers:

26) (YES) NO Were all containers sealed in separate bags?

27) (YES) NO Did all containers arrive unbroken?

28) YES (NO) Was there any leakage from samples?

29) YES (NO) Were any of the lids cracked or broken?

30) (YES) NO Were correct containers used for the tests indicated?

31) (YES) NO Was a sufficient amount of sample sent for tests indicated?

32) YES NO (NA) Were bubbles present in volatile samples? If yes, the following were received with air bubbles:

Larger than a pea:

Smaller than a pea:

Preservation & Hold time:

33) (YES) NO NA Was a sufficient amount of holding time remaining to analyze the samples?

34) (YES) NO NA Do the sample containers contain the same preservative as what is stated on the COC?

35) YES NO (NA) Was the pH taken of all non-VOA preserved samples and written on the sample container?

36) YES NO (NA) Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples > 12?

37) YES NO (NA) Unpreserved VOA Vials received?

38) YES NO (NA) Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?

Lab notified if pH was not adequate:

Deficiencies:

Signature of personnel receiving samples: Second reviewer:

Signature of project manager notified: Date and Time of notification:

Name of client notified: Date and Time of notification:

Information given to client:

by whom (Initials):

CUSTODY SEAL
APPL, Inc.
(559) 275-2175
Initials EVR
Date 3-22-12

EPA METHOD 8260B
Volatile Organic Compounds

APPL, INC.

EPA METHOD 8260B
Volatile Organic Compounds
QC Summary

APPL, INC.

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
AAB #: 120402AN-165790
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: ug/L
Method Blank ID: 120402AN-BLK
Initial Calibration ID: N120323

Analyte	Method Blank	RL	Q
1,1,1,2-TETRACHLOROETHANE	< RL	0.5	U
1,1,1-TCA	< RL	0.8	U
1,1,2,2-TETRACHLOROETHANE	< RL	0.4	U
1,1,2-TCA	< RL	1.0	U
1,1-DCA	< RL	0.4	U
1,1-DCE	< RL	1.2	U
1,1-DICHLOROPROPENE	< RL	1.0	U
1,2,3-TRICHLOROBENZENE	< RL	0.3	U
1,2,3-TRICHLOROPROPANE	< RL	3.2	U
1,2,4-TRICHLOROBENZENE	< RL	0.4	U
1,2,4-TRIMETHYLBENZENE	< RL	1.3	U
1,2-DCA	< RL	0.6	U
1,2-DCB	< RL	0.3	U
1,2-DIBROMO-3-CHLOROPROPANE	< RL	2.6	U
1,2-DICHLOROPROPANE	< RL	0.4	U
1,2-EDB	< RL	0.6	U
1,3,5-TRIMETHYLBENZENE	< RL	0.5	U
1,3-DCB	< RL	1.2	U
1,3-DICHLOROPROPANE	< RL	0.4	U
1,4-DCB	< RL	0.3	U
1-CHLOROHEXANE	< RL	0.5	U
2,2-DICHLOROPROPANE	< RL	3.5	U
2-CHLOROTOLUENE	< RL	0.4	U
4-CHLOROTOLUENE	< RL	0.6	U
BENZENE	< RL	0.4	U
BROMOBENZENE	< RL	0.3	U
BROMOCHLOROMETHANE	< RL	0.4	U
BROMODICHLOROMETHANE	< RL	0.8	U
BROMOFORM	< RL	1.2	U
BROMOMETHANE	< RL	1.1	U
CARBON TETRACHLORIDE	< RL	2.1	U
CHLOROBENZENE	< RL	0.4	U
CHLOROETHANE	< RL	1.0	U
CHLOROFORM	< RL	0.3	U
CHLOROMETHANE	< RL	1.3	U
CIS-1,2-DCE	< RL	1.2	U
CIS-1,3-DICHLOROPROPENE	< RL	1.0	U
DIBROMOCHLOROMETHANE	< RL	0.5	U
DIBROMOMETHANE	< RL	2.4	U
DICHLORODIFLUOROMETHANE	< RL	1.0	U
ETHYLBENZENE	< RL	0.6	U

Comments: ARF: 67315, Sample: AY57613

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
AAB #: 120402AN-165790
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: ug/L
Method Blank ID: 120402AN-BLK
Initial Calibration ID: N120323

Analyte	Method Blank	RL	Q
HEXACHLOROBUTADIENE	< RL	1.1	U
ISOPROPYLBENZENE	< RL	0.5	U
M&P-XYLENE	< RL	0.5	U
METHYLENE CHLORIDE	< RL	1.0	U
N-BUTYLBENZENE	< RL	1.1	U
N-PROPYLBENZENE	< RL	0.4	U
NAPHTHALENE	< RL	0.4	U
O-XYLENE	< RL	1.1	U
P-ISOPROPYLTOLUENE	< RL	1.2	U
SEC-BUTYLBENZENE	< RL	1.3	U
STYRENE	< RL	0.4	U
TCE	< RL	1.0	U
TERT-BUTYLBENZENE	< RL	1.4	U
TETRACHLOROETHENE	< RL	1.4	U
TOLUENE	< RL	1.1	U
TRANS-1,2-DCE	< RL	0.6	U
TRANS-1,3-DICHLOROPROPENE	< RL	1.0	U
TRICHLOROFLUOROMETHANE	< RL	0.8	U
VINYL CHLORIDE	< RL	1.1	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHAN	99.1	69-139	
SURROGATE: 4-BROMOFLUOROBE	100	75-125	
SURROGATE: DIBROMOFLUOROME	109	75-125	
SURROGATE: TOLUENE-D8 (S)	93.3	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 67315, Sample: AY57613

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 67315

Case No: 67315 Date Analyzed: 04/03/12

Matrix: SOIL Instrument: Neo

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120402AN-LCS	Lab Control Spike	69-139	99.6		75-125	101	
120402AN-BLK	Blank	69-139	99.1		75-125	100.0	
AY57613	AOC65-WC10	69-139	99.9		75-125	99.2	
AY57614	AOC65-WC11	69-139	98.7		75-125	93.8	

Comments: Batch: #826AW-120402AN

Printed: 04/12/12 3:31:26 PM

Form 2 & 8, Surrogate Recovery Summary

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 67315

Case No: 67315 Date Analyzed: 04/03/12

Matrix: SOIL Instrument: Neo

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120402AN-LCS	Lab Control Spike	75-125	108		75-125	93.0	
120402AN-BLK	Blank	75-125	109		75-125	93.3	
AY57613	AOC65-WC10	75-125	110		75-125	90.3	
AY57614	AOC65-WC11	75-125	110		75-125	90.3	

Comments: Batch: #826AW-120402AN

Printed: 04/12/12 3:31:26 PM

Form 2 & 8, Surrogate Recovery Summary

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
LCS ID: 120402AN LCS
Concentration Units: ug/L

AAB #: 120402AN-165790
Contract #: *G012
Initial Calibration ID: N120323

Analyte	Expected	Found	% R	Control Limits	Q
1,1,1,2-TETRACHLOROETHANE	10.00	9.58	95.8	72-125	
1,1,1-TCA	10.00	10.16	102	75-125	
1,1,2,2-TETRACHLOROETHANE	10.00	10.07	101	74-125	
1,1,2-TCA	10.00	9.75	97.5	75-127	
1,1-DCA	10.00	10.55	106	75-125	
1,1-DCE	10.00	9.52	95.2	75-125	
1,1-DICHLOROPROPENE	10.00	9.81	98.1	75-125	
1,2,3-TRICHLOROBENZENE	10.00	9.85	98.5	75-137	
1,2,3-TRICHLOROPROPANE	10.00	9.53	95.3	75-125	
1,2,4-TRICHLOROBENZENE	10.00	11.04	110	75-135	
1,2,4-TRIMETHYLBENZENE	10.00	9.96	99.6	75-125	
1,2-DCA	10.00	9.65	96.5	68-127	
1,2-DCB	10.00	9.46	94.6	75-125	
1,2-DIBROMO-3-CHLOROPROPANE	10.00	10.08	101	59-125	
1,2-DICHLOROPROPANE	10.00	9.83	98.3	70-125	
1,2-EDB	10.00	9.26	92.6	75-125	
1,3,5-TRIMETHYLBENZENE	10.00	9.71	97.1	72-125	
1,3-DCB	10.00	9.76	97.6	75-125	
1,3-DICHLOROPROPANE	10.00	9.63	96.3	75-125	
1,4-DCB	10.00	9.47	94.7	75-125	
1-CHLOROHEXANE	10.00	9.83	98.3	75-125	
2,2-DICHLOROPROPANE	10.00	10.45	105	75-125	
2-CHLOROTOLUENE	10.00	10.17	102	73-125	
4-CHLOROTOLUENE	10.00	9.24	92.4	74-125	
BENZENE	10.00	9.62	96.2	75-125	
BROMOBENZENE	10.00	9.09	90.9	75-125	
BROMOCHLOROMETHANE	10.00	9.60	96.0	73-125	
BROMODICHLOROMETHANE	10.00	9.67	96.7	75-125	
BROMOFORM	10.00	9.98	99.8	75-125	
BROMOMETHANE	10.00	8.29	82.9	72-125	
CARBON TETRACHLORIDE	10.00	10.86	109	62-125	
CHLOROBENZENE	10.00	9.85	98.5	75-125	
CHLOROETHANE	10.00	9.68	96.8	65-125	
CHLOROFORM	10.00	9.42	94.2	74-125	
CHLOROMETHANE	10.00	8.73	87.3	75-125	
CIS-1,2-DCE	10.00	10.34	103	75-125	
CIS-1,3-DICHLOROPROPENE	10.00	9.94	99.4	74-125	
DIBROMOCHLOROMETHANE	10.00	10.53	105	73-125	
DIBROMOMETHANE	10.00	9.86	98.6	69-127	
DICHLORODIFLUOROMETHANE	10.00	10.56	106	72-125	

Comments: ARF: 67315, QC Sample ID: AY57613

AFCEE FORM O-7

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
AAB #: 120402AN-165790
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120402AN LCS
Initial Calibration ID: N120323
Concentration Units: ug/L

Analyte	Expected	Found	% R	Control Limits	Q
ETHYLBENZENE	10.00	9.97	99.7	75-125	
HEXACHLOROBUTADIENE	10.00	9.96	99.6	75-125	
ISOPROPYLBENZENE	10.00	9.06	90.6	75-125	
M&P-XYLENE	20.00	20.60	103	75-125	
METHYLENE CHLORIDE	10.00	9.83	98.3	75-125	
N-BUTYLBENZENE	10.00	9.57	95.7	75-125	
N-PROPYLBENZENE	10.00	9.73	97.3	75-125	
NAPHTHALENE	10.00	8.93	89.3	75-125	
O-XYLENE	10.00	9.73	97.3	75-125	
P-ISOPROPYLTOLUENE	10.00	9.84	98.4	75-125	
SEC-BUTYLBENZENE	10.00	9.94	99.4	75-125	
STYRENE	10.00	10.01	100	75-125	
TCE	10.00	9.80	98.0	71-125	
TERT-BUTYLBENZENE	10.00	9.60	96.0	75-125	
TETRACHLOROETHENE	10.00	9.16	91.6	71-125	
TOLUENE	10.00	9.81	98.1	74-125	
TRANS-1,2-DCE	10.00	9.48	94.8	75-125	
TRANS-1,3-DICHLOROPROPENE	10.00	10.50	105	66-125	
TRICHLOROFLUOROMETHANE	10.00	9.52	95.2	67-125	
VINYL CHLORIDE	10.00	7.97	79.7	46-134	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	99.5	69-139	
SURROGATE: 4-BROMOFLUOROBENZE	101	75-125	
SURROGATE: DIBROMOFLUOROMETH	108	75-125	
SURROGATE: TOLUENE-D8 (S)	93.0	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 67315, QC Sample ID: AY57613

AFCEE FORM O-7

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 67315

Case No: 67315 Date Analyzed: 04/03/12

Matrix: SOIL Instrument: Neo

Blank ID: 120402AN-BLK Time Analyzed: 1412

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120402AN-LCS	Lab Control Spike	0403N04	04/03/12 1217
120402AN-BLK	Blank	0403N07	04/03/12 1412
AY57613	AOC65-WC10	0403N15	04/03/12 1916
AY57614	AOC65-WC11	0403N16	04/03/12 1955

Comments: Batch: #826AW-120402AN

Printed: 04/12/12 3:31:24 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 0323N00T.D
Matrix: Water
ID: 25ug/mL BFB Std 2-13-12

SDG No: Neo
Date Analyzed: 03/23/12
Instrument: Neo
Time Analyzed: 10:39

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L Vol Std 03-2	0323N04W.D	03/23/12 13:01
2		0.5ug/L Vol Std 03-2	0323N05W.D	03/23/12 13:39
3		1.0ug/L Vol Std 03-2	0323N06W.D	03/23/12 14:17
4		5.0ug/L Vol Std 03-2	0323N07W.D	03/23/12 14:56
5		10ug/L Vol Std 03-23	0323N08W.D	03/23/12 15:34
6		40ug/L Vol Std 03-23	0323N09W.D	03/23/12 16:12
7		100ug/L Vol Std 03-2	0323N10W.D	03/23/12 16:51
8		200ug/L Vol Std 03-2	0323N11W.D	03/23/12 17:29
9	Lab Control Spike	120323A LCS-1WN (SS)	0323N18W.D	03/23/12 21:57
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	14.95 - 40% of mass 95	21.9
75	30 - 60% of mass 95	46.4
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.7
173	0 - 2% of mass 174	0.2
174	50 - 100% of mass 95	77.6
175	5 - 9% of mass 174	7.6
176	95 - 101% of mass 174	97.8
177	5 - 9% of mass 176	6.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 67315
Matrix: Water
ID: 25ug/mL BFB Std 2-13-12

SDG No: 67315
Date Analyzed: 04/03/12
Instrument: Neo
Time Analyzed: 9:55

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Vol Std 04-03	0403N03W.D	04/03/12 11:38
2	Lab Control Spike	120402A LCS-1WN	0403N04W.D	04/03/12 12:17
3	Blank	120402A BLK-1WN	0403N07W.D	04/03/12 14:12
4	AOC65-WC10	AY57613S01	0403N15W.D	04/03/12 19:16
5	AOC65-WC11	AY57614S01	0403N16W.D	04/03/12 19:55
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	14.95 - 40% of mass 95	23.0
75	30 - 60% of mass 95	48.3
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.5
173	0 - 2% of mass 174	0.3
174	50 - 100% of mass 95	77.3
175	5 - 9% of mass 174	7.2
176	95 - 101% of mass 174	98.6
177	5 - 9% of mass 176	6.5

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: *G012

Lab Code: _____ SDG No.: 67315

Lab File ID (Standard): 0323N08W.D Date Analyzed: 03/23/12

Instrument ID: Neo Time Analyzed: 15:34

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	359808	13.28	246272	18.46	113584	22.64
	UPPER LIMIT	719616	13.78	492544	18.96	227168	23.14
	LOWER LIMIT	179904	12.78	123136	17.96	56792	22.14
	SAMPLE NO.						
01	0.3ug/L Vol Std 03-23-12	350784	13.27	246016	18.45	129600	22.64
02	0.5ug/L Vol Std 03-23-12	378240	13.27	244736	18.45	116920	22.64
03	1.0ug/L Vol Std 03-23-12	350080	13.27	262272	18.45	121224	22.64
04	5.0ug/L Vol Std 03-23-12	368512	13.28	237376	18.45	114864	22.65
05	10ug/L Vol Std 03-23-12	359808	13.28	246272	18.46	113584	22.64
06	40ug/L Vol Std 03-23-12	349760	13.28	235200	18.45	115384	22.65
07	100ug/L Vol Std 03-23-1	369920	13.28	250752	18.45	111032	22.65
08	200ug/L Vol Std 03-23-1	384576	13.28	240128	18.46	111832	22.65
09	120323A LCS-1WN (SS	386112	13.29	256320	18.45	118856	22.65
10	10ug/L Vol Std 04-03-12	401792	13.27	241792	18.45	121392	22.64
11	120402A LCS-1WN	374912	13.27	251328	18.45	123344	22.64
12	120402A BLK-1WN	358912	13.28	242560	18.45	117416	22.64
13	AY57613S01	381568	13.28	259712	18.46	127816	22.65
14	AY57614S01	372864	13.28	264064	18.46	119624	22.65
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA METHOD 8260B
Volatile Organic Compounds
Sample Data

APPL, INC.

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120402AN-165790
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC10 Lab Sample ID: AY57613 Matrix: Soil
% Solids: 91.7 Initial Calibration ID: N120323
Date Received: 23-Mar-12 Date Prepared: 03-Apr-12 Date Analyzed: 03-Apr-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.09	0.5	0.09	1		U
1,1,1-TCA	0.03	0.8	0.03	1		U
1,1,2,2-TETRACHLOROETHANE	0.07	0.4	0.07	1		U
1,1,2-TCA	0.06	1.0	0.06	1		U
1,1-DCA	0.07	0.4	0.07	1		U
1,1-DCE	0.12	1.2	0.12	1		U
1,1-DICHLOROPROPENE	0.10	1.0	0.10	1		U
1,2,3-TRICHLOROBENZENE	0.24	0.3	0.24	1		U
1,2,3-TRICHLOROPROPANE	0.17	3.2	0.17	1		U
1,2,4-TRICHLOROBENZENE	0.16	0.4	0.16	1		U
1,2,4-TRIMETHYLBENZENE	0.04	1.3	0.04	1		U
1,2-DCA	0.05	0.6	0.05	1		U
1,2-DCB	0.02	0.3	0.02	1		U
1,2-DIBROMO-3-CHLOROPROPANE	0.76	2.6	0.76	1		U
1,2-DICHLOROPROPANE	0.06	0.4	0.06	1		U
1,2-EDB	0.06	0.6	0.06	1		U
1,3,5-TRIMETHYLBENZENE	0.04	0.5	0.04	1		U
1,3-DCB	0.03	1.2	0.03	1		U
1,3-DICHLOROPROPANE	0.05	0.4	0.05	1		U
1,4-DCB	0.07	0.3	0.07	1		U
1-CHLOROHEXANE	0.04	0.5	0.04	1		U
2,2-DICHLOROPROPANE	0.10	3.5	0.10	1		U
2-CHLOROTOLUENE	0.04	0.4	0.04	1		U
4-CHLOROTOLUENE	0.04	0.6	0.04	1		U
BENZENE	0.07	0.4	0.07	1		U
BROMOBENZENE	0.06	0.3	0.06	1		U
BROMOCHLOROMETHANE	0.11	0.4	0.11	1		U
BROMODICHLOROMETHANE	0.06	0.8	0.06	1		U
BROMOFORM	0.13	1.2	0.13	1		U
BROMOMETHANE	0.08	1.1	0.08	1		U
CARBON TETRACHLORIDE	0.06	2.1	0.06	1		U
CHLOROBENZENE	0.04	0.4	0.04	1		U
CHLOROETHANE	0.07	1.0	0.07	1		U
CHLOROFORM	0.06	0.3	0.06	1		U
CHLOROMETHANE	0.16	1.3	0.16	1		U

Comments:

ARF: 67315

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120402AN-165790
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC10 Lab Sample ID: AY57613 Matrix: Soil
% Solids: 91.7 Initial Calibration ID: N120323
Date Received: 23-Mar-12 Date Prepared: 03-Apr-12 Date Analyzed: 03-Apr-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
CIS-1,2-DCE	0.07	1.2	0.07	1		U
CIS-1,3-DICHLOROPROPENE	0.03	1.0	0.03	1		U
DIBROMOCHLOROMETHANE	0.06	0.5	0.06	1		U
DIBROMOMETHANE	0.06	2.4	0.06	1		U
DICHLORODIFLUOROMETHANE	0.11	1.0	0.11	1		U
ETHYLBENZENE	0.05	0.6	0.05	1		U
HEXACHLOROBUTADIENE	0.17	1.1	0.17	1		U
ISOPROPYLBENZENE	0.04	0.5	0.04	1		U
M&P-XYLENE	0.07	0.5	0.07	1		U
METHYLENE CHLORIDE	0.35	1.0	0.87	1		F
N-BUTYLBENZENE	0.17	1.1	0.17	1		U
N-PROPYLBENZENE	0.03	0.4	0.03	1		U
NAPHTHALENE	0.07	0.4	0.07	1		U
O-XYLENE	0.06	1.1	0.06	1		U
P-ISOPROPYLTOLUENE	0.05	1.2	0.05	1		U
SEC-BUTYLBENZENE	0.05	1.3	0.05	1		U
STYRENE	0.08	0.4	0.08	1		U
TCE	0.05	1.0	0.05	1		U
TERT-BUTYLBENZENE	0.04	1.4	0.04	1		U
TETRACHLOROETHENE	0.06	1.4	0.57	1		F
TOLUENE	0.06	1.1	0.06	1		U
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
TRANS-1,3-DICHLOROPROPENE	0.04	1.0	0.04	1		U
TRICHLOROFLUOROMETHANE	0.07	0.8	0.07	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	99.9	69-139	
SURROGATE: 4-BROMOFLUOROBENZE	99.2	75-125	
SURROGATE: DIBROMOFLUOROMETH	110	75-125	
SURROGATE: TOLUENE-D8 (S)	90.3	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 67315

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120402AN-165790
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC11 Lab Sample ID: AY57614 Matrix: Soil
% Solids: 92.3 Initial Calibration ID: N120323
Date Received: 23-Mar-12 Date Prepared: 03-Apr-12 Date Analyzed: 03-Apr-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.09	0.5	0.09	1		U
1,1,1-TCA	0.03	0.8	0.03	1		U
1,1,2,2-TETRACHLOROETHANE	0.07	0.4	0.07	1		U
1,1,2-TCA	0.06	1.0	0.06	1		U
1,1-DCA	0.07	0.4	0.07	1		U
1,1-DCE	0.12	1.2	0.12	1		U
1,1-DICHLOROPROPENE	0.10	1.0	0.10	1		U
1,2,3-TRICHLOROBENZENE	0.24	0.3	0.24	1		U
1,2,3-TRICHLOROPROPANE	0.17	3.2	0.17	1		U
1,2,4-TRICHLOROBENZENE	0.16	0.4	0.16	1		U
1,2,4-TRIMETHYLBENZENE	0.04	1.3	0.04	1		U
1,2-DCA	0.05	0.6	0.05	1		U
1,2-DCB	0.02	0.3	0.02	1		U
1,2-DIBROMO-3-CHLOROPROPANE	0.76	2.6	0.76	1		U
1,2-DICHLOROPROPANE	0.06	0.4	0.06	1		U
1,2-EDB	0.06	0.6	0.06	1		U
1,3,5-TRIMETHYLBENZENE	0.04	0.5	0.04	1		U
1,3-DCB	0.03	1.2	0.03	1		U
1,3-DICHLOROPROPANE	0.05	0.4	0.05	1		U
1,4-DCB	0.07	0.3	0.07	1		U
1-CHLOROHEXANE	0.04	0.5	0.04	1		U
2,2-DICHLOROPROPANE	0.10	3.5	0.10	1		U
2-CHLOROTOLUENE	0.04	0.4	0.04	1		U
4-CHLOROTOLUENE	0.04	0.6	0.04	1		U
BENZENE	0.07	0.4	0.07	1		U
BROMOBENZENE	0.06	0.3	0.06	1		U
BROMOCHLOROMETHANE	0.11	0.4	0.11	1		U
BROMODICHLOROMETHANE	0.06	0.8	0.06	1		U
BROMOFORM	0.13	1.2	0.13	1		U
BROMOMETHANE	0.08	1.1	0.08	1		U
CARBON TETRACHLORIDE	0.06	2.1	0.06	1		U
CHLOROBENZENE	0.04	0.4	0.04	1		U
CHLOROETHANE	0.07	1.0	0.07	1		U
CHLOROFORM	0.06	0.3	0.06	1		U
CHLOROMETHANE	0.16	1.3	0.16	1		U

Comments:

ARF: 67315

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120402AN-165790
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC11 Lab Sample ID: AY57614 Matrix: Soil
% Solids: 92.3 Initial Calibration ID: N120323
Date Received: 23-Mar-12 Date Prepared: 03-Apr-12 Date Analyzed: 03-Apr-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
CIS-1,2-DCE	0.07	1.2	0.07	1		U
CIS-1,3-DICHLOROPROPENE	0.03	1.0	0.03	1		U
DIBROMOCHLOROMETHANE	0.06	0.5	0.06	1		U
DIBROMOMETHANE	0.06	2.4	0.06	1		U
DICHLORODIFLUOROMETHANE	0.11	1.0	0.11	1		U
ETHYLBENZENE	0.05	0.6	0.05	1		U
HEXACHLOROBUTADIENE	0.17	1.1	0.17	1		U
ISOPROPYLBENZENE	0.04	0.5	0.04	1		U
M&P-XYLENE	0.07	0.5	0.07	1		U
METHYLENE CHLORIDE	0.35	1.0	0.81	1		F
N-BUTYLBENZENE	0.17	1.1	0.17	1		U
N-PROPYLBENZENE	0.03	0.4	0.03	1		U
NAPHTHALENE	0.07	0.4	0.07	1		U
O-XYLENE	0.06	1.1	0.06	1		U
P-ISOPROPYLTOLUENE	0.05	1.2	0.05	1		U
SEC-BUTYLBENZENE	0.05	1.3	0.05	1		U
STYRENE	0.08	0.4	0.08	1		U
TCE	0.05	1.0	0.05	1		U
TERT-BUTYLBENZENE	0.04	1.4	0.04	1		U
TETRACHLOROETHENE	0.06	1.4	0.06	1		U
TOLUENE	0.06	1.1	0.06	1		U
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
TRANS-1,3-DICHLOROPROPENE	0.04	1.0	0.04	1		U
TRICHLOROFLUOROMETHANE	0.07	0.8	0.07	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	98.7	69-139	
SURROGATE: 4-BROMOFLUOROBENZE	93.8	75-125	
SURROGATE: DIBROMOFLUOROMETH	110	75-125	
SURROGATE: TOLUENE-D8 (S)	90.3	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 67315

AFCEE FORM O-2

EPA METHOD 8260B
Volatile Organic Compounds
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 67315
Case No: Initial Cal. Date: 03/23/12
Matrix: Water Instrument: Neo Initials: HW

		Compound	0323N04W.D 0.3	0323N05W.D 0.5	0323N06W.D 1	0323N07W.D 5	0323N08W.D 10	0323N09W.D 40	0323N10W.D 100	0323N11W.D 200			Avg	%RSD		r
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane	0.2231	0.1746	0.1855	0.1538	0.1804	0.1984	0.2128	0.2115			0.19	12	TM	
3	TM**	Chloromethane		0.4430	0.3454	0.3575	0.3123	0.3207	0.3630	0.3731			0.36	12	TM**	
4	TM*	Vinyl chloride		0.3296	0.3057	0.2739	0.2984	0.3624	0.4343				0.33	17	TM*	
5	TML	1,3-Butadiene													TML	
6	TML	Bromomethane	0.4222	0.4037	0.3709	0.3199	0.3952	0.6402	0.7624	0.8173			0.52	37	TML	0.999
7	TML	Chloroethane	1.922	1.257	1.402	0.8233	0.8248	0.7341	0.7392	0.7097			1.1	42	TML	1.000
8	TM	Dichlorofluoromethane	0.6146	0.4728	0.5203	0.5042	0.4802	0.4618	0.4534	0.4758			0.50	10	TM	
9	TM	Trichlorofluoromethane		0.1549	0.1669	0.1185	0.1417	0.1231	0.1444	0.1347			0.14	12	TM	
10	TM	Acrolein	0.0566	0.0564	0.0512	0.0475	0.0460	0.0496	0.0517	0.0496			0.05	7.4	TM	
11	TML	Acetone	0.2411	0.4834	0.3196	0.1754	0.1620	0.1623	0.1478	0.1482			0.23	51	TML	1.000
12	TML	Freon-113	0.4716	0.7224	0.8438	0.5658	0.6858	0.7745	0.7848	0.7913			0.70	18	TML	1.000
13	TM*	1,1-DCE	1.649	1.603	1.810	1.544	1.527	1.696	1.619	1.608			1.6	5.5	TM*	
14	TM	t-Butanol	0.0251	0.0255	0.0258	0.0285	0.0291	0.0364	0.0492	0.0660			0.04	41	TM	
15	TML	Methyl Acetate	1.541	1.079	1.026	0.5694	0.5489	0.5233	0.4970	0.5103			0.79	49	TML	1.000
16	TML	Iodomethane	0.1067	0.0931	0.1800	0.4275	0.5793	0.6254	0.6435	0.5847			0.41	59	TML	0.999
17	TM	Acrylonitrile	0.1490	0.2149	0.2100	0.0991	0.0613	0.0208	0.0103	0.0061			0.10	90	TM	
18	TM	Methylene chloride		1.113	1.026	0.8782	0.9238	0.9054	0.8470	0.8308			0.93	11	TM	
19	TM	Carbon disulfide	3.132	2.801	3.273	2.403	2.783	3.072	3.042	3.036			2.9	9.2	TM	
20	TM	Methyl t-butyl ether (MtBE)	1.662	1.646	1.716	1.702	1.579	1.618	1.507	1.513			1.6	4.9	TM	
21	L	Hexane	0.8963	1.178	1.130	0.7077	1.028	1.196	1.241	1.243			1.1	18	L	1.000
22	TM	Trans-1,2-DCE	1.195	0.9211	0.9962	0.8220	0.8583	0.9480	0.8822	0.8787			0.94	12	TM	
23	TM	Diisopropyl Ether	1.060	1.014	1.090	0.9980	1.034	1.046	1.015				1.0	3.0	TM	
24	TM**	1,1-DCA		0.5111	0.5664	0.4824	0.4999	0.4166	0.3761				0.48	14	TM**	
25	TM	Vinyl Acetate	0.8502	0.7552	0.7268	0.7623	0.8192	0.7713	0.7660	0.7339			0.77	5.4	TM	
26	TM	Ethyl tert Butyl Ether	0.7248	0.7522	0.7290	0.6593	0.6628	0.6792	0.6183	0.6297			0.68	7.2	TM	
27	TM	MEK (2-Butanone)				0.1384	0.1290	0.1225	0.1217	0.1189			0.13	6.2	TM	
28	TM	Cis-1,2-DCE		0.3058	0.2869	0.2812	0.2807	0.2803	0.2366	0.2334			0.27	9.9	TM	
29	TM	2,2-Dichloropropane	0.3687	0.3666	0.3568	0.3011	0.3302	0.3325	0.3237	0.3338			0.34	6.8	TM	
30	TM*	Chloroform	1.754	1.839	1.879	1.671	1.647	1.701	1.590	1.577			1.7	6.4	TM*	
31	TM	Bromochloromethane		0.3585	0.3320	0.3303	0.2790	0.2778	0.2755	0.2835			0.31	11	TM	
32	S	Dibromofluoromethane(S)	0.8559	0.8702	0.9805	0.8841	0.8457	0.9001	0.8897	0.6770			0.86	9.9	S	
33	TM	2,2,4-Trimethylpentane	0.6390	0.7737	0.8048	0.4937	0.6461	0.7506	0.7787	0.7671			0.71	15	TM	
34	TM	1,1,1-TCA	1.525	1.268	1.367	1.227	1.259	1.318	1.312	1.309			1.3	7.0	TM	
35	TM	Cyclohexane		0.3667	0.4700	0.3210	0.4082	0.4108	0.4475	0.4345			0.41	12	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 67315
Case No: Initial Cal. Date: 03/23/12
Matrix: Water Instrument: Neo Initials: HW

		Compound	0.3	0.5	1	5	10	40	100	200			Avg	%RSD		
36	TM	1,1-Dichloropropene	1.298	1.358	1.342	1.110	1.293	1.350	1.301	1.284			1.3	6.1	TM	
37	S	1,2-DCA-D4(S)	0.9145	0.9030	0.9276	0.8186	0.8236	0.8425	0.8454	0.6343			0.84	11	S	
38	TM	Carbon Tetrachloride	0.3407	0.2615	0.2617	0.2527	0.2705	0.3091	0.3138	0.2959			0.29	11	TM	
39		Heptane														
40	TM	Tert Amyl Methyl Ether	1.843	1.936	2.057	1.885	1.924	1.835	1.737	1.748			1.9	5.6	TM	
41	TM	1,2-DCA	0.3689	0.3927	0.2923	0.3392	0.3246	0.3430	0.3003	0.2897			0.33	11	TM	
42	TM	Benzene	4.539	4.050	4.073	3.588	3.631	3.754	3.702	3.688			3.9	8.3	TM	
43	TM	TCE	1.155	0.8563	0.9120	0.8913	0.9078	0.9300	0.8738	0.8637			0.92	10	TM	
44	TM	2-Pentanone	0.1484	0.1384	0.1298	0.1352	0.1268	0.1325	0.1264	0.1130			0.13	7.8	TM	
45	TM*	1,2-Dichloropropane	0.3290	0.4578	0.3808	0.3252	0.3340	0.3274	0.3218	0.3065			0.35	14	TM*	
46	TM	Bromodichloromethane	1.299	1.167	1.180	1.151	1.186	1.200	1.127	1.134			1.2	4.6	TM	
47	TM	Dibromomethane	0.1449	0.1459	0.1492	0.1502	0.1357	0.1315	0.1144	0.1008			0.13	13	TM	
48	TML	Methyl Cyclohexane		0.2389	0.3873	0.2573	0.3131	0.3387	0.3528	0.3388			0.32	17	TML	1.000
49	TML	2-Chloroethyl vinyl ether	0.0779	0.1212	0.1428	0.0938	0.1022	0.1015	0.0915	0.0926			0.10	20	TML	1.000
50	TM	1-Bromo-2-chloroethane	1.024	0.9643	1.056	0.9976	1.048	1.022	0.9436	0.9561			1.0	4.3	TM	
51	TM	Cis-1,3-Dichloropropene	1.426	1.311	1.404	1.456	1.354	1.426	1.349	1.309			1.4	4.1	TM	
52	TM*	Toluene	1.276	1.270	1.312	1.223	1.117	1.214	1.128	1.118			1.2	6.5	TM*	
53	TM	Trans-1,3-Dichloropropene		0.3867	0.4513	0.3840	0.3695	0.3863	0.3683	0.3624			0.39	7.8	TM	
54	TM	1,1,2-TCA	0.5450	0.4699	0.4571	0.4998	0.4912	0.4803	0.4343	0.4447			0.48	7.4	TM	
55	I	Chlorobenzene-D5 (IS)														
56	S	Toluene-D8(S)	4.231	4.031	3.966	4.099	3.736	4.220	4.273	3.457			4.0	7.0	S	
57	TM	1,2-EDB	0.9010	0.7900	0.6692	0.8486	0.7969	0.8053	0.7289	0.7970			0.79	8.8	TM	
58	TM	Tetrachloroethene	0.2747	0.4068	0.2913	0.2654	0.2776	0.2983	0.2841	0.2869			0.30	15	TM	
59	TM	1-Chlorohexane	0.7662	0.6182	0.4864	0.5753	0.6520	0.6410	0.6383	0.7239			0.64	13	TM	
60	TM	1,1,1,2-Tetrachloroethane	1.224	1.056	1.072	1.089	0.9989	1.037	1.032	1.065			1.1	6.3	TM	
61	TM	m&p-Xylene	2.204	1.966	1.974	2.069	1.943	2.076	1.920	2.037			2.0	4.6	TM	
62	TM	o-Xylene	2.166	1.954	1.854	1.983	1.913	1.944	1.853	2.019			2.0	5.2	TM	
63	TM	Styrene	3.915	3.163	3.316	3.529	3.229	3.437	3.210	3.549			3.4	7.3	TM	
64	S	4-Bromofluorobenzene(S)	1.480	1.624	1.544	1.551	1.427	1.587	1.545	1.293			1.5	7.0	S	
65	TML	2-Hexanone	0.2435	0.3007	0.1590	0.2057	0.1813	0.1827	0.1668	0.1798			0.20	24	TML	0.999
66	TM	1,3-Dichloropropane		0.4895	0.5068	0.6021	0.5133	0.5066	0.4467	0.4967			0.51	9.2	TM	
67	TM	Dibromochloromethane	1.058	0.9717	0.8679	1.022	0.9847	1.026	0.9903	1.011			0.99	5.7	TM	
68	TM**	Chlorobenzene	3.530	2.853	2.801	3.184	2.941	3.171	3.026	3.194			3.1	7.6	TM**	
69	TM*	Ethylbenzene	2.309	2.113	1.765	2.087	2.099	1.974	1.897	2.237			2.1	8.6	TM*	
70	TM**	Bromoform	0.5325	0.4178	0.5192	0.5688	0.5515	0.5739	0.5287	0.5645			0.53	9.5	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 67315
Case No: Initial Cal. Date: 03/23/12
Matrix: Water Instrument: Neo Initials: HW

		Compound	0.3	0.5	1	5	10	40	100	200			Avg	%RSD		
71	I	1,4-Dichlorobenzene-D (IS)														
72	TM	MIBK (methyl isobutyl ketone)				0.5734	0.5643	0.5026	0.5513	0.5599			0.55	5.1	TM	
73	TM	Isopropylbenzene	3.679	3.924	3.615	3.650	3.732	3.502	3.814	3.980			3.7	4.3	TM	
74	TM**	1,1,2,2-Tetrachloroethane	0.4726	0.7090	0.5764	0.6785	0.6522	0.6286	0.5914	0.6120			0.62	12	TM**	
75	TML	1,2,3-Trichloropropane		0.2865	0.1697	0.1786	0.1537	0.1573	0.1432	0.1461			0.18	28	TML	1.000
76	TM	t-1,4-Dichloro-2-Butene	0.2328	0.1937	0.2332	0.2372	0.2133	0.2041	0.2111	0.2176			0.22	7.1	TM	
77	TM	Bromobenzene	0.9105	0.9186	0.7991	0.9075	0.8718	0.7190	0.8476	0.8348			0.85	8.0	TM	
78	TM	n-Propylbenzene	5.194	5.460	4.999	5.282	4.906	5.193	5.075	5.364			5.2	3.6	TM	
79	TM	4-Ethyltoluene	8.200	7.742	7.890	7.907	7.783	7.806	8.199	7.926			7.9	2.2	TM	
80	TM	2-Chlorotoluene	2.838	3.158	3.063	2.937	2.983	2.816	2.990	3.130			3.0	4.2	TM	
81	TM	1,3,5-Trimethylbenzene	2.966	3.918	2.945	3.144	3.125	3.122	3.348	3.435			3.3	9.8	TM	
82	TM	4-Chlorotoluene	8.501	9.224	7.274	8.504	7.907	7.808	8.774	8.750			8.3	7.6	TM	
83	TM	Tert-Butylbenzene	7.561	8.298	8.081	7.674	7.855	7.878	8.326	8.324			8.0	3.8	TM	
84	TM	1,2,4-Trimethylbenzene	8.414	9.751	8.501	9.150	8.976	8.611	9.336	9.503			9.0	5.4	TM	
85	TM	Sec-Butylbenzene	9.024	11.8	10.8	10.9	11.2	11.2	12.1	12.3			11	9.3	TM	
86	TM	p-Isopropyltoluene	8.474	8.440	8.097	8.517	8.571	8.691	9.130	9.224			8.6	4.3	TM	
87	TM	Benzyl Chloride	3.843	3.494	3.045	3.349	3.120	2.919	3.309	3.101			3.3	9.0	TM	
88	TM	1,3-DCB	4.489	4.514	4.456	4.730	4.559	4.519	4.516	4.569			4.5	1.8	TM	
89	TM	1,4-DCB	3.761	5.103	4.324	4.697	4.362	4.169	4.495	4.407			4.4	8.8	TM	
90	TM	n-Butylbenzene	3.648	4.071	3.598	3.293	3.623	3.765	3.893	4.034			3.7	6.9	TM	
91	TM	1,2-DCB	4.227	3.146	3.945	4.066	3.862	3.743	3.914	3.989			3.9	8.4	TM	
92	TM	Hexachloroethane	2.735	2.150	2.228	2.214	2.297	2.225	2.528	2.434			2.4	8.5	TM	
93	TML	1,2-Dibromo-3-chloropropane			0.1656	0.2942	0.2676	0.2772	0.2863	0.2845			0.26	18	TML	1.00
94	TM	1,2,4-Trichlorobenzene	2.333	2.609	2.321	2.588	2.718	2.299	2.373	2.365			2.5	6.6	TM	
95	TML	Hexachlorobutadiene	0.5298	0.5816	0.3593	0.3737	0.4217	0.3999	0.4450	0.4246			0.44	17	TML	1.000
96	TM	Naphthalene	4.162	4.444	4.053	4.810	4.641	4.265	4.556	4.558			4.4	5.8	TM	
97	TM	1,2,3-Trichlorobenzene	0.6816	0.9335	0.6443	0.9225	0.9154	0.8663	0.8704	0.8621			0.86	9.3	TM	
98	TM	Dibromochlorobenzene													TM	
99																
100																
101																
102																
103																
104																
105																

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No: 67315
Date Analyzed: 03/23/12
Instrument: Neo
Initial Cal. Date: 03/23/12
Data File: 0323N18W.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.1925	0.1892	1.7	TM		
3	TM**	Chloromethane	0.3593	0.3197	11	TM**	✓	
4	TM*	Vinyl chloride	0.3340	0.2684	20	TM*	✓	
5	TML	1,3-Butadiene	0.0000	0.0000	0.00	TML		
6	TML	Bromomethane	0.5165	0.4459	14	TML	15	
7	TML	Chloroethane	1.052	0.7470	29	TML	6.5	
8	TM	Dichlorofluoromethane	0.4979	0.4251	15	TM		
9	TM	Trichlorofluoromethane	0.1406	0.1392	0.97	TM		
10	TM	Acrolein	0.0511	0.0400	22	TM		*nt
11	TML	Acetone	0.2300	0.1582	31	TML	5.1	
12	TML	Freon-113	0.7050	0.7644	8.4	TML	2.9	
13	TM*	1,1-DCE	1.632	1.598	2.1	TM*	✓	
14	TM	t-Butanol	0.0357	0.0251	30	TM		*nt
15	TML	Methyl Acetate	0.7868	0.4899	38	TML	9.3	
16	TML	Iodomethane	0.4050	0.6388	58	TML	3.0	
17	TM	Acrylonitrile	0.0964	0.0450	53	TM		*nt
18	TM	Methylene chloride	0.9321	0.9628	3.3	TM		
19	TM	Carbon disulfide	2.943	2.867	2.6	TM		
20	TM	Methyl t-butyl ether (MtBE)	1.618	1.471	9.1	TM		
21	L	Hexane	1.078	1.139	5.7	L	0.30	
22	TM	Trans-1,2-DCE	0.9377	0.8793	6.2	TM		
23	TM	Diisopropyl Ether	1.037	0.9680	6.6	TM		
24	TM**	1,1-DCA	0.4754	0.4419	7.0	TM**	✓	
25	TM	Vinyl Acetate	0.7731	0.5997	22	TM		*nt
26	TM	Ethyl tert Butyl Ether	0.6819	0.5725	16	TM		
27	TM	MEK (2-Butanone)	0.1261	0.1159	8.1	TM		
28	TM	Cis-1,2-DCE	0.2721	0.2588	4.9	TM		
29	TM	2,2-Dichloropropane	0.3392	0.3203	5.6	TM		
30	TM*	Chloroform	1.707	1.567	8.2	TM*		
31	TM	Bromochloromethane	0.3052	0.2739	10	TM		
32	S	Dibromofluoromethane(S)	0.8629	0.6735	22	S		
33	TM	2,2,4-Trimethylpentane	0.7067	0.6771	4.2	TM		
34	TM	1,1,1-TCA	1.323	1.294	2.2	TM		
35	TM	Cyclohexane	0.4084	0.4546	11	TM		
36	TM	1,1-Dichloropropene	1.292	1.286	0.46	TM		
37	S	1,2-DCA-D4(S)	0.8387	0.6244	26	S		
38	TM	Carbon Tetrachloride	0.2882	0.2983	3.5	TM		
39		Heptane	0.0000	0.5014	0.00			
40	TM	Tert Amyl Methyl Ether	1.871	1.724	7.9	TM		
		Average			13.5			

Hw4/24/12

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No: 67315
Date Analyzed: 03/23/12
Instrument: Neo
Cal. Date: 03/23/12
Data File: 0323N18W.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.3314	0.3032	8.5	TM	
42	TM	Benzene	3.878	3.622	6.6	TM	
43	TM	TCE	0.9237	0.8903	3.6	TM	
44	TM	2-Pentanone	0.1313	0.1078	18	TM	
45	TM*	1,2-Dichloropropane	0.3478	0.3309	4.9	TM*	
46	TM	Bromodichloromethane	1.180	1.120	5.1	TM	
47	TM	Dibromomethane	0.1341	0.1309	2.3	TM	
48	TML	Methyl Cyclohexane	0.3181	0.3391	6.6	TML	0.54
49	TML	2-Chloroethyl vinyl ether	0.1029	0.0896	13	TML	10
50	TM	1-Bromo-2-chloroethane	1.001	0.9447	5.7	TM	
51	TM	Cis-1,3-Dichloropropene	1.379	1.341	2.8	TM	
52	TM*	Toluene	1.207	1.179	2.3	TM*	
53	TM	Trans-1,3-Dichloropropene	0.3869	0.3810	1.5	TM	
54	TM	1,1,2-TCA	0.4778	0.4319	9.6	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	4.002	3.332	17	S	
57	TM	1,2-EDB	0.7921	0.7454	5.9	TM	
58	TM	Tetrachloroethene	0.2981	0.2946	1.2	TM	
59	TM	1-Chlorohexane	0.6377	0.6205	2.7	TM	
60	TM	1,1,1,2-Tetrachloroethane	1.072	1.020	4.9	TM	
61	TM	m&p-Xylene	2.024	2.007	0.84	TM	
62	TM	o-Xylene	1.961	1.924	1.9	TM	
63	TM	Styrene	3.418	3.276	4.2	TM	
64	S	4-Bromofluorobenzene(S)	1.506	1.126	25	S	
65	TML	2-Hexanone	0.2025	0.1531	24	TML	13
66	TM	1,3-Dichloropropane	0.5088	0.4832	5.0	TM	
67	TM	Dibromochloromethane	0.9914	0.9608	3.1	TM	
68	TM**	Chlorobenzene	3.088	3.067	0.68	TM**	
69	TM*	Ethylbenzene	2.060	2.023	1.8	TM*	
70	TM**	Bromoform	0.5321	0.5327	0.11	TM**	
71	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
72	TM	MIBK (methyl isobutyl ketone)	0.5503	0.4387	20	TM	
73	TM	Isopropylbenzene	3.737	3.547	5.1	TM	
74	TM**	1,1,2,2-Tetrachloroethane	0.6151	0.5883	4.4	TM**	
75	TML	1,2,3-Trichloropropane	0.1764	0.1358	23	TML	7.0
76	TM	t-1,4-Dichloro-2-Butene	0.2179	0.1881	14	TM	
77	TM	Bromobenzene	0.8511	0.7922	6.9	TM	
78	TM	n-Propylbenzene	5.184	5.305	2.3	TM	
79	TM	4-Ethyltoluene	7.931	7.522	5.2	TM	
80	TM	2-Chlorotoluene	2.989	2.844	4.9	TM	
		Average			7.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Water

SDG No: 67315
Date Analyzed: 03/23/12
Instrument: Neo
Cal. Date: 03/23/12
Data File: 0323N18W.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	1,3,5-Trimethylbenzene	3.250	2.997	7.8	TM		
82	TM	4-Chlorotoluene	8.343	8.344	0.01	TM		
83	TM	Tert-Butylbenzene	8.000	8.343	4.3	TM		
84	TM	1,2,4-Trimethylbenzene	9.030	9.127	1.1	TM		
85	TM	Sec-Butylbenzene	11.2	11.6	3.7	TM		
86	TM	p-Isopropyltoluene	8.643	8.412	2.7	TM		
87	TM	Benzyl Chloride	3.273	2.584	21	TM		*nt
88	TM	1,3-DCB	4.544	4.542	0.04	TM		
89	TM	1,4-DCB	4.415	4.225	4.3	TM		
90	TM	n-Butylbenzene	3.741	3.777	0.98	TM		
91	TM	1,2-DCB	3.861	4.028	4.3	TM		
92	TM	Hexachloroethane	2.351	2.268	3.6	TM		
93	TML	1,2-Dibromo-3-chloropropane	0.2626	0.2580	1.7	TML	5.8	
94	TM	1,2,4-Trichlorobenzene	2.451	2.720	11	TM		
95	TML	Hexachlorobutadiene	0.4420	0.4321	2.2	TML	2.2	
96	TM	Naphthalene	4.436	4.158	6.3	TM		
97	TM	1,2,3-Trichlorobenzene	0.8620	0.8348	3.2	TM		
98	TM	Dibromochlorobenzene	0.0000	0.0000	0.00	TM		
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			4.3			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No: 67315
Case No: Date Analyzed: 3 Apr 12 11:38
Matrix: Instrument: Neo
Initial Cal. Date: 03/23/12
Data File: 0403N03W.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.1925	0.1964	2.0	TM		
3	TM**	Chloromethane	0.3593	0.3106	14	TM**	✓	
4	TM*	Vinyl chloride	0.3340	0.2674	20	TM*	✓	
5	TML	1,3-Butadiene	0.0000	0.0000	0.00	TML		
6	TML	Bromomethane	0.5165	0.4264	17	TML	17	
7	TML	Chloroethane	1.052	0.7370	30	TML	7.9	
8	TM	Dichlorofluoromethane	0.4979	0.4024	19	TM		
9	TM	Trichlorofluoromethane	0.1406	0.1239	12	TM		
10	TM	Acrolein	0.0511	0.0228	55	TM		*nt
11	TML	Acetone	0.2300	0.1575	32	TML	5.6	
12	TML	Freon-113	0.7050	0.7774	10	TML	4.5	
13	TM*	1,1-DCE	1.632	1.573	3.6	TM*	✓	
14	TM	t-Butanol	0.0357	0.0265	26	TM		*nt
15	TML	Methyl Acetate	0.7868	0.4751	40	TML	12	
16	TML	Iodomethane	0.4050	0.5440	34	TML	13	
17	TM	Acrylonitrile	0.0964	0.0331	66	TM		*nt
18	TM	Methylene chloride	0.9321	0.8644	7.3	TM		
19	TM	Carbon disulfide	2.943	2.703	8.1	TM		
20	TM	Methyl t-butyl ether (MtBE)	1.618	1.436	11	TM		
21	L	Hexane	1.078	1.265	17	L	10	
22	TM	Trans-1,2-DCE	0.9377	0.8810	6.0	TM		
23	TM	Diisopropyl Ether	1.037	0.9147	12	TM		
24	TM**	1,1-DCA	0.4754	0.4547	4.4	TM**	✓	
25	TM	Vinyl Acetate	0.7731	0.6849	11	TM		
26	TM	Ethyl tert Butyl Ether	0.6819	0.5513	19	TM		
27	TM	MEK (2-Butanone)	0.1261	0.1124	11	TM		
28	TM	Cis-1,2-DCE	0.2721	0.2724	0.09	TM		
29	TM	2,2-Dichloropropane	0.3392	0.3410	0.55	TM		
30	TM*	Chloroform	1.707	1.650	3.3	TM*	✓	
31	TM	Bromochloromethane	0.3052	0.2744	10	TM		
32	S	Dibromofluoromethane(S)	0.8629	0.6753	22	S		
33	TM	2,2,4-Trimethylpentane	0.7067	0.7631	8.0	TM		
34	TM	1,1,1-TCA	1.323	1.271	3.9	TM		
35	TM	Cyclohexane	0.4084	0.3717	9.0	TM		
36	TM	1,1-Dichloropropene	1.292	1.233	4.6	TM		
37	S	1,2-DCA-D4(S)	0.8387	0.6258	25	S		
38	TM	Carbon Tetrachloride	0.2882	0.3143	9.1	TM		
39		Heptane	0.0000	0.5133	0.00			
40	TM	Tert Amyl Methyl Ether	1.871	1.698	9.2	TM		
		Average			15.2			

HW 4/12/12

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 67315
Date Analyzed: 3 Apr 12 11:38
Instrument: Neo
Cal. Date: 03/23/12
Data File: 0403N03W.D

		Compound	MEAN	CCRF	%D	%Drift	
41	TM	1,2-DCA	0.3314	0.3110	6.1	TM	
42	TM	Benzene	3.878	3.537	8.8	TM	
43	TM	TCE	0.9237	0.8852	4.2	TM	
44	TM	2-Pentanone	0.1313	0.1158	12	TM	
45	TM*	1,2-Dichloropropane	0.3478	0.3238	6.9	TM*	✓
46	TM	Bromodichloromethane	1.180	1.142	3.2	TM	
47	TM	Dibromomethane	0.1341	0.1441	7.4	TM	
48	TML	Methyl Cyclohexane	0.3181	0.3514	10	TML	4.1
49	TML	2-Chloroethyl vinyl ether	0.1029	0.0879	15	TML	12
50	TM	1-Bromo-2-chloroethane	1.001	0.9168	8.5	TM	
51	TM	Cis-1,3-Dichloropropene	1.379	1.352	2.0	TM	
52	TM*	Toluene	1.207	1.154	4.4	TM*	✓
53	TM	Trans-1,3-Dichloropropene	0.3869	0.3575	7.6	TM	
54	TM	1,1,2-TCA	0.4778	0.4513	5.5	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	4.002	3.677	8.1	S	
57	TM	1,2-EDB	0.7921	0.8172	3.2	TM	
58	TM	Tetrachloroethene	0.2981	0.3307	11	TM	
59	TM	1-Chlorohexane	0.6377	0.6873	7.8	TM	
60	TM	1,1,1,2-Tetrachloroethane	1.072	1.112	3.7	TM	
61	TM	m&p-Xylene	2.024	2.127	5.1	TM	
62	TM	o-Xylene	1.961	2.061	5.1	TM	
63	TM	Styrene	3.418	3.545	3.7	TM	
64	S	4-Bromofluorobenzene(S)	1.506	1.293	14	S	
65	TML	2-Hexanone	0.2025	0.1752	13	TML	0.09
66	TM	1,3-Dichloropropane	0.5088	0.5545	9.0	TM	
67	TM	Dibromochloromethane	0.9914	1.126	14	TM	
68	TM**	Chlorobenzene	3.088	3.251	5.3	TM**	✓
69	TM*	Ethylbenzene	2.060	2.306	12	TM*	✓
70	TM**	Bromoform	0.5321	0.5676	6.7	TM**	✓
71	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
72	TM	MIBK (methyl isobutyl ketone)	0.5503	0.4877	11	TM	
73	TM	Isopropylbenzene	3.737	3.710	0.71	TM	
74	TM**	1,1,2,2-Tetrachloroethane	0.6151	0.6307	2.5	TM**	✓
75	TML	1,2,3-Trichloropropane	0.1764	0.1398	21	TML	4.2
76	TM	t-1,4-Dichloro-2-Butene	0.2179	0.1829	16	TM	
77	TM	Bromobenzene	0.8511	0.7926	6.9	TM	
78	TM	n-Propylbenzene	5.184	5.155	0.56	TM	
79	TM	4-Ethyltoluene	7.931	7.902	0.37	TM	
80	TM	2-Chlorotoluene	2.989	2.968	0.71	TM	
		Average			7.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 67315
Date Analyzed: 3 Apr 12 11:38
Instrument: Neo
Cal. Date: 03/23/12
Data File: 0403N03W.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	3.250	3.223	0.85	TM	
82	TM	4-Chlorotoluene	8.343	8.179	2.0	TM	
83	TM	Tert-Butylbenzene	8.000	8.413	5.2	TM	
84	TM	1,2,4-Trimethylbenzene	9.030	9.658	7.0	TM	
85	TM	Sec-Butylbenzene	11.2	11.8	6.0	TM	
86	TM	p-Isopropyltoluene	8.643	8.863	2.5	TM	
87	TM	Benzyl Chloride	3.273	3.503	7.0	TM	
88	TM	1,3-DCB	4.544	4.547	0.06	TM	
89	TM	1,4-DCB	4.415	4.461	1.1	TM	
90	TM	n-Butylbenzene	3.741	3.738	0.07	TM	
91	TM	1,2-DCB	3.861	4.011	3.9	TM	
92	TM	Hexachloroethane	2.351	2.368	0.72	TM	
93	TML	1,2-Dibromo-3-chloropropane	0.2626	0.2530	3.7	TML	7.6
94	TM	1,2,4-Trichlorobenzene	2.451	2.681	9.4	TM	
95	TML	Hexachlorobutadiene	0.4420	0.4147	6.2	TML	1.8
96	TM	Naphthalene	4.436	4.104	7.5	TM	
97	TM	1,2,3-Trichlorobenzene	0.8620	0.8561	0.69	TM	
98	TM	Dibromochlorobenzene	0.0000	0.0000	0.00	TM	
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			3.5		

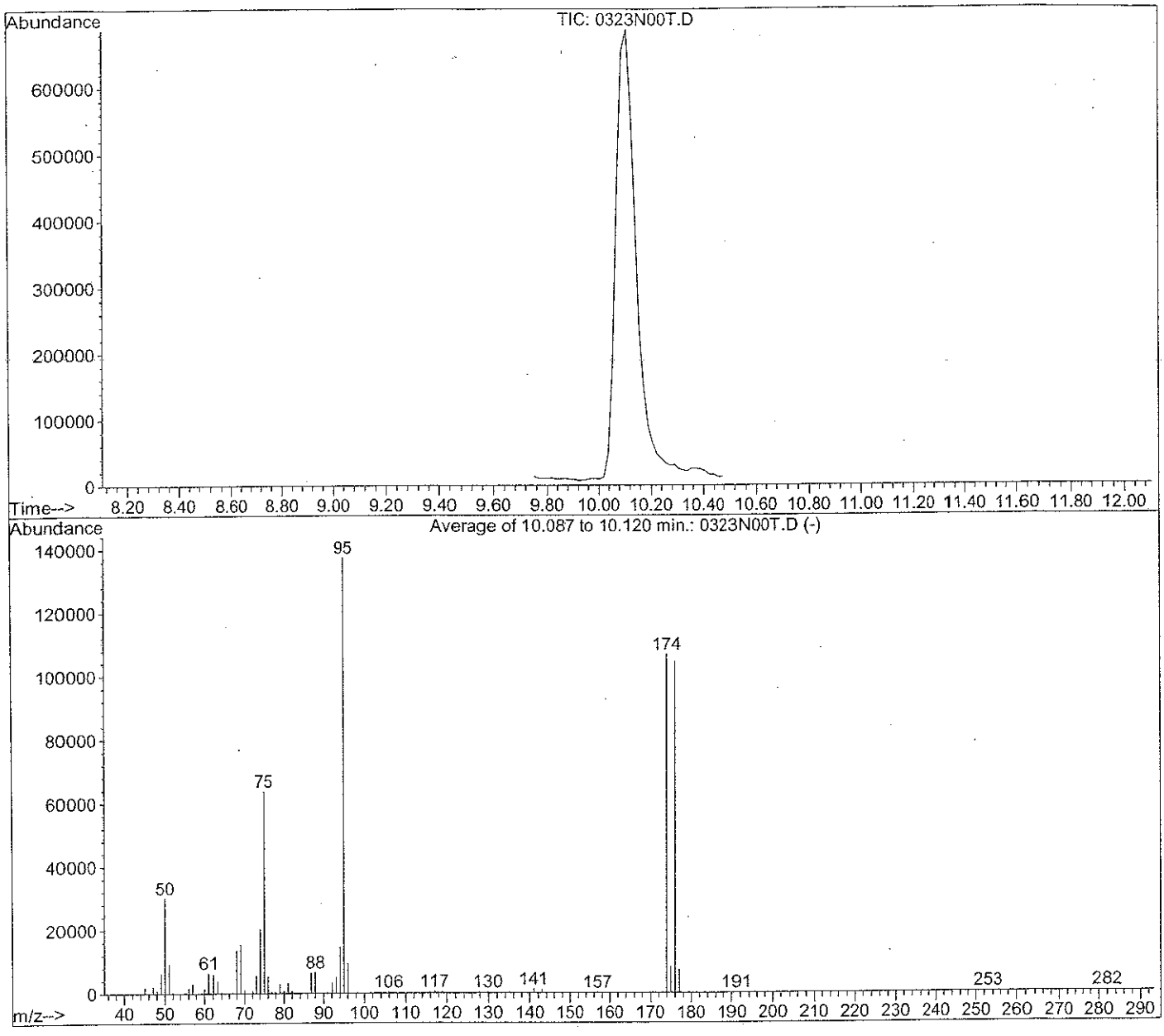
EPA METHOD 8260B
Volatile Organic Compounds
Raw Data

APPL, INC.

Data File : M:\NEO\DATA\N120323\0323N00T.D
Acq On : 23 Mar 12 10:39
Sample : 25ug/mL BFB Std 2-13-12
Misc : 2uL

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Method : M:\NEO\DATA\N120323\NALLW.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 21, 22, 23; Background Corrected with Scan 13

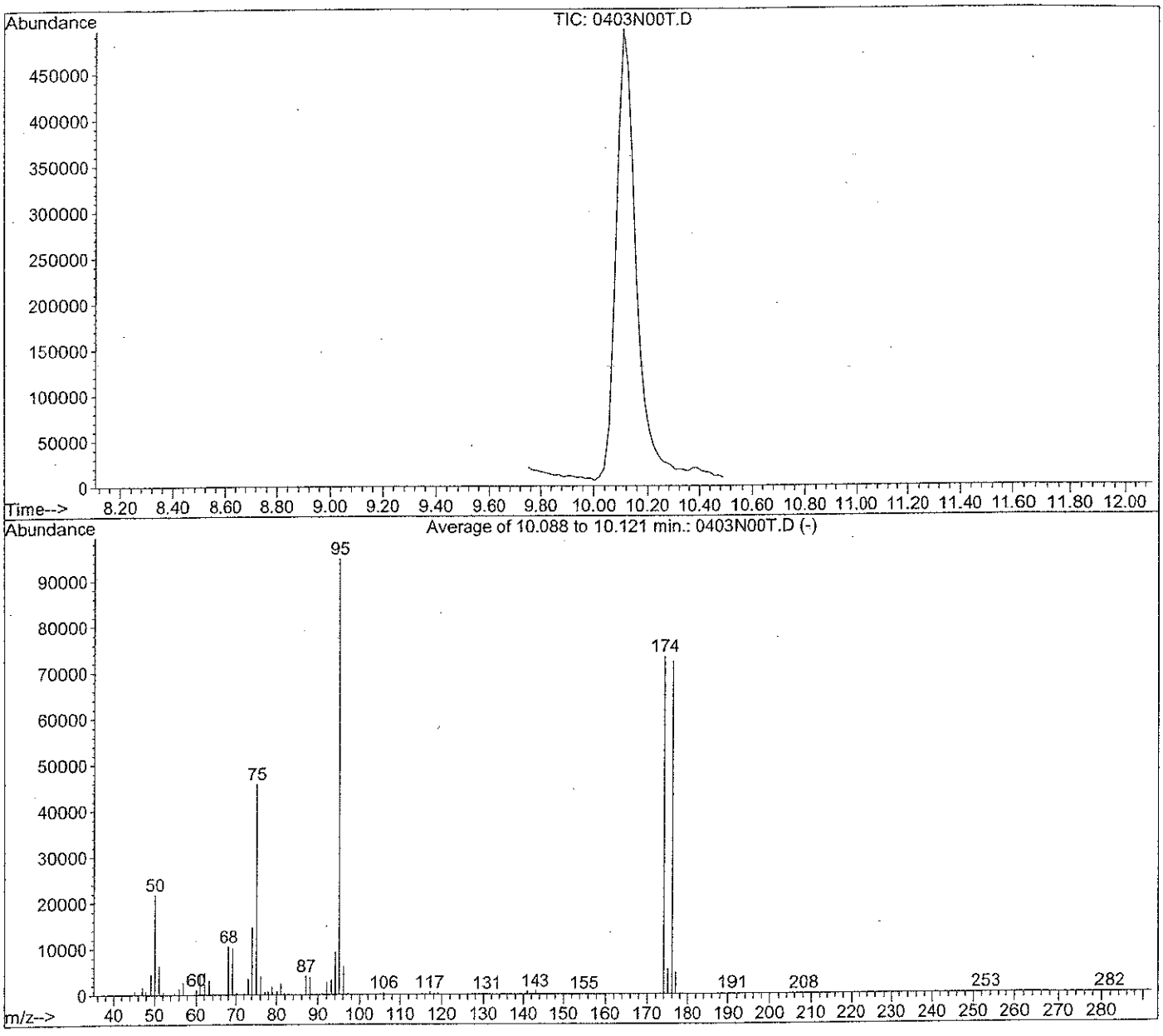
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.9	30094	PASS
75	95	30	60	46.4	63714	PASS
95	95	100	100	100.0	137315	PASS
96	95	5	9	6.7	9187	PASS
173	174	0.00	2	0.2	160	PASS
174	95	50	100	77.6	106605	PASS
175	174	5	9	7.6	8077	PASS
176	174	95	101	97.8	104283	PASS
177	176	5	9	6.8	7045	PASS

0323N00T.D NALLW.M Thu Apr 12 14:08:16 2012

Data File : M:\NEO\DATA\N120323\0403N00T.D
Acq On : 3 Apr 12 9:55
Sample : 25ug/mL BFB Std 2-13-12
Misc : 2uL

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Method : M:\NEO\DATA\N120323\NALLW.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 21, 22, 23; Background Corrected with Scan 14

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.0	21781	PASS
75	95	30	60	48.3	45763	PASS
95	95	100	100	100.0	94677	PASS
96	95	5	9	6.5	6125	PASS
173	174	0.00	2	0.3	198	PASS
174	95	50	100	77.3	73216	PASS
175	174	5	9	7.2	5299	PASS
176	174	95	101	98.6	72187	PASS
177	176	5	9	6.5	4709	PASS

0403N00T.D NALLW.M Wed Apr 04 08:56:52 2012

Injection Log

Directory: M:\NEO\DATA\N120323\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0323N00T.D	1	25ug/mL BFB Std 2-13-12	2uL	23 Mar 12 10:39
2	1	0323N04W.I	1	0.3ug/L Vol Std 03-23-12	Water 10mL w/IS:03-23-12	23 Mar 12 13:01
3	1	0323N05W.I	1	0.5ug/L Vol Std 03-23-12	Water 10mL w/IS:03-23-12	23 Mar 12 13:39
4	1	0323N06W.I	1	1.0ug/L Vol Std 03-23-12	Water 10mL w/IS:03-23-12	23 Mar 12 14:17
5	1	0323N07W.I	1	5.0ug/L Vol Std 03-23-12	Water 10mL w/IS:03-23-12	23 Mar 12 14:56
6	1	0323N08W.I	1	10ug/L Vol Std 03-23-12	Water 10mL w/IS:03-23-12	23 Mar 12 15:34
7	1	0323N09W.I	1	40ug/L Vol Std 03-23-12	Water 10mL w/IS:03-23-12	23 Mar 12 16:12
8	1	0323N10W.I	1	100ug/L Vol Std 03-23-12	Water 10mL w/IS:03-23-12	23 Mar 12 16:51
9	1	0323N11W.I	1	200ug/L Vol Std 03-23-12	Water 10mL w/IS:03-23-12	23 Mar 12 17:29
10	1	0323N18W.I	1	120323A LCS-1WN (SS)	Water 10mL w/IS&S:03-23-1	23 Mar 12 21:57
11	1	0403N00T.D	1	25ug/mL BFB Std 2-13-12	2uL	3 Apr 12 9:55
12	1	0403N03W.I	1	10ug/L Vol Std 04-03-12	Water 10mL w/ IS&S:03-23-	3 Apr 12 11:38
13	1	0403N04W.I	1	120402A LCS-1WN	Water 10mL w/ IS&S:03-23-	3 Apr 12 12:17
14	1	0403N07W.I	1	120402A BLK-1WN	Water 10mL w/ IS&S:03-23-	3 Apr 12 14:12
15	1	0403N15W.I	1	AY57613S01	Water 10mL w/ IS&S:03-23-	3 Apr 12 19:16
16	1	0403N16W.I	1	AY57614S01	Water 10mL w/ IS&S:03-23-	3 Apr 12 19:55

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 160.1
AAB #: 120404-165554
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: mg/L
Method Blank ID: 120404-BLK
Initial Calibration ID: 120404A

Analyte	Method Blank	RL	Q
TOTAL DISSOLVED SOLIDS EPA 160.1	< RL	10	U

Comments: ARF: 67315, Sample: AY57613

AFCEE FORM W-5

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 160.1
AAB #: 120404-165554
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120404 LCS
Initial Calibration ID: 120404A
Concentration Units: mg/L

Analyte	Expected	Found	% R	Control Limits	Q
TOTAL DISSOLVED SOLIDS EPA 160.1	221	222	100	80-120	

Comments: ARF: 67315, Sample: AY57613

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE DUPLICATE

Analytical Method: EPA 160.1
AAB #: 120404-165554
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120404 LCS
Initial Calibration ID: 120404A
Concentration Units: mg/L

Analyte	Expected	Found	% R	Control Limits	Q
TOTAL DISSOLVED SOLIDS EPA 160.1	221	222	100	80-120	

Comments: ARF: 67315, Sample: AY57613

AFCEE FORM W-6

INORGANIC ANALYSIS
Sample Data

APPL, INC.

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 160.1 AAB #: 120404-165554
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC10 Lab Sample ID: AY57613 Matrix: Soil
% Solids: 91.7 Initial Calibration ID: 120404A
Date Received: 23-Mar-12 Date Prepared: 04-Apr-12 Date Analyzed: 04-Apr-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
TOTAL DISSOLVED SOLIDS EPA 160.	4.4	10	100.0	1	

Comments: ARF: 67315

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 160.1 AAB #: 120404-165554
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC11 Lab Sample ID: AY57614 Matrix: Soil
% Solids: 92.3 Initial Calibration ID: 120404A
Date Received: 23-Mar-12 Date Prepared: 04-Apr-12 Date Analyzed: 04-Apr-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
TOTAL DISSOLVED SOLIDS EPA 160.	4.4	10	90.0	1	

Comments: ARF: 67315

AFCEE FORM W-2

Laboratory Report

Parsons

Project #: 748607.01000 CSSA

ARF: 67994

Sample collected: June 6, 2012

APPL, Inc.

Summary Package

for

Project #: 748607.01000 CSSA

ARF 67994

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

CASE NARRATIVE

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Case Narrative

ARF: 67994

Project: 748402.01000 CSSA

California State Certification Number: CA1312 (DW & WW)

NELAP Certification number: 05233CA (HW)

Texas Certificate Number: T104704242-10-3

Results in this report apply to the sample analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sample Receipt Information:

The soil sample was received June 11, 2012, at 10.0°C. The sample was assigned Analytical Request Form (ARF) number 67994. The sample number and requested analyses were compared to the chains of custody and email communications. The client was notified of the temperature exceedance; the order to proceed was received on June 11. No other exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
AOC65-WC12	AY63154	SOIL	06/06/12	06/11/12

Percent moisture was determined using CLP 4.0.

Volatile Organic Compounds
EPA Method 8260B

Sample Preparation:

The soil sample was purged according to EPA method 5035. All holding times were met.

Sample Analysis Information:

The sample was analyzed according to EPA method 8260B using a Hewlett Packard Gas Chromatograph with a mass spectrometer detector. All holding times were met.

Quality Control/Assurance:

Spike Recovery:

A Laboratory Control Spike (LCS) was used for quality assurance. A second-source standard (SS) was used for the LCS. All LCS acceptancecriteria were met.

No sample was designated by the client for MS/MSD analysis.

Surrogates:

Surrogate recoveries are summarized on the form 2 & 8. All surrogate recoveries met acceptance criteria.

Method blanks:

No target compound was detected above its reporting limit in the method blank.

Calibration:

Initial and continuing calibrations were analyzed according to the method. All calibration criteria were met.

Tuning:

The instrument was tuned using BFB. All method criteria were met.

Internal Standards:

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All acceptance criteria were met.

Summary:

No analytical exception was noted. All data generated are acceptable.

EPA Methods 6010B and 7471B
Metals

Digestion Information:

The soil sample was digested according to EPA methods 3050B and 7471B. All holding times were met.

Analysis Information:

Samples:

The sample was analyzed according to EPA method 6010B using a Perkin Elmer Optima 5300DV ICP and according to EPA method 7471B using a Perkin Elmer AAnalyst 300.

Calibrations:

Calibrations were performed according to the method for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard. All calibration acceptance criteria were met.

Blanks:

No target metal was detected above the reporting limit (RL) in the method blanks.

Spikes:

Laboratory Control Spikes (LCS), post-digestion spike (PDS) and dilution test (DT) were used for quality assurance. All LCS acceptance criteria were met.

Sample B3-EXW05-WC01 (APPL report # 67992) was selected by the laboratory for QC analysis. The DT was applicable to two analytes; copper and zinc exceeded the 10% deviation limit. The PDS was applicable to eight analytes. All PDS acceptance criteria were met. The PDS and DT are reported in APPL report # 67992.

Summary:

No other analytical exception is noted.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

6-15-12

Sharon Dehmlow, Laboratory Director / Date

CHAIN OF CUSTODY

AND ARF

APPL - Analysis Request Form 67994

Client: **Parsons**
Address: **8000 Centre Park Drive Ste 200**
Austin, TX 78754
Attn: **Tammy Chang**
Phone: **512-719-6092** Fax: **512-719-6099**
Job: **748402.01000 CSSA**
PO #: **748336.30000-00 (prime *G012)**
Chain of Custody (Y/N): **Y** # **060712APPFA**
RAD Screen (Y/N): **Y** pH (Y/N): **N**
Turn Around Type: **24 HOURS**

Received by: **TBV**
Date Received: **06/11/12** Time: **08:57**
Delivered by: **FED EX**
Shuttle Custody Seals (Y/N): **Y** Time Zone: **-5**
Chest Temp(s): **10°C**
Color: **VOA,A-GRN**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Diane Anderson** *hp*
QC Report Type: **DVP3/AFCEE/ERPIMS/TX**
Due Date: **06/12/12**

Comments:
pdf ARF to Tammy & Pam; send 1 DVP3 HC & CD to Tammy.
Data screening project: analyze samples ONCE; report deficiencies; do NOT re-analyze
Case Narrative. CSSA + AFCEE 3.1 QAPP. Only report MS/MSD when requested.
Use AFCEE forms with AFCEE flagging to report sample & QC data only.
APPL forms for everything else and APPL DVP3.
EDD: ERPIMS 4 Lab PC4 checked TXF to Pam.Ford@parsons.com
OK to proceed per email 12 noon 6-11-12.

6-12 Sent ARF

Sample Distribution:
VOA: 1-$826AF
Metals: 1-$HGAFBS, 1-$MTAFS(As,Ba,Cd,Cr,Cu,Ni,Pb,Zn)
Wetlab: 1-MOIST
Other: 1-_M3050GROSS, 1-_M7471GROSS

Charges:

Invoice To:
BOA 748336.30000 TO# 3
8000 Centre Park Drive Ste 200
Austin, TX 78754-5140
Attn: Ellen Felfe

	Client ID	APPL ID	Sampled	Analyses Requested
1.	AOC65-WC12	AY63154S	06/06/12 16:30	$826AF, $HGAFBS, $MTAFS(As,Ba,Cd,Cr,Cu,Ni,Pb,Zn), MOIST

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are In: -5 UTC

APPL Sample Receipt Form

ARF# **67994**

Sample	Container Type	Count	pH	Sample	Container Type	Count	pH
AY63154	20 4oz Jar	2	NA				

Renee Patterson

From: de las Fuentes, Sandra [Sandra.delasFuentes@parsons.com]
Sent: Monday, June 11, 2012 11:53 AM
To: Renee Patterson
Cc: Chang, Tammy; Sharon Dehmlow; Diane Anderson
Subject: RE: CSSA Cooler
Attachments: 060712_APPL.PDF; 060712_APPL.PDF

Renee,

Please proceed with the 2 waste characterization samples on the attached COCs. We will resample the 3 definitive samples listed on the 3rd COC.

Thanks!

Sandra

From: Renee Patterson [mailto:rpatterson@applinc.com]
Sent: Monday, June 11, 2012 11:13 AM
To: de las Fuentes, Sandra
Cc: Chang, Tammy; 'Sharon Dehmlow'; 'Diane Anderson'
Subject: RE: CSSA Cooler

Sandra,

The CSSA cooler was received at 10°C -- 3 COCs attached. Please let us know if you'd like us to proceed.

Renée

From: de las Fuentes, Sandra [mailto:Sandra.delasFuentes@parsons.com]
Sent: Monday, June 11, 2012 7:14 AM
To: Renee Patterson
Cc: Chang, Tammy; Sharon Dehmlow; Diane Anderson
Subject: RE: ARNG: Puerto Rico and CSSA Coolers
Importance: High

Renee,

It doesn't look like any of the 4 coolers (3 for ARNG, only 2 have soils) and 1 for CSSA made it. The website shows no updates since Sat. morning ~ 7:30 AM when they arrived in Fresno. I don't know what the added hold up is, but was hoping you could help investigate...or possibly pick up.

3 –ARNG FedEx # is 899459960629
1 – CSSA FedEx # is 876436443790

Camp Stanley Storage Activity Chain Of Custody

COC ID:	060712APPFA	Relinquish_Date:	6/7/2012	Cooler ID:	A
Project Location:	CSSA	Relinquished_By:	JDB	LabCode:	APPF
Job Number:	748402.01000	Relinquish_Time:	11:30 AM	Carrier:	FedEx
Creation Date:	6/7/2012	Collection Team:	JDB	Airbill Carrier:	876436443790
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	24 Hour TAT

Sampler(s): Julie Bouch

LOCID: **AOC65-WC12** LOGDATE: **6/6/2012** MATRIX: **SD** TBLOT:

SBD: **0** LOGTIME: **16:30** SACODE: **N** SMCODE: **CS** ABLOT:

SED: **0** FLDSAMPID **AOC65-WC12_060612_N1630** EBLOT: Containers: 2

Remarks:

Analysis Required:

SW6010B	ARSENIC	SW6010B	BARIUM
SW6010B	CADMIUM	SW6010B	CHROMIUM
SW6010B	COPPER	SW6010B	NICKEL
SW6010B	LEAD	SW6010B	ZINC
SW7471	MERCURY	SW8260B	VOLATILE ORGANIC CO

Relinquished by: _____ Date 6.7.12 Time 1130

Recieved by: _____ Date 6/11/12 Time 0857

Relinquished by: _____ Date _____ Time _____

Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Recieved by: _____ Date _____ Time _____

~~748350.03000 off-Post well~~ @ 6/11/12

COOLER RECEIPT FORM

6/11/12 @

1) Project: 748402.01000 CSSA 748402.01000 Date Received: ~~6/8/12~~

2) Coolers: Number of Coolers: 1

3) YES NO Were coolers and samples screened for radioactivity?

4) YES NO Were custody seals on outside of cooler? How many? 1 Date on seal? 6/7/12

5) Name on seal? See Label

6) YES NO NA Were custody seals unbroken and intact at the time of arrival?

7) YES NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex

8) Shipping slip numbers: 1) 8764 3644 3790 2) 3)

9) YES NO NA Was the shipping slip scanned into the database?

10) YES NO NA If cooler belongs to APPL, has it been logged into the ice chest database?

11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.): bubble bag in wet ice

12) YES NO NA For hand delivered samples was sufficient ice present to start the cooling process?

13) YES NO Was a temperature blank included in the cooler?

14) Serial number of certified NIST thermometer used: A39267 Correction factor: 0

15) Cooler temp(s): 1) 1.5°C 2) 3) 4) 5) 6) 7) 8)

Chain of custody:

16) YES NO Was a chain of custody received?

17) YES NO Were the custody papers signed in the appropriate places?

18) YES NO Was the project identifiable from custody papers?

19) YES NO Did the chain of custody include date and time of sampling?

20) YES NO Is location where sample was taken listed on the chain of custody?

Sample Labels:

21) YES NO Were container labels in good condition?

22) YES NO Was the client ID on the label?

23) YES NO Was the date of sampling on the label?

24) YES NO Was the time of sampling on the label?

25) YES NO Did all container labels agree with custody papers?

Sample Containers:

26) YES NO Were all containers sealed in separate bags?

27) YES NO Did all containers arrive unbroken?

28) YES NO Was there any leakage from samples?

29) YES NO Were any of the lids cracked or broken?

30) YES NO Were correct containers used for the tests indicated?

31) YES NO Was a sufficient amount of sample sent for tests indicated?

32) YES NO NA Were bubbles present in volatile samples? If yes, the following were received with air bubbles:

Larger than a pea:

Smaller than a pea:

Preservation & Hold time:

33) YES NO NA Was a sufficient amount of holding time remaining to analyze the samples?

34) YES NO NA Do the sample containers contain the same preservative as what is stated on the COC?

35) YES NO NA Was the pH taken of all non-VOA preserved samples and written on the sample container?

36) YES NO NA Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples > 12?

37) YES NO NA Unpreserved VOA Vials received?

6/11/12 @ 38) YES NO NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?

Lab notified if pH was not adequate:

Deficiencies: Received out of Temp - Ice all melted

Signature of personnel receiving samples: Yang Ok Second reviewer:

Signature of project manager notified: Renée Date and Time of notification: 6-11-12

Name of client notified: Sandra & Tammy via email Date and Time of notification: 6-11-12

Information given to client:

by whom (Initials):

CUSTODY SE

APPL, Inc. (559) 275-2175

Initials

Date 6/11/12

EPA METHOD 8260B
Volatile Organic Compounds

APPL, INC.

EPA METHOD 8260B
Volatile Organic Compounds
QC Summary

APPL, INC.

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
AAB #: 120611AS-167917
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: mg/kg
Method Blank ID: 120611AS-BLK
Initial Calibration ID: S120611

Analyte	Method Blank	RL	Q
1,1,1,2-TETRACHLOROETHANE	< RL	0.003	U
1,1,1-TCA	< RL	0.004	U
1,1,2,2-TETRACHLOROETHANE	< RL	0.002	U
1,1,2-TCA	< RL	0.005	U
1,1-DCA	< RL	0.002	U
1,1-DCE	< RL	0.006	U
1,1-DICHLOROPROPENE	< RL	0.005	U
1,2,3-TRICHLOROBENZENE	< RL	0.004	U
1,2,3-TRICHLOROPROPANE	< RL	0.020	U
1,2,4-TRICHLOROBENZENE	< RL	0.004	U
1,2,4-TRIMETHYLBENZENE	< RL	0.007	U
1,2-DCA	< RL	0.003	U
1,2-DCB	< RL	0.002	U
1,2-DIBROMO-3-CHLOROPROPANE	< RL	0.010	U
1,2-DICHLOROPROPANE	< RL	0.002	U
1,2-EDB	< RL	0.003	U
1,3,5-TRIMETHYLBENZENE	< RL	0.003	U
1,3-DCB	< RL	0.006	U
1,3-DICHLOROPROPANE	< RL	0.002	U
1,4-DCB	< RL	0.002	U
1-CHLOROHEXANE	< RL	0.003	U
2,2-DICHLOROPROPANE	< RL	0.020	U
2-CHLOROTOLUENE	< RL	0.002	U
4-CHLOROTOLUENE	< RL	0.003	U
BENZENE	< RL	0.002	U
BROMOBENZENE	< RL	0.002	U
BROMOCHLOROMETHANE	< RL	0.002	U
BROMODICHLOROMETHANE	< RL	0.004	U
BROMOFORM	< RL	0.006	U
BROMOMETHANE	< RL	0.005	U
CARBON TETRACHLORIDE	< RL	0.010	U
CHLOROBENZENE	< RL	0.002	U
CHLOROETHANE	< RL	0.005	U
CHLOROFORM	< RL	0.002	U
CHLOROMETHANE	< RL	0.007	U
CIS-1,2-DCE	< RL	0.006	U
CIS-1,3-DICHLOROPROPENE	< RL	0.005	U
DIBROMOCHLOROMETHANE	< RL	0.003	U
DIBROMOMETHANE	< RL	0.010	U
DICHLORODIFLUOROMETHANE	< RL	0.005	U
ETHYLBENZENE	< RL	0.003	U

Comments: ARF: 67994, Sample: AY63154

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
AAB #: 120611AS-167917
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: mg/kg
Method Blank ID: 120611AS-BLK
Initial Calibration ID: S120611

Analyte	Method Blank	RL	Q
HEXACHLOROBUTADIENE	< RL	0.005	U
ISOPROPYLBENZENE	< RL	0.008	U
M&P-XYLENE	< RL	0.007	U
METHYLENE CHLORIDE	< RL	0.005	U
N-BUTYLBENZENE	< RL	0.005	U
N-PROPYLBENZENE	< RL	0.002	U
NAPHTHALENE	< RL	0.020	U
O-XYLENE	< RL	0.005	U
P-ISOPROPYLTOLUENE	< RL	0.006	U
SEC-BUTYLBENZENE	< RL	0.007	U
STYRENE	< RL	0.002	U
TCE	< RL	0.010	U
TERT-BUTYLBENZENE	< RL	0.007	U
TETRACHLOROETHENE	< RL	0.007	U
TOLUENE	< RL	0.005	U
TRANS-1,2-DCE	< RL	0.003	U
TRANS-1,3-DICHLOROPROPENE	< RL	0.005	U
TRICHLOROFLUOROMETHANE	< RL	0.004	U
VINYL CHLORIDE	< RL	0.009	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHAN	90.2	52-149	
SURROGATE: 4-BROMOFLUOROBE	92.8	65-135	
SURROGATE: DIBROMOFLUOROME	96.8	65-135	
SURROGATE: TOLUENE-D8 (S)	89.3	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 67994, Sample: AY63154

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 67994

Case No: 67994 Date Analyzed: 06/12/12

Matrix: SOIL Instrument: Sweetpea

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120611AS-LCS	Lab Control Spike	52-149	90.0		65-135	92.8	
120611AS-BLK	Blank	52-149	90.2		65-135	92.8	
AY63154	AOC65-WC12	52-149	99.8		65-135	102	

Comments: Batch: #826AF-120611AS

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 67994

Case No: 67994 Date Analyzed: 06/12/12

Matrix: SOIL Instrument: Sweetpea

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120611AS-LCS	Lab Control Spike	65-135	97.6		65-135	91.4	
120611AS-BLK	Blank	65-135	96.8		65-135	89.3	
AY63154	AOC65-WC12	65-135	103		65-135	99.5	

Comments: Batch: #826AF-120611AS

Printed: 06/12/12 11:16:33 AM

Form 2 & 8, Surrogate Recovery Summary

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
AAB #: 120611AS-167917
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120611AS LCS
Initial Calibration ID: S120611
Concentration Units: mg/kg

Analyte	Expected	Found	% R	Control Limits	Q
1,1,1,2-TETRACHLOROETHANE	0.0500	0.0475	95.0	62-125	
1,1,1-TCA	0.0500	0.0494	98.8	65-135	
1,1,2,2-TETRACHLOROETHANE	0.0500	0.0471	94.2	64-135	
1,1,2-TCA	0.0500	0.0473	94.6	65-135	
1,1-DCA	0.0500	0.0492	98.4	62-135	
1,1-DCE	0.0500	0.0540	108	65-135	
1,1-DICHLOROPROPENE	0.0500	0.0493	98.6	65-135	
1,2,3-TRICHLOROBENZENE	0.0500	0.0430	86.0	65-147	
1,2,3-TRICHLOROPROPANE	0.050	0.048	96.0	65-135	
1,2,4-TRICHLOROBENZENE	0.0500	0.0430	86.0	65-145	
1,2,4-TRIMETHYLBENZENE	0.0500	0.0481	96.2	65-135	
1,2-DCA	0.0500	0.0496	99.2	58-137	
1,2-DCB	0.0500	0.0462	92.4	65-135	
1,2-DIBROMO-3-CHLOROPROPANE	0.050	0.043	86.0	49-135	
1,2-DICHLOROPROPANE	0.0500	0.0475	95.0	60-135	
1,2-EDB	0.0500	0.0473	94.6	65-135	
1,3,5-TRIMETHYLBENZENE	0.0500	0.0471	94.2	62-135	
1,3-DCB	0.0500	0.0460	92.0	65-135	
1,3-DICHLOROPROPANE	0.0500	0.0478	95.6	65-135	
1,4-DCB	0.0500	0.0450	90.0	65-135	
1-CHLOROHEXANE	0.0500	0.0483	96.6	65-135	
2,2-DICHLOROPROPANE	0.050	0.047	94.0	65-135	
2-CHLOROTOLUENE	0.0500	0.0454	90.8	63-135	
4-CHLOROTOLUENE	0.0500	0.0477	95.4	64-135	
BENZENE	0.0500	0.0497	99.4	65-135	
BROMOBENZENE	0.0500	0.0471	94.2	65-135	
BROMOCHLOROMETHANE	0.0500	0.0512	102	63-135	
BROMODICHLOROMETHANE	0.0500	0.0498	99.6	65-135	
BROMOFORM	0.0500	0.0463	92.6	65-135	
BROMOMETHANE	0.0500	0.0479	95.8	62-135	
CARBON TETRACHLORIDE	0.050	0.051	102	52-135	
CHLOROBENZENE	0.0500	0.0470	94.0	65-135	
CHLOROETHANE	0.0500	0.0576	115	55-135	
CHLOROFORM	0.0500	0.0494	98.8	64-135	
CHLOROMETHANE	0.0500	0.0475	95.0	65-135	
CIS-1,2-DCE	0.0500	0.0476	95.2	65-135	
CIS-1,3-DICHLOROPROPENE	0.0500	0.0453	90.6	64-135	
DIBROMOCHLOROMETHANE	0.0500	0.0469	93.8	63-135	
DIBROMOMETHANE	0.050	0.049	98.0	59-137	
DICHLORODIFLUOROMETHANE	0.0500	0.0533	107	65-135	

Comments: ARF: 67994, QC Sample ID: AY63154

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
AAB #: 120611AS-167917
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120611AS LCS
Initial Calibration ID: S120611
Concentration Units: mg/kg

Analyte	Expected	Found	% R	Control Limits	Q
ETHYLBENZENE	0.0500	0.0464	92.8	65-135	
HEXACHLOROBUTADIENE	0.0500	0.0481	96.2	65-135	
ISOPROPYLBENZENE	0.0500	0.0486	97.2	65-135	
M&P-XYLENE	0.1000	0.0954	95.4	65-135	
METHYLENE CHLORIDE	0.0500	0.0496	99.2	65-135	
N-BUTYLBENZENE	0.0500	0.0460	92.0	65-135	
N-PROPYLBENZENE	0.0500	0.0467	93.4	65-135	
NAPHTHALENE	0.0500	0.0456	91.2	65-135	
O-XYLENE	0.0500	0.0471	94.2	65-135	
P-ISOPROPYLTOLUENE	0.0500	0.0479	95.8	65-135	
SEC-BUTYLBENZENE	0.0500	0.0485	97.0	65-135	
STYRENE	0.0500	0.0483	96.6	65-135	
TCE	0.0500	0.0481	96.2	61-135	
TERT-BUTYLBENZENE	0.0500	0.0483	96.6	65-135	
TETRACHLOROETHENE	0.0500	0.0466	93.2	61-135	
TOLUENE	0.0500	0.0472	94.4	64-135	
TRANS-1,2-DCE	0.0500	0.0487	97.4	65-135	
TRANS-1,3-DICHLOROPROPENE	0.0500	0.0462	92.4	56-135	
TRICHLOROFLUOROMETHANE	0.0500	0.0560	112	57-135	
VINYL CHLORIDE	0.0500	0.0541	108	36-144	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	90.7	52-149	
SURROGATE: 4-BROMOFLUOROBENZ	90.9	65-135	
SURROGATE: DIBROMOFLUOROMETH	97.7	65-135	
SURROGATE: TOLUENE-D8 (S)	91.5	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 67994, QC Sample ID: AY63154

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 67994

Case No: 67994 Date Analyzed: 06/12/12

Matrix: SOIL Instrument: Sweetpea

Blank ID: 120611AS-BLK Time Analyzed: 0206

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120611AS-LCS	Lab Control Spike	0611S14	06/12/12 0020
120611AS-BLK	Blank	0611S17	06/12/12 0206
AY63154	AOC65-WC12	0611S20	06/12/12 0351

Comments: Batch: #826AF-120611AS

Printed: 06/12/12 11:17:10 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 67994
Matrix: Soil
ID: 25ug/mL BFB Std 06-11-12

SDG No: 67994
Date Analyzed: 06/11/12
Instrument: Sweetpea
Time Analyzed: 22:35

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/kg std 6-11-12	0611S12S.D	06/11/12 23:10
2	Lab Control Spike	120611A LCS-1SS(SS)	0611S14S.D	06/12/12 0:20
3	Blank	120611A BLK-1SS	0611S17S.D	06/12/12 2:06
4	AOC65-WC12	AY63154S01 5.053	0611S20S.D	06/12/12 3:51
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	17.4
75	30 - 60% of mass 95	40.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.8
173	0 - 2% of mass 174	0.0
174	50 - 100% of mass 95	87.9
175	5 - 9% of mass 174	7.3
176	95 - 101% of mass 174	96.1
177	5 - 9% of mass 176	6.1

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: *G012

Lab Code: _____ SDG No.: 67994

Lab File ID (Standard): 0611S07S.D Date Analyzed: 06/11/12

Instrument ID: Sweetpea Time Analyzed: 20:15

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	591697	9.65	393544	14.69	188044	18.77
	UPPER LIMIT	1183394	10.15	787088	15.19	376088	19.27
	LOWER LIMIT	295849	9.15	196772	14.19	94022	18.27
	SAMPLE NO.						
01	50ug/kg std 6-11-12	597453	9.65	383933	14.68	191655	18.76
02	120611A LCS-1SS(SS)	569772	9.64	378860	14.68	180264	18.76
03	120611A BLK-1SS	570383	9.65	381691	14.67	184029	18.76
04	AY63154S01 5.053	557047	9.64	366848	14.68	177514	18.76
05							
06							
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19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA METHOD 8260B
Volatile Organic Compounds
Sample Data

APPL, INC.

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120611AS-167917
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC12 Lab Sample ID: AY63154 Matrix: Soil
% Solids: 94.1 Initial Calibration ID: S120611
Date Received: 11-Jun-12 Date Prepared: 12-Jun-12 Date Analyzed: 12-Jun-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0008	0.003	0.0008	1		U
1,1,1-TCA	0.0009	0.004	0.0009	1		U
1,1,2,2-TETRACHLOROETHANE	0.0009	0.002	0.0009	1		U
1,1,2-TCA	0.0009	0.005	0.0009	1		U
1,1-DCA	0.0010	0.002	0.0010	1		U
1,1-DCE	0.0011	0.006	0.0011	1		U
1,1-DICHLOROPROPENE	0.0012	0.005	0.0012	1		U
1,2,3-TRICHLOROBENZENE	0.0010	0.004	0.0010	1		U
1,2,3-TRICHLOROPROPANE	0.001	0.020	0.001	1		U
1,2,4-TRICHLOROBENZENE	0.0010	0.004	0.0010	1		U
1,2,4-TRIMETHYLBENZENE	0.0011	0.007	0.0011	1		U
1,2-DCA	0.0010	0.003	0.0010	1		U
1,2-DCB	0.0010	0.002	0.0010	1		U
1,2-DIBROMO-3-CHLOROPROPANE	0.002	0.010	0.002	1		U
1,2-DICHLOROPROPANE	0.0007	0.002	0.0007	1		U
1,2-EDB	0.0013	0.003	0.0013	1		U
1,3,5-TRIMETHYLBENZENE	0.0011	0.003	0.0011	1		U
1,3-DCB	0.0011	0.006	0.0011	1		U
1,3-DICHLOROPROPANE	0.0007	0.002	0.0007	1		U
1,4-DCB	0.0008	0.002	0.0008	1		U
1-CHLOROHEXANE	0.0009	0.003	0.0009	1		U
2,2-DICHLOROPROPANE	0.001	0.020	0.001	1		U
2-CHLOROTOLUENE	0.0013	0.002	0.0013	1		U
4-CHLOROTOLUENE	0.0011	0.003	0.0011	1		U
BENZENE	0.0009	0.002	0.0009	1		U
BROMOBENZENE	0.0009	0.002	0.0009	1		U
BROMOCHLOROMETHANE	0.0008	0.002	0.0008	1		U
BROMODICHLOROMETHANE	0.0009	0.004	0.0009	1		U
BROMOFORM	0.0011	0.006	0.0011	1		U
BROMOMETHANE	0.0007	0.005	0.0007	1		U
CARBON TETRACHLORIDE	0.001	0.010	0.001	1		U
CHLOROBENZENE	0.0007	0.002	0.0007	1		U
CHLOROETHANE	0.0015	0.005	0.0015	1		U
CHLOROFORM	0.0007	0.002	0.0007	1		U
CHLOROMETHANE	0.0015	0.007	0.0015	1		U

Comments:

ARF: 67994

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5035 AAB #: 120611AS-167917
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC12 Lab Sample ID: AY63154 Matrix: Soil
% Solids: 94.1 Initial Calibration ID: S120611
Date Received: 11-Jun-12 Date Prepared: 12-Jun-12 Date Analyzed: 12-Jun-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
CIS-1,2-DCE	0.0008	0.006	0.0008	1		U
CIS-1,3-DICHLOROPROPENE	0.0009	0.005	0.0009	1		U
DIBROMOCHLOROMETHANE	0.0009	0.003	0.0009	1		U
DIBROMOMETHANE	0.001	0.010	0.001	1		U
DICHLORODIFLUOROMETHANE	0.0018	0.005	0.0018	1		U
ETHYLBENZENE	0.0010	0.003	0.0010	1		U
HEXACHLOROBUTADIENE	0.0011	0.005	0.0011	1		U
ISOPROPYLBENZENE	0.0010	0.008	0.0010	1		U
M&P-XYLENE	0.0018	0.007	0.0018	1		U
METHYLENE CHLORIDE	0.0013	0.005	0.0013	1		U
N-BUTYLBENZENE	0.0010	0.005	0.0010	1		U
N-PROPYLBENZENE	0.0012	0.002	0.0012	1		U
NAPHTHALENE	0.0010	0.020	0.0010	1		U
O-XYLENE	0.0007	0.005	0.0007	1		U
P-ISOPROPYLTOLUENE	0.0012	0.006	0.0012	1		U
SEC-BUTYLBENZENE	0.0011	0.007	0.0011	1		U
STYRENE	0.0009	0.002	0.0009	1		U
TCE	0.0012	0.010	0.0012	1		U
TERT-BUTYLBENZENE	0.0012	0.007	0.0012	1		U
TETRACHLOROETHENE	0.0008	0.007	0.0008	1		U
TOLUENE	0.0010	0.005	0.0010	1		U
TRANS-1,2-DCE	0.0008	0.003	0.0008	1		U
TRANS-1,3-DICHLOROPROPENE	0.0009	0.005	0.0009	1		U
TRICHLOROFLUOROMETHANE	0.0013	0.004	0.0013	1		U
VINYL CHLORIDE	0.0013	0.009	0.0013	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	99.8	52-149	
SURROGATE: 4-BROMOFLUOROBENZ	102	65-135	
SURROGATE: DIBROMOFLUOROMETH	103	65-135	
SURROGATE: TOLUENE-D8 (S)	99.5	65-135	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 67994

AFCEE FORM O-2

EPA METHOD 8260B
Volatile Organic Compounds
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 67994
Case No: Initial Cal. Date: 06/11/12
Matrix: Instrument: Sweetpea
Initials:

			0611S03S.D	0611S04S.D	0611S05S.D	0611S06S.D	0611S07S.D	0611S08S.D	0611S09S.D							
		Compound	2	5	10	20	50	100	200				Avg	%RSD		
1	I	Fluorobenzene (IS)	ISTD													
2	TM	Dichlorodifluoromethane	0.3649	0.3259	0.3155	0.3044	0.3400	0.3191	0.3262				0.33	6.0	TM	
3	TML	Freon 114	0.0449	0.0468	0.0437	0.0300	0.0345	0.0404					0.04	16	TML	0.992
4	TM**	Chloromethane	0.2232	0.2382	0.2381	0.1842	0.2203	0.2053	0.2142				0.22	8.7	TM**	
5	TM*	Vinyl chloride	0.3427	0.2638	0.2301	0.2122	0.2480	0.2498	0.2548				0.26	16	TM*	
6	TML	Bromomethane		0.1399	0.1336	0.1424	0.1466	0.1844	0.1955				0.16	17	TML	0.997
7	TM	Chloroethane	0.0722	0.0616	0.0664	0.0493	0.0652	0.0615	0.0550				0.06	12	TM	
8	TM	Dichlorofluoromethane	0.4674	0.4564	0.4358	0.4024	0.3249	0.4532	0.4433				0.43	12	TM	
9	TM	Trichlorofluoromethane	0.2206	0.1984	0.2051	0.1857	0.2127	0.2102	0.2147				0.21	5.7	TM	
10	TM	Acrolein	0.0261	0.0249	0.0254	0.0257	0.0242	0.0233	0.0240				0.02	4.0	TM	
11	TML	Acetone		0.1382	0.0971	0.0673	0.0427	0.0504	0.0467				0.07	51	TML	0.995
12	TM	Freon-113	0.0468	0.0452	0.0370	0.0370	0.0291	0.0376	0.0379				0.04	15	TM	
13	TM*	1,1-DCE	0.1306	0.1170	0.1050	0.0874	0.0730	0.1039	0.1001				0.10	18	TM*	
14	TM	t-Butanol	0.0163	0.0159	0.0162	0.0176	0.0162	0.0158	0.0176				0.02	4.5	TM	
15	TM	Methyl Acetate													TM	
16	TMQ	Iodomethane	0.0193	0.0367	0.0461	0.0586	0.0444	0.0901	0.1156				0.06	57	TMQ	0.996
17	TMQ	Acrylonitrile	0.1060	0.0743	0.0600	0.0523	0.0460	0.0580					0.07	33	TMQ	0.999
18	TML	Methylene chloride	0.2986	0.1812	0.1054	0.0846	0.0618	0.0591					0.13	71	TML	0.998
19	TM	Carbon disulfide	0.0994	0.0966	0.0906	0.0818	0.0877	0.1116	0.1050				0.10	11	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.5359	0.5187	0.4791	0.4172	0.3873	0.5483	0.5332				0.49	13	TM	
21	TML	Trans-1,2-DCE	0.1738	0.1528	0.1333	0.1230	0.1057	0.1480	0.1417				0.14	16	TML	0.995
22	TM	Diisopropyl Ether	1.070	1.007	1.006	0.9346	0.7288	1.037	1.005				0.97	12	TM	
23	TM**	1,1-DCA	0.4353	0.4026	0.4062	0.3736	0.2981	0.4186	0.4016				0.39	12	TM**	
24	TM	Vinyl Acetate	0.7353	0.6869	0.6893	0.6573	0.5454	0.7892	0.7473				0.69	11	TM	
25	TM	Ethyl tert Butyl Ether	0.6558	0.6640	0.6596	0.6311	0.5041	0.7203	0.7006				0.65	11	TM	
26	TMQ	MEK (2-Butanone)	0.2317	0.1950	0.1679	0.1514	0.1110	0.1528					0.17	25	TMQ	0.995
27	TM	Cis-1,2-DCE	0.2648	0.2236	0.2329	0.2171	0.1684	0.2321	0.2295				0.22	13	TM	
28	TM	2,2-Dichloropropane	0.3492	0.3132	0.3123	0.2836	0.2326	0.3071	0.3000				0.30	12	TM	
29	TM*	Chloroform	0.3861	0.4135	0.3844	0.3699	0.2956	0.4106	0.3931				0.38	11	TM*	
30	TM	Bromochloromethane	0.0734	0.0738	0.0871	0.0826	0.0665	0.0965	0.0942				0.08	14	TM	
31	S	Dibromofluoromethane(S)	0.2489	0.3022	0.2835	0.2916	0.3213	0.3189	0.3065				0.30	8.4	S	
32	TM	1,1,1-TCA	0.3063	0.2875	0.2679	0.2615	0.2072	0.2947	0.2889				0.27	12	TM	
33	TM	Cyclohexane	0.2270	0.2123	0.2143	0.1923	0.1626	0.2375	0.2279				0.21	12	TM	
34	TM	1,1-Dichloropropene	0.2280	0.2091	0.2033	0.1997	0.1613	0.2288	0.2206				0.21	11	TM	
35	TM	2,2,4-Trimethylpentane	0.4445	0.4887	0.4661	0.4184	0.3707	0.5155	0.4869				0.46	11	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 67994
Case No: Initial Cal. Date: 06/11/12
Matrix: Instrument: Sweetpea Initials:

		Compound	2	5	10	20	50	100	200				Avg	%RSD		
36	S	1,2-DCA-D4(S)	0.1886	0.2440	0.2177	0.2201	0.2546	0.2518	0.2393				0.23	10	S	
37	TM	Carbon Tetrachloride	0.2009	0.2180	0.2137	0.2164	0.1756	0.2488	0.2407				0.22	11	TM	
38	TM	Tert Amyl Methyl Ether	0.6172	0.5618	0.5816	0.5611	0.4147	0.6070	0.5934				0.56	12	TM	
39	TM	1,2-DCA	0.2241	0.1983	0.2161	0.2145	0.1586	0.2268	0.2196				0.21	11	TM	
40	TM	Benzene	0.8334	0.7976	0.7686	0.7246	0.5728	0.8265	0.7906				0.76	12	TM	
41	TM	TCE	0.2035	0.2003	0.2031	0.1807	0.1476	0.2034	0.1974				0.19	11	TM	
42	TM	2-Pentanone	0.1590	0.1527	0.1571	0.1608	0.1574	0.1484	0.1535				0.16	2.7	TM	
43	TM*	1,2-Dichloropropane	0.2678	0.2710	0.2414	0.2307	0.1846	0.2609	0.2530				0.24	12	TM*	
44	TM	Bromodichloromethane	0.2961	0.2898	0.3063	0.2911	0.2265	0.3289	0.3178				0.29	11	TM	
45	TM	Methyl Cyclohexane	0.2228	0.2227	0.2123	0.1924	0.1682	0.2407	0.2338				0.21	12	TM	
46	TM	Dibromomethane	0.1298	0.1192	0.1146	0.1140	0.0881	0.1296	0.1229				0.12	12	TM	
47	TM	2-Chloroethyl vinyl ether	0.2849	0.2906	0.2843	0.2835	0.2154	0.3122	0.2985				0.28	11	TM	
48	TM	1-Bromo-2-chloroethane	0.2849	0.2906	0.2843	0.2835	0.2154	0.3122	0.2985				0.28	11	TM	
49	TM	Cis-1,3-Dichloropropene	0.4285	0.3864	0.3662	0.3558	0.2562	0.3801	0.3623				0.36	15	TM	
50	TM*	Toluene	0.5878	0.5422	0.5081	0.4885	0.3889	0.5463	0.5265				0.51	12	TM*	
51	TM	Trans-1,3-Dichloropropene	0.2956	0.2849	0.3064	0.2750	0.2164	0.3003	0.3005				0.28	11	TM	
52	TM	1,1,2-TCA	0.1642	0.1654	0.1560	0.1603	0.1189	0.1730	0.1641				0.16	11	TM	
53	I	Chlorobenzene-D5 (IS)	ISTD													
54	S	Toluene-D8(S)	1.124	1.406	1.341	1.338	1.548	1.487	1.477				1.4	10	S	
55	TM	1,2-EDB	0.2807	0.2605	0.2549	0.2550	0.1939	0.2667	0.2707				0.25	11	TM	
56	TM	Tetrachloroethene	0.2795	0.2422	0.2438	0.2400	0.1862	0.2461	0.2407				0.24	11	TM	
57	TM	1-Chlorohexane	0.5383	0.5575	0.5470	0.5053	0.3972	0.5546	0.5490				0.52	11	TM	
58	TM	1,1,1,2-Tetrachloroethane	0.3857	0.3847	0.3685	0.3753	0.2725	0.3788	0.3876				0.36	11	TM	
59	TM	m&p-Xylene	0.6367	0.6351	0.6281	0.6044	0.4506	0.6063	0.6116				0.60	11	TM	
60	TM	o-Xylene	0.7166	0.6432	0.6272	0.6036	0.4590	0.6298	0.6484				0.62	13	TM	
61	TM	Styrene	1.085	1.049	1.081	1.064	0.7978	1.106	1.130				1.0	11	TM	
62	S	4-Bromofluorobenzene(S)	0.4722	0.5127	0.4911	0.4933	0.5079	0.4921	0.4984				0.50	2.7	S	
63	TM	2-Hexanone		0.2310	0.2007	0.2146	0.1486	0.1930	0.1982				0.20	14	TM	
64	TM	1,3-Dichloropropane	0.4341	0.4385	0.4506	0.4195	0.3315	0.4581	0.4493				0.43	10	TM	
65	TM	Dibromochloromethane	0.3725	0.3558	0.3604	0.3552	0.2632	0.3819	0.3737				0.35	11	TM	
66	TM**	Chlorobenzene	0.9987	0.9852	0.9478	0.9213	0.6856	0.9658	0.9412				0.92	12	TM**	
67	TM*	Ethylbenzene	1.577	1.648	1.604	1.536	1.169	1.612	1.615				1.5	11	TM*	
68	TM**	Bromoform	0.2242	0.2217	0.2185	0.2084	0.1625	0.2284	0.2341				0.21	11	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD													
70	TM	MIBK (methyl isobutyl ketone)	0.7467	0.7304	0.6389	0.6023	0.4652	0.6234	0.6158				0.63	15	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 67994
Case No: Initial Cal. Date: 06/11/12
Matrix: Instrument: Sweetpea Initials:

		Compound	2	5	10	20	50	100	200				Avg	%RSD		
71	TM	Isopropylbenzene	3.356	3.307	3.188	3.028	2.411	3.281	3.277				3.1	11	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.7167	0.7547	0.7367	0.7121	0.5582	0.7703	0.7405				0.71	10.0	TM**	
73	TM	1,2,3-Trichloropropane	0.1451	0.1428	0.1565	0.1700	0.1248	0.1706	0.1678				0.15	11	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1974	0.1895	0.1638	0.1614	0.1233	0.1827	0.1796				0.17	14	TM	
75	TM	Bromobenzene	0.9289	0.8958	0.8226	0.7868	0.6343	0.8684	0.8622				0.83	12	TM	
76	TM	n-Propylbenzene	4.314	4.448	4.111	4.027	3.165	4.377	4.366				4.1	11	TM	
77	TM	4-Ethyltoluene	0.9251	0.9077	0.8733	0.8772	0.6804	0.9094	0.9592				0.88	10	TM	
78	TM	2-Chlorotoluene	2.791	2.771	2.801	2.582	1.984	2.800	2.761				2.6	11	TM	
79	TM	1,3,5-Trimethylbenzene	2.862	2.823	2.649	2.633	2.014	2.795	2.852				2.7	11	TM	
80	TM	4-Chlorotoluene	2.466	2.629	2.349	2.225	1.753	2.451	2.428				2.3	12	TM	
81	TM	Tert-Butylbenzene	2.976	3.013	2.919	2.839	2.173	3.017	3.047				2.9	11	TM	
82	TM	1,2,4-Trimethylbenzene	2.686	2.790	2.741	2.633	2.000	2.756	2.790				2.6	11	TM	
83	TM	Sec-Butylbenzene	4.178	4.059	3.924	3.861	3.063	4.195	4.173				3.9	10	TM	
84	TM	p-Isopropyltoluene	3.315	3.328	3.255	3.005	2.380	3.272	3.293				3.1	11	TM	
85	TM	Benzyl Chloride	1.159	1.039	1.106	1.036	1.060	1.023	1.042				1.1	4.6	TM	
86	TM	1,3-DCB	1.766	1.676	1.628	1.635	1.224	1.647	1.645				1.6	11	TM	
87	TM	1,4-DCB	1.826	1.685	1.559	1.511	1.186	1.601	1.622				1.6	13	TM	
88	TM	n-Butylbenzene	3.426	3.004	2.837	2.858	2.197	3.084	3.033				2.9	13	TM	
89	TM	1,2-DCB	1.643	1.541	1.489	1.413	1.085	1.495	1.502				1.5	12	TM	
90	TM	Hexachloroethane	0.8064	0.7672	0.7402	0.7312	0.7549	0.7416	0.7840				0.76	3.5	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0448	0.0356	0.0422	0.0379	0.0315	0.0434	0.0436				0.04	12	TM	
92	TM	1,2,4-Trichlorobenzene	1.070	1.015	0.9585	0.9312	0.7116	0.9843	0.9500				0.95	12	TM	
93	TM	Hexachlorobutadiene	0.6202	0.6983	0.6498	0.6208	0.4687	0.6441	0.6323				0.62	12	TM	
94	TM	Naphthalene	2.390	2.154	1.971	1.982	1.516	2.148	2.073				2.0	13	TM	
95	TM	1,2,3-Trichlorobenzene	1.090	0.9187	0.9424	0.9130	0.6645	0.9237	0.9053				0.91	14	TM	
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67994
Date Analyzed: 06/12/12
Instrument: Sweetpea
Initial Cal. Date: 06/11/12
Data File: 0611S14S.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.3280	0.3495	6.6	TM		
3	TML	Freon 114	0.0400	0.0458	14	TML	17	
4	TM**	Chloromethane	0.2177	0.2068	5.0	TM**		
5	TM*	Vinyl chloride	0.2574	0.2785	8.2	TM*		
6	TML	Bromomethane	0.1571	0.1677	6.8	TML	4.3	
7	TM	Chloroethane	0.0616	0.0709	15	TM		
8	TM	Dichlorofluoromethane	0.4262	0.4164	2.3	TM		
9	TM	Trichlorofluoromethane	0.2068	0.2317	12	TM		
10	TM	Acrolein	0.0248	0.0249	0.20	TM		
11	TML	Acetone	0.0737	0.0494	33	TML	6.8	
12	TM	Freon-113	0.0387	0.0385	0.44	TM		
13	TM*	1,1-DCE	0.1024	0.1107	8.1	TM*		
14	TM	t-Butanol	0.0165	0.0187	13	TM		
15	TM	Methyl Acetate	0.0000	0.1322	0.00	TM		
16	TMQ	Iodomethane	0.0587	0.0937	60	TMQ	32	nt
17	TMQ	Acrylonitrile	0.0661	0.0566	14	TMQ	16	
18	TML	Methylene chloride	0.1318	0.0638	52	TML	0.72	
19	TM	Carbon disulfide	0.0961	0.1144	19	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.4885	0.4741	3.0	TM		
21	TML	Trans-1,2-DCE	0.1398	0.1336	4.4	TML	2.6	
22	TM	Diisopropyl Ether	0.9699	0.9279	4.3	TM		
23	TM**	1,1-DCA	0.3909	0.3847	1.6	TM**		
24	TM	Vinyl Acetate	0.6929	0.6815	1.6	TM		
25	TM	Ethyl tert Butyl Ether	0.6479	0.6384	1.5	TM		
26	TMQ	MEK (2-Butanone)	0.1683	0.1462	13	TMQ	12	
27	TM	Cis-1,2-DCE	0.2241	0.2132	4.9	TM		
28	TM	2,2-Dichloropropane	0.2997	0.2817	6.0	TM		
29	TM*	Chloroform	0.3790	0.3747	1.1	TM*		
30	TM	Bromochloromethane	0.0820	0.0840	2.5	TM		
31	S	Dibromofluoromethane(S)	0.2961	0.2892	2.3	S		
32	TM	1,1,1-TCA	0.2734	0.2704	1.1	TM		
33	TM	Cyclohexane	0.2106	0.2148	2.0	TM		
34	TM	1,1-Dichloropropene	0.2073	0.2043	1.4	TM		
35	TM	2,2,4-Trimethylpentane	0.4558	0.4713	3.4	TM		
36	S	1,2-DCA-D4(S)	0.2309	0.2079	9.9	S		
37	TM	Carbon Tetrachloride	0.2163	0.2203	1.8	TM		
38	TM	Tert Amyl Methyl Ether	0.5624	0.5323	5.3	TM		
39	TM	1,2-DCA	0.2083	0.2066	0.84	TM		
40	TM	Benzene	0.7592	0.7548	0.57	TM		
		Average			8.8			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 67994
Date Analyzed: 06/12/12
Instrument: Sweetpea
Cal. Date: 06/11/12
Data File: 0611S14S.D

		Compound	MEAN	CCRF	%D	%Drift	
41	TM	TCE	0.1909	0.1836	3.8	TM	
42	TM	2-Pentanone	0.1555	0.1556	0.04	TM	
43	TM*	1,2-Dichloropropane	0.2442	0.2318	5.1	TM*	
44	TM	Bromodichloromethane	0.2938	0.2929	0.32	TM	
45	TM	Methyl Cyclohexane	0.2133	0.2153	0.97	TM	
46	TM	Dibromomethane	0.1169	0.1148	1.8	TM	
47	TM	2-Chloroethyl vinyl ether	0.2813	0.2707	3.8	TM	
48	TM	1-Bromo-2-chloroethane	0.2813	0.2707	3.8	TM	
49	TM	Cis-1,3-Dichloropropene	0.3622	0.3285	9.3	TM	
50	TM*	Toluene	0.5126	0.4844	5.5	TM*	
51	TM	Trans-1,3-Dichloropropene	0.2828	0.2615	7.5	TM	
52	TM	1,1,2-TCA	0.1574	0.1488	5.5	TM	
53	I	Chlorobenzene-D5 (IS)	ISTD			I	
54	S	Toluene-D8(S)	1.389	1.269	8.6	S	
55	TM	1,2-EDB	0.2546	0.2410	5.3	TM	
56	TM	Tetrachloroethene	0.2398	0.2237	6.7	TM	
57	TM	1-Chlorohexane	0.5213	0.5037	3.4	TM	
58	TM	1,1,1,2-Tetrachloroethane	0.3647	0.3465	5.0	TM	
59	TM	m&p-Xylene	0.5961	0.5685	4.6	TM	
60	TM	o-Xylene	0.6183	0.5828	5.7	TM	
61	TM	Styrene	1.045	1.009	3.4	TM	
62	S	4-Bromofluorobenzene(S)	0.4954	0.4598	7.2	S	
63	TM	2-Hexanone	0.1977	0.2017	2.0	TM	
64	TM	1,3-Dichloropropane	0.4260	0.4072	4.4	TM	
65	TM	Dibromochloromethane	0.3518	0.3301	6.2	TM	
66	TM**	Chlorobenzene	0.9208	0.8652	6.0	TM**	
67	TM*	Ethylbenzene	1.537	1.427	7.1	TM*	
68	TM**	Bromoform	0.2140	0.1982	7.4	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TM	MIBK (methyl isobutyl ketone)	0.6318	0.6219	1.6	TM	
71	TM	Isopropylbenzene	3.121	3.031	2.9	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.7127	0.6717	5.8	TM**	
73	TM	1,2,3-Trichloropropane	0.1539	0.1485	3.6	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1711	0.1483	13	TM	
75	TM	Bromobenzene	0.8284	0.7803	5.8	TM	
76	TM	n-Propylbenzene	4.115	3.842	6.6	TM	
77	TM	4-Ethyltoluene	0.8761	0.8020	8.5	TM	
78	TM	2-Chlorotoluene	2.642	2.396	9.3	TM	
79	TM	1,3,5-Trimethylbenzene	2.661	2.509	5.7	TM	
80	TM	4-Chlorotoluene	2.329	2.222	4.6	TM	
		Average			5.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 67994
Date Analyzed: 06/12/12
Instrument: Sweetpea
Cal. Date: 06/11/12
Data File: 0611S14S.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	2.855	2.758	3.4	TM	
82	TM	1,2,4-Trimethylbenzene	2.628	2.530	3.7	TM	
83	TM	Sec-Butylbenzene	3.922	3.805	3.0	TM	
84	TM	p-Isopropyltoluene	3.121	2.987	4.3	TM	
85	TM	Benzyl Chloride	1.067	0.8592	19	TM	
86	TM	1,3-DCB	1.603	1.474	8.0	TM	
87	TM	1,4-DCB	1.570	1.411	10	TM	
88	TM	n-Butylbenzene	2.920	2.684	8.1	TM	
89	TM	1,2-DCB	1.453	1.341	7.7	TM	
90	TM	Hexachloroethane	0.7608	0.7968	4.7	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0398	0.0346	13	TM	
92	TM	1,2,4-Trichlorobenzene	0.9457	0.8138	14	TM	
93	TM	Hexachlorobutadiene	0.6192	0.5959	3.8	TM	
94	TM	Naphthalene	2.034	1.854	8.8	TM	
95	TM	1,2,3-Trichlorobenzene	0.9083	0.7820	14	TM	
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No: 67994
Date Analyzed: 06/11/12
Instrument: Sweetpea
Initial Cal. Date: 06/11/12
Data File: 0611S12S.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.3280	0.3344	1.9	TM		
3	TML	Freon 114	0.0400	0.0526	31	TML	35	nt
4	TM**	Chloromethane	0.2177	0.2104	3.3	TM**		
5	TM*	Vinyl chloride	0.2574	0.2746	6.7	TM*		
6	TML	Bromomethane	0.1571	0.1521	3.2	TML	12	
7	TM	Chloroethane	0.0616	0.0637	3.4	TM		
8	TM	Dichlorofluoromethane	0.4262	0.4415	3.6	TM		
9	TM	Trichlorofluoromethane	0.2068	0.2146	3.8	TM		
10	TM	Acrolein	0.0248	0.0209	16	TM		
11	TML	Acetone	0.0737	0.0488	34	TML	8.0	
12	TM	Freon-113	0.0387	0.0392	1.3	TM		
13	TM*	1,1-DCE	0.1024	0.1127	10	TM*		
14	TM	t-Butanol	0.0165	0.0143	13	TM		
15	TM	Methyl Acetate	0.0000	0.1470	0.00	TM		
16	TMQ	Iodomethane	0.0587	0.0728	24	TMQ	8.7	
17	TMQ	Acrylonitrile	0.0661	0.0627	5.1	TMQ	26	nt
18	TML	Methylene chloride	0.1318	0.0720	45	TML	15	
19	TM	Carbon disulfide	0.0961	0.1308	36	TM		nt
20	TM	Methyl t-butyl ether (MtBE)	0.4885	0.5439	11	TM		
21	TML	Trans-1,2-DCE	0.1398	0.1476	5.6	TML	7.2	
22	TM	Diisopropyl Ether	0.9699	1.039	7.2	TM		
23	TM**	1,1-DCA	0.3909	0.4206	7.6	TM**		
24	TM	Vinyl Acetate	0.6929	0.7776	12	TM		
25	TM	Ethyl tert Butyl Ether	0.6479	0.7106	9.7	TM		
26	TMQ	MEK (2-Butanone)	0.1683	0.1458	13	TMQ	12	
27	TM	Cis-1,2-DCE	0.2241	0.2326	3.8	TM		
28	TM	2,2-Dichloropropane	0.2997	0.3144	4.9	TM		
29	TM*	Chloroform	0.3790	0.4088	7.9	TM*		
30	TM	Bromochloromethane	0.0820	0.0970	18	TM		
31	S	Dibromofluoromethane(S)	0.2961	0.2832	4.4	S		
32	TM	1,1,1-TCA	0.2734	0.3066	12	TM		
33	TM	Cyclohexane	0.2106	0.2345	11	TM		
34	TM	1,1-Dichloropropene	0.2073	0.2276	9.8	TM		
35	TM	2,2,4-Trimethylpentane	0.4558	0.5044	11	TM		
36	S	1,2-DCA-D4(S)	0.2309	0.2133	7.6	S		
37	TM	Carbon Tetrachloride	0.2163	0.2443	13	TM		
38	TM	Tert Amyl Methyl Ether	0.5624	0.5810	3.3	TM		
39	TM	1,2-DCA	0.2083	0.2270	9.0	TM		
40	TM	Benzene	0.7592	0.8217	8.2	TM		
		Average			11.1			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 67994
Date Analyzed: 06/11/12
Instrument: Sweetpea
Cal. Date: 06/11/12
Data File: 0611S12S.D

		Compound	MEAN	CCRF	%D	%Drift	
41	TM	TCE	0.1909	0.2015	5.6	TM	
42	TM	2-Pentanone	0.1555	0.1340	14	TM	
43	TM*	1,2-Dichloropropane	0.2442	0.2557	4.7	TM*	
44	TM	Bromodichloromethane	0.2938	0.3081	4.9	TM	
45	TM	Methyl Cyclohexane	0.2133	0.2309	8.3	TM	
46	TM	Dibromomethane	0.1169	0.1239	6.0	TM	
47	TM	2-Chloroethyl vinyl ether	0.2813	0.3109	10	TM	
48	TM	1-Bromo-2-chloroethane	0.2813	0.3109	10	TM	
49	TM	Cis-1,3-Dichloropropene	0.3622	0.3816	5.3	TM	
50	TM*	Toluene	0.5126	0.5436	6.0	TM*	
51	TM	Trans-1,3-Dichloropropene	0.2828	0.2950	4.3	TM	
52	TM	1,1,2-TCA	0.1574	0.1692	7.5	TM	
53	I	Chlorobenzene-D5 (IS)	ISTD			I	
54	S	Toluene-D8(S)	1.389	1.277	8.1	S	
55	TM	1,2-EDB	0.2546	0.2867	13	TM	
56	TM	Tetrachloroethene	0.2398	0.2534	5.7	TM	
57	TM	1-Chlorohexane	0.5213	0.5790	11	TM	
58	TM	1,1,1,2-Tetrachloroethane	0.3647	0.4072	12	TM	
59	TM	m&p-Xylene	0.5961	0.6493	8.9	TM	
60	TM	o-Xylene	0.6183	0.6703	8.4	TM	
61	TM	Styrene	1.045	1.157	11	TM	
62	S	4-Bromofluorobenzene(S)	0.4954	0.4834	2.4	S	
63	TM	2-Hexanone	0.1977	0.1881	4.9	TM	
64	TM	1,3-Dichloropropane	0.4260	0.4724	11	TM	
65	TM	Dibromochloromethane	0.3518	0.3907	11	TM	
66	TM**	Chlorobenzene	0.9208	0.9998	8.6	TM**	
67	TM*	Ethylbenzene	1.537	1.695	10	TM*	
68	TM**	Bromoform	0.2140	0.2334	9.0	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TM	MIBK (methyl isobutyl ketone)	0.6318	0.5796	8.3	TM	
71	TM	Isopropylbenzene	3.121	3.193	2.3	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.7127	0.7455	4.6	TM**	
73	TM	1,2,3-Trichloropropane	0.1539	0.1667	8.3	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1711	0.1656	3.2	TM	
75	TM	Bromobenzene	0.8284	0.8744	5.5	TM	
76	TM	n-Propylbenzene	4.115	4.387	6.6	TM	
77	TM	4-Ethyltoluene	0.8761	0.9384	7.1	TM	
78	TM	2-Chlorotoluene	2.642	2.718	2.9	TM	
79	TM	1,3,5-Trimethylbenzene	2.661	2.843	6.8	TM	
80	TM	4-Chlorotoluene	2.329	2.457	5.5	TM	
		Average			7.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No: 67994
Date Analyzed: 06/11/12
Instrument: Sweetpea
Cal. Date: 06/11/12
Data File: 0611S12S.D

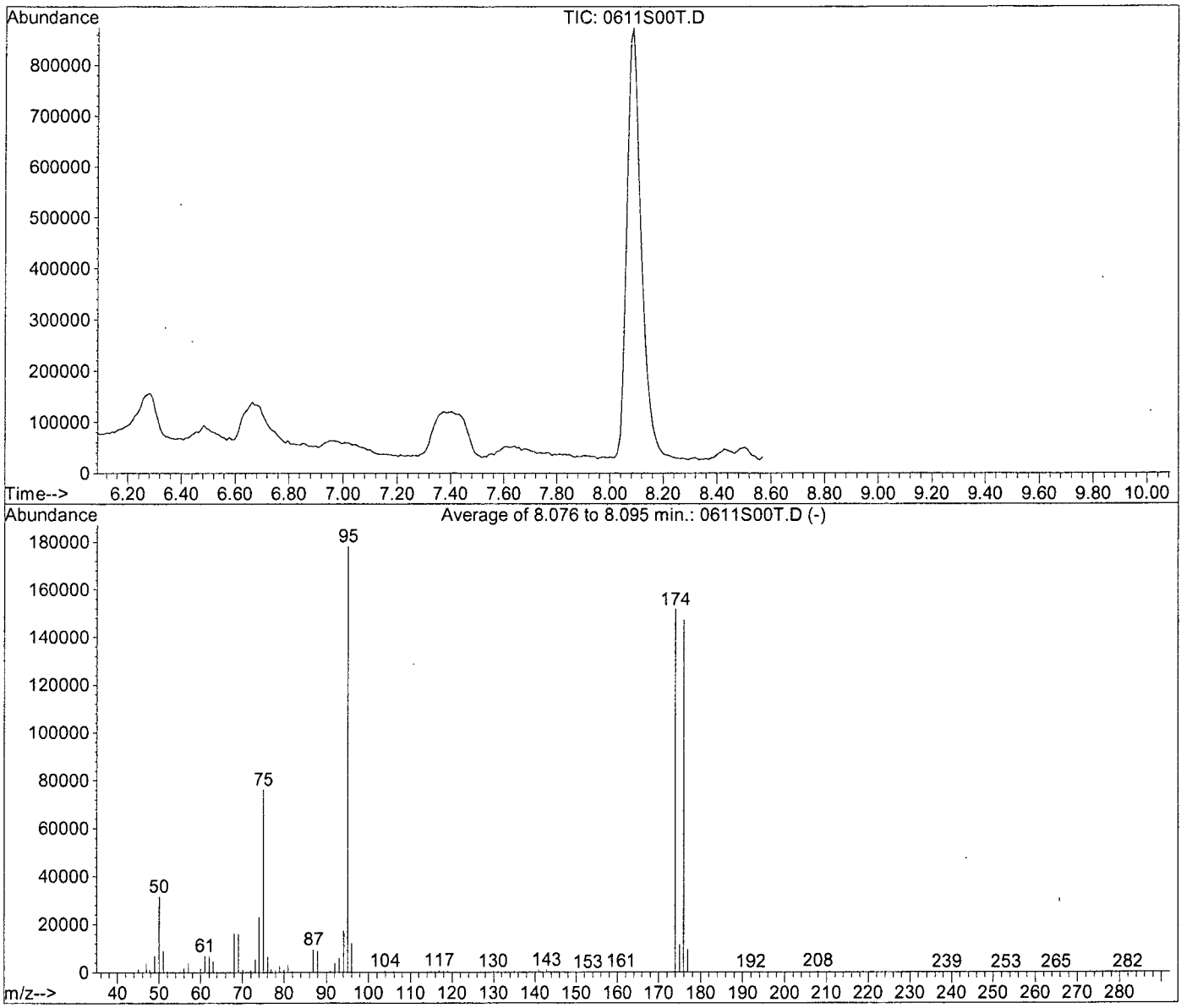
		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	2.855	3.068	7.5	TM	
82	TM	1,2,4-Trimethylbenzene	2.628	2.804	6.7	TM	
83	TM	Sec-Butylbenzene	3.922	4.207	7.3	TM	
84	TM	p-Isopropyltoluene	3.121	3.348	7.2	TM	
85	TM	Benzyl Chloride	1.067	0.8705	18	TM	
86	TM	1,3-DCB	1.603	1.628	1.6	TM	
87	TM	1,4-DCB	1.570	1.520	3.2	TM	
88	TM	n-Butylbenzene	2.920	2.961	1.4	TM	
89	TM	1,2-DCB	1.453	1.452	0.05	TM	
90	TM	Hexachloroethane	0.7608	0.7269	4.5	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0398	0.0406	1.8	TM	
92	TM	1,2,4-Trichlorobenzene	0.9457	0.9010	4.7	TM	
93	TM	Hexachlorobutadiene	0.6192	0.6272	1.3	TM	
94	TM	Naphthalene	2.034	2.015	0.89	TM	
95	TM	1,2,3-Trichlorobenzene	0.9083	0.8754	3.6	TM	
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.6		

EPA METHOD 8260B
Volatile Organic Compounds
Raw Data

APPL, INC.

Data File : M:\SWEETPEA\DATA\S120611\0611S00T.D Vial: 1
Acq On : 11 Jun 12 16:12 Operator: DG,SV,RS
Sample : 25ug/mL BFB Std 06-11-12 Inst : Sweetpea
Misc : 2uL Multiplr: 1.00

Method : M:\SWEETPEA\DATA\S120611\SALLS2.M (RTE Integrator)
Title : METHOD 8260B - SOILS



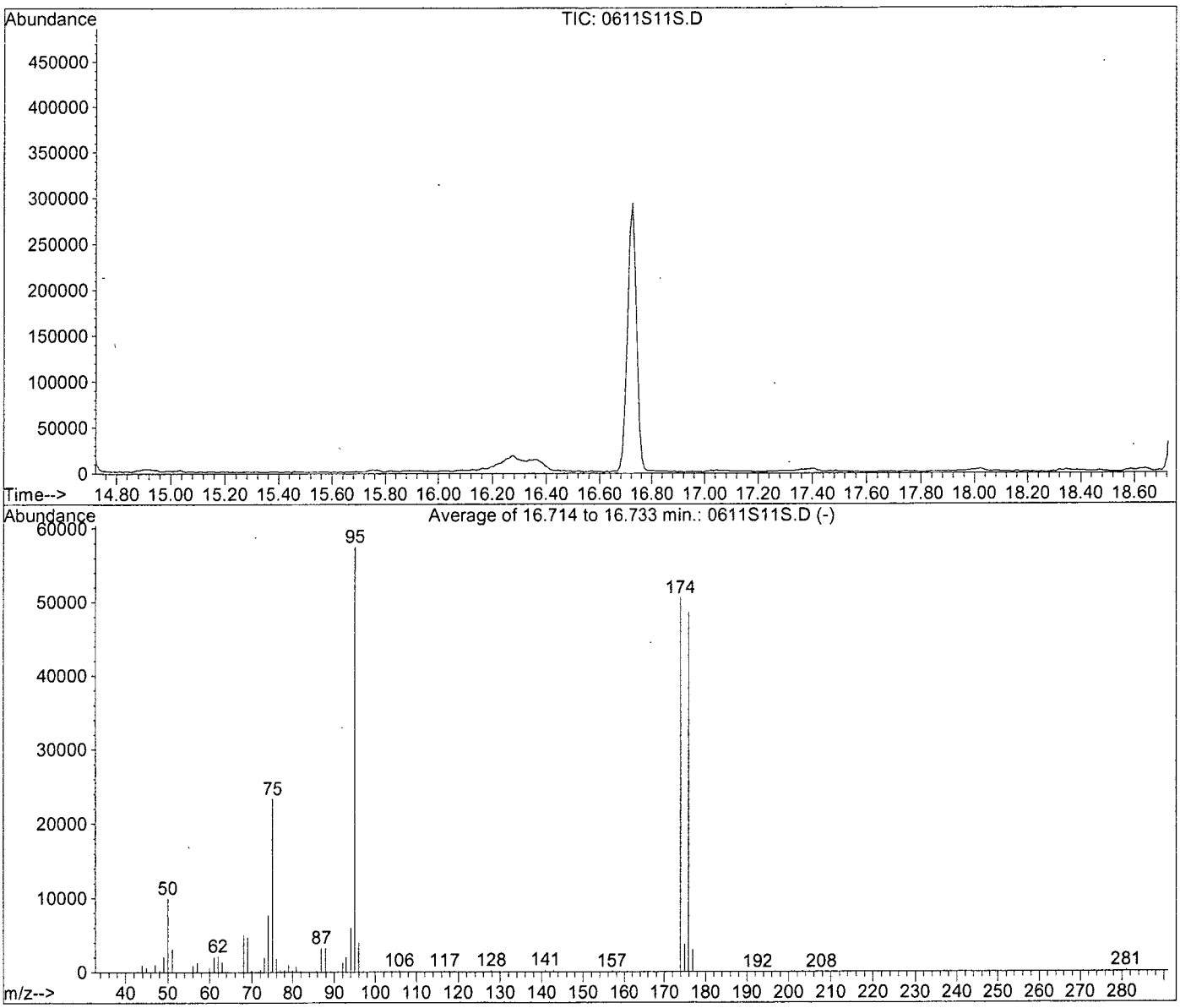
Spectrum Information: Average of 8.076 to 8.095 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.8	31651	PASS
75	95	30	60	42.8	76259	PASS
95	95	100	100	100.0	178155	PASS
96	95	5	9	6.8	12070	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	85.0	151488	PASS
175	174	5	9	7.5	11320	PASS
176	174	95	101	97.1	147051	PASS
177	176	5	9	6.3	9300	PASS

0611S00T.D SALLS2.M Wed Jun 13 09:40:58 2012

Data File : M:\SWEETPEA\DATA\S120611\0611S11S.D Vial: 11
Acq On : 11 Jun 12 22:35 Operator: DG,SV,RS
Sample : 25ug/mL BFB Std 06-11-12 Inst : Sweetpea
Misc : Soil 5mL w/IS&S:05-21-12 Multiplr: 1.00

Method : M:\SWEETPEA\DATA\S120611\SALLS2.M (RTE Integrator)
Title : METHOD 8260B - SOILS



Spectrum Information: Average of 16.714 to 16.733 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	9995	PASS
75	95	30	60	40.6	23363	PASS
95	95	100	100	100.0	57507	PASS
96	95	5	9	6.8	3938	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	87.9	50539	PASS
175	174	5	9	7.3	3699	PASS
176	174	95	101	96.1	48560	PASS
177	176	5	9	6.1	2949	PASS

0611S11S.D SALLS2.M Wed Jun 13 09:41:07 2012

Injection Log

Directory: M:\SWEETPEA\DATA\S120611\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0611S00T.D	1	25ug/mL BFB Std 06-11-12	2uL	11 Jun 12 16:12
2	3	0611S03S.D	1	2.0ug/kg Vol Std 06-11-12	Soil 5mL w/IS:05-21-12	11 Jun 12 17:53
3	4	0611S04S.D	1	5.0ug/kg Vol Std 06-11-12	Soil 5mL w/IS:05-21-12	11 Jun 12 18:28
4	5	0611S05S.D	1	10ug/kg Vol Std 06-11-12	Soil 5mL w/IS:05-21-12	11 Jun 12 19:04
5	6	0611S06S.D	1	20ug/kg Vol Std 06-11-12	Soil 5mL w/IS:05-21-12	11 Jun 12 19:39
6	7	0611S07S.D	1	50ug/kg Vol Std 06-11-12	Soil 5mL w/IS:05-21-12	11 Jun 12 20:15
7	8	0611S08S.D	1	100ug/kg Vol Std 06-11-12	Soil 5mL w/IS:05-21-12	11 Jun 12 20:50
8	9	0611S09S.D	1	200ug/kg Vol Std 06-11-12	Soil 5mL w/IS:05-21-12	11 Jun 12 21:25
9	11	0611S11S.D	1	25ug/mL BFB Std 06-11-12	2ul	11 Jun 12 22:35
10	12	0611S12S.D	1	50ug/kg std 6-11-12	Soil 5mL w/IS&S:05-21-12	11 Jun 12 23:10
11	14	0611S14S.D	1	120611A LCS-1SS (SS)	Soil 5mL w/IS&S:05-21-12	12 Jun 12 00:20
12	17	0611S17S.D	1	120611A BLK-1SS	Soil 5mL w/IS&S:05-21-12	12 Jun 12 2:06
13	20	0611S20S.D	0.989511	AY63154S01 5.053	Soil 5mL w/IS&S:05-21-12	12 Jun 12 3:51

METALS

APPL, INC.

METALS
QC Summary

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 6010B
AAB #: 120611A-167951
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: mg/kg
Method Blank ID: 120611A-BLK
Initial Calibration ID: 120611A

Analyte	Method Blank	RL	Q
ARSENIC (AS)	< RL	40.0	U
BARIUM (BA)	< RL	1.0	U
CADMIUM (CD)	< RL	0.50	U
CHROMIUM (CR)	< RL	20.0	U
COPPER (CU)	< RL	2.0	U
LEAD (PB)	< RL	10.0	U
NICKEL (NI)	< RL	2.0	U
ZINC (ZN)	< RL	5.0	U

Comments: ARF: 67994, Sample: AY63154

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 7471B
AAB #: 120611A-167918
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: mg/kg
Method Blank ID: 120611A-BLK
Initial Calibration ID: 120612A

Analyte	Method Blank	RL	Q
MERCURY (HG)	< RL	0.1	U

Comments: ARF: 67994, Sample: AY63154

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 6010B
AAB #: 120611A-167951
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120611A LCS
Initial Calibration ID: 120611A
Concentration Units: mg/kg

Analyte	Expected	Found	% R	Control Limits	Q
ARSENIC (AS)	25.0	24.3	97.2	75-125	
BARIUM (BA)	25.0	23.8	95.2	75-125	
CADMIUM (CD)	5.00	4.87	97.4	75-125	
CHROMIUM (CR)	25.0	24.9	99.6	75-125	
COPPER (CU)	25.00	26.10	104	75-125	
LEAD (PB)	25.00	25.65	103	75-125	
NICKEL (NI)	25.00	25.44	102	75-125	
ZINC (ZN)	50.0	51.8	104	75-125	

Comments: ARF: 67994, Sample: AY63154

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 7471B
AAB #: 120611A-167918
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120611A LCS
Initial Calibration ID: 120612A
Concentration Units: mg/kg

Analyte	Expected	Found	% R	Control Limits	Q
MERCURY (HG)	0.67	0.71	106	77-120	

Comments: ARF: 67994, Sample: AY63154

METALS
Sample Data

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3050B AAB #: 120611A-167951
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC12 Lab Sample ID: AY63154 Matrix: Soil
% Solids: 94.1 Initial Calibration ID: 120611A
Date Received: 11-Jun-12 Date Prepared: 11-Jun-12 Date Analyzed: 11-Jun-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ARSENIC (AS)	0.2	40.0	2.3	1	F
BARIUM (BA)	0.1	1.0	6.6	1	
CADMIUM (CD)	0.03	0.50	0.03	1	U
CHROMIUM (CR)	0.1	20.0	3.6	1	F
COPPER (CU)	0.19	2.0	24.53	1	
LEAD (PB)	0.18	10.0	1.60	1	F
NICKEL (NI)	0.12	2.0	3.64	1	
ZINC (ZN)	0.6	5.0	13.3	1	

Comments: ARF: 67994

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7471B Preparatory Method: 7471B AAB #: 120611A-167918
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC12 Lab Sample ID: AY63154 Matrix: Soil
% Solids: 94.1 Initial Calibration ID: 120612A
Date Received: 11-Jun-12 Date Prepared: 11-Jun-12 Date Analyzed: 12-Jun-12
Concentration Units: mg/kg

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.01	0.1	0.01	1	U

Comments: ARF: 67994

METALS
Calibration Data

APPL, INC.

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 67994 SDG: 67994

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 06/11/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 12:54	%R(1)	True CCV1	Found 13:18	%R(1)	True CCV1	Found 18:56	%R(1)	
Arsenic (As)	1000	998.1	99.8	1000	982.1	98.2	1000	973.6	97.4	P
Barium (Ba)	1000	986.1	98.6	1000	990.6	99.1	1000	975.3	97.5	P
Cadmium (Cd)	1000	1016	102	1000	1001	100	1000	993.7	99.4	P
Chromium (Cr)	1000	1025	103	1000	997.6	99.8	1000	976.6	97.7	P
Copper (Cu)	1000	1019	102	1000	992	99.2	1000	965.2	96.5	P
Nickel (Ni)	1000	1051	105	1000	1004	100	1000	991.2	99.1	P
Lead (Pb)	1000	1045	105	1000	1005	101	1000	996.9	99.7	P
Zinc (Zn)	1000	1071	107	1000	1014	101	1000	1008	101	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 67994 SDG: 67994

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 06/11/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 12:54	%R(1)	True CCV2	Found 19:52	%R(1)	True	Found	%R(1)	
Arsenic (As)	1000	998.1	99.8	750	741.5	98.9				P
Barium (Ba)	1000	986.1	98.6	750	740.9	98.8				P
Cadmium (Cd)	1000	1016	102	750	761.9	102				P
Chromium (Cr)	1000	1025	103	750	740.5	98.7				P
Copper (Cu)	1000	1019	102	750	725.2	96.7				P
Nickel (Ni)	1000	1051	105	750	758.3	101				P
Lead (Pb)	1000	1045	105	750	763.8	102				P
Zinc (Zn)	1000	1071	107	750	779.3	104				P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 67994 SDG: 67994

Preparation Blank Matrix (soil/water): soil

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

Analysis Date: 06/11/12

Analyte	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
	13:01		13:23		19:01		19:55		19:05		
Arsenic (As)	1.34	J	3.01	J	2.32	J	400.00	U	.14	J	P
Barium (Ba)	10.00	U	10.00	U	10.00	U	10.00	U	1.00	U	P
Cadmium (Cd)	5.00	U	5.00	U	5.00	U	5.00	U	.03	J	P
Chromium (Cr)	200.00	U	200.00	U	200.00	U	200.00	U	20.00	U	P
Copper (Cu)	2.24	J	2.14	J	20.00	U	20.00	U	1.07	J	P
Nickel (Ni)	20.00	U	20.00	U	20.00	U	20.00	U	2.00	U	P
Lead (Pb)	2.06	J	2.99	J	3.32	J	1.47	J	.49	J	P
Zinc (Zn)	50.00	U	50.00	U	50.00	U	50.00	U	5.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name:	A.P.P.L. INC.	Contract:	Parsons
ARF No.:	67994	SDG:	67994
ICP ID Number:	Phoebe	ICS Source:	Environmental Express

Analysis Date: 06/11/12 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 13:10	Sol AB 13:14	%R(1)
Aluminum (Al)	200000	200000	197000	196400	98.2
Arsenic (As)		500	2.323	472.9	94.6
Barium (Ba)		500	2.839	486.2	97.2
Calcium (Ca)	200000	200000	201500	201100	101
Cadmium (Cd)		1000	0.511	974.4	97.4
Chromium (Cr)		500	0.767	495.9	99.2
Copper (Cu)		500	ND	508.7	102
Iron (Fe)	200000	200000	186900	186400	93.2
Magnesium (Mg)	200000	200000	199300	199400	99.7
Nickel (Ni)		1000	ND	988.3	98.8
Lead (Pb)		1000	ND	1010	101
Zinc (Zn)		1000	7.558	1005	101

(1) Control Limits: Metals 80-120

Parsons

Hg BY METHOD 7471B ARF#67994
QCG 120611A-7471GROSS
ANALYSIS DATE: 06/12/12

R=0.99915

NAME	TRUE	RESULT	% RECOVERY
ICV	4.17ppb	4.518	108.3%
ICB	0ppb	0.060	
CCV-1	5.208ppb	5.044	96.9%
CCB-1	0ppb	0.034	
CCV-2	5.208ppb	5.239	100.6%
CCB-2	0ppb	0.016	

METALS
Raw Data

APPL, INC.

Metals Digestion Worksheet

Method Name 3050B Digestion (GROSS UP) **Prep Method** M3050GROSSa **Set** 120611A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT#1036660-30924
Spiked ID 2	LCSW LOT#1036661-30912
Spiked ID 3	
Spiked ID 4	
Spiked By	LO Date: 06/11/12 2:30:00 PM
Witnessed By	NM Date: 06/11/12 2:30:00 PM

Starting Temp:	95 C
Ending Temp:	95 C
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	YES
End Date/Time	06/11/12 17:00

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120611A Blk				1.00g	100mL	06/11/12 14:30	equip: Modblock1
2	120611A LCS		1mL	1+2	1.00g	100mL	06/11/12 14:30	equip: Modblock1
3	AY63154	AY63154S02			1.06g	100mL	06/11/12 14:30	equip: Modblock1
4	AY63155	AY63155S02			1.02g	100mL	06/11/12 14:30	equip: Modblock1
5	AY63155 MS	AY63155S02	2mL	1+2	1.02g	100mL	06/11/12 14:30	equip: Modblock1
6	AY63155 MSD	AY63155S02	2mL	1+2	1.02g	100mL	06/11/12 14:30	equip: Modblock1
7	AY63217	AY63217M01			1.00g	100mL	06/11/12 14:30	equip: Modblock1 NOT GROSS UP!!!!!!!!!!!

Solvent and Lot#
1:1 HNO3 NA
HNO3 J.T.B L08023 0210
H2O2 EMD NA
HCL BDH 4111110 0211

Sample COC Transfer:	
Sample prep employee Initials	LO
Analyst's initials	EA
Date	6-11-12
Time	17:00
Moved to	Metals

Technician's Initials	
Scanned By	NM
Sample Preparation	NM
Digestion	NM
Bring up to volume	LO
Modified	06/11/12 3:36:07 PM

Reviewed By: EA **Date:** 6-11-12

Mercury Digestion Worksheet

Method Name 7471A Mercury Digestion (GROSS UP **Prep Method** M7471GRO **Set** 120611A **Units** mL

Spikes			
Spiked ID 1	Hg WORKING STANDARD prep 06-11-12		
Spiked ID 2	Hg WORKING ICV prep 06-11-12		
Spiked ID 3			
Spiked ID 4			
Spiked By	LO	Date:	06/11/12 2:30:00 PM
Witnessed By	NM	Date:	06/11/12 2:30:00 PM

Starting Temp:	95 C
Ending Temp:	95 C
Temp Type:	Modblock1
End Date/Time	06/11/12 3:15:00 PM

Mercury Calibration

Sample	Spike Amount	Spike ID	Final Volume
0 ppb		1	96 ml
0.2 ppb	0.4 ml	1	96 ml
0.5 ppb	1 ml	1	96 ml
1 ppb	2 ml	1	96 ml
2 ppb	4 ml	1	96 ml
5 ppb	10 ml	1	96 ml
5 ppb	10 ml	1	96 ml
10 ppb	20 ml	1	96 ml
ICV	8 ml	2	96 ml

Start Date/Time of Calibration 06/11/12 14:30

Sufficient Vol for Matrix QC:	YES

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120611A Blk				0.60g	96mL	06/11/12 14:30	equip: Modblock1
2	120611A LCS		8mL	1	0.60g	96mL	06/11/12 14:30	equip: Modblock1
3	AY63154	AY63154S02			0.64g	96mL	06/11/12 14:30	equip: Modblock1
4	AY63155	AY63155S02			0.61g	96mL	06/11/12 14:30	equip: Modblock1
5	AY63155 MS	AY63155S02	8mL	1	0.61g	96mL	06/11/12 14:30	equip: Modblock1
6	AY63155 MSD	AY63155S02	8mL	1	0.61g	96mL	06/11/12 14:30	equip: Modblock1
7	AY63217	AY63217M01			0.60g	96mL	06/11/12 14:30	equip: Modblock1 NOT GROSS UP!!!!!!!!!!!!

Solvent and Lot#
AQUAREGIA 06-06-12
KMnO4 05-30-12
DECOLORIZER 06-08-12

Sample COC Transfer	
Sample prep employee Initials	LO
Analyst's initials	EA
Date	6-11-12
Time	15:15
Moved to	Metals

Technician's Initials	
Scanned By	NM
Sample Preparation	NM
Digestion	NM
Bring up to volume	LO
Modified	06/11/12 3:44:42 PM

Reviewed By: EA **Date:** 6-11-12

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	11 Jun 2012	12:38	CalBlk 120611EA I:PB O:EA		120611A6010	1.
2	11 Jun 2012	12:42	STD 1 120611EA I:PB O:EA		120611A6010	1.
3	11 Jun 2012	12:46	STD 2 120611EA I:PB O:EA		120611A6010	1.
4	11 Jun 2012	12:49	STD 3 120611EA I:PB O:EA		120611A6010	1.
5	11 Jun 2012	12:54	ICV 120611EA I:PB O:EA		120611A6010	1.
6	11 Jun 2012	13:01	ICB 120611EA I:PB O:EA		120611A6010	1.
8	11 Jun 2012	13:10	ICSA 120611EA I:PB O:EA		120611A6010	1.
9	11 Jun 2012	13:14	ICSAB 120611EA I:PB O:EA		120611A6010	1.
10	11 Jun 2012	13:18	CCV1 120611EA I:PB O:EA		120611A6010	1.
11	11 Jun 2012	13:23	CCB 120611EA I:PB O:EA		120611A6010	1.
81	11 Jun 2012	18:56	CCV1 120611EA I:PB O:EA		120611A6010	1.
82	11 Jun 2012	19:01	CCB 120611EA I:PB O:EA		120611A6010	1.
83	11 Jun 2012	19:05	120611A-3050G-BLK		120611A6010	1.
84	11 Jun 2012	19:09	120611A-3050G-LCS		120611A6010	1.
90	11 Jun 2012	19:35	AY63154S02		120611A6010	1.
93	11 Jun 2012	19:52	CCV2 120611EA I:PB O:EA		120611A6010	1.
94	11 Jun 2012	19:55	CCB 120611EA I:PB O:EA		120611A6010	1.

Sample_ID	EL	Date	Time	Mean_SA	Units	Batch_ID	Wt	Dilu
Calib Blank	Hg	06/12/12	10:25:03		µg/L			
0.2083 06-11-12 LO	Hg	06/12/12	10:26:16		µg/L			
0.520833	Hg	06/12/12	10:27:29		µg/L			
1.041667	Hg	06/12/12	10:28:42		µg/L			
2.083333	Hg	06/12/12	10:30:44		µg/L			
5.208	Hg	06/12/12	10:32:47		µg/L			
10.417	Hg	06/12/12	10:34:50		µg/L			
ICV 06-11-12 LO	Hg	06/12/12	10:37:26	4.517739	µg/L			
ICB 06-11-12 LO	Hg	06/12/12	10:39:27	0.06046	µg/L			
CCV 06-11-12 LO	Hg	06/12/12	10:40:42	5.044275	µg/L			
CCB 06-11-12 LO	Hg	06/12/12	10:42:45	0.03418	µg/L			
120611A BLK	Hg	06/12/12	10:43:58	0.004042	mg/kg	120611A-7471GROSS	0.6	
120611A LCS	Hg	06/12/12	10:45:11	0.70633	mg/kg	120611A-7471GROSS	0.6	
AY63154S02	Hg	06/12/12	10:47:12	0.009348	mg/kg	120611A-7471GROSS	0.64	
AY63155S02	Hg	06/12/12	10:48:25	0.005964	mg/kg	120611A-7471GROSS	0.61	—
AY63155S02 MS	Hg	06/12/12	10:49:38	0.550319	mg/kg	120611A-7471GROSS	0.61	—
AY63155S02 MSD	Hg	06/12/12	10:51:40	0.533984	mg/kg	120611A-7471GROSS	0.61	—
AY63217M01 1/10	Hg	06/12/12	10:53:42	0.132534	mg/kg	120611A-7471GROSS	0.6	10
CCV 06-11-12 LO	Hg	06/12/12	10:54:56	5.239063	µg/L			
CCB 06-11-12 LO	Hg	06/12/12	10:56:58	0.015816	µg/L			

R=0.99915

Laboratory Report

Parsons

CSSA

Project #: 748402.01 CSSA AOC-65

ARF: 68260

Samples collected: July 18, 2012

APPL, Inc.

Summary Package

for

Project #: 748402.01 CSSA AOC-65

ARF 68260

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

CASE NARRATIVE

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Case Narrative

ARF: 68260

Project: 748402.01 CSSA AOC-65

California State Certification Number: CA1312 (DW & WW)

NELAP Certification number: 05233CA (HW)

Texas Certificate Number: T104704242-10-3

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sample Receipt Information:

The sample group was received July 19, 2012, at 1.0°C, 1.0°C and 1.0°C. The samples were assigned Analytical Request Form (ARF) number 68260. The sample numbers and requested analyses were compared to the chains of custody and email communications. No exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
AOC65-VEW15-UGR	AY65098	WATER	07/18/12	07/19/12
AOC65-VEW16-LGR	AY65099	WATER	07/18/12	07/19/12
AOC65-VEW18-LGR	AY65100	WATER	07/18/12	07/19/12
AOC65-VEW19-UGR	AY65101	WATER	07/18/12	07/19/12
AOC65-VEW20	AY65102	WATER	07/18/12	07/19/12
AOC65-VEW28A	AY65103	WATER	07/18/12	07/19/12
AOC65-VEW28B	AY65104	WATER	07/18/12	07/19/12
AOC65-VEW27	AY65105	WATER	07/18/12	07/19/12
AOC65-VEW26	AY65106	WATER	07/18/12	07/19/12
AOC65-VEW25	AY65107	WATER	07/18/12	07/19/12
AOC65-VEW29	AY65108	WATER	07/18/12	07/19/12
AOC65-VEW31	AY65109	WATER	07/18/12	07/19/12
AOC65-VEW32	AY65110	WATER	07/18/12	07/19/12
AOC65-TSW-01	AY65111	WATER	07/18/12	07/19/12

Volatile Organic Compounds
EPA Method 8260B

Sample Preparation:

The samples were purged according to EPA method 5030B. All holding times were met.

Sample Analysis Information:

The samples were analyzed according to EPA method 8260B using a Hewlett Packard Gas Chromatograph with a mass spectrometer detector. Vials used for the analysis of AOC65-VEW18-LGR, AOC65-VEW28A, and AOC65-VEW25 had a pH greater than 2 as measured after analysis.

Quality Control/Assurance:

Spike Recovery:

Laboratory Control Spikes (LCS) were used for quality assurance. A second-source standard was used for the LCS. All LCS acceptance criteria were met.

No sample was designated by the client for MS/MSD analysis.

Surrogates:

Surrogate recoveries are summarized on the Form 2& 8. All surrogate recoveries met acceptance criteria.

Method blanks:

No target analyte was detected at or above its reporting limit in the method blanks.

Calibration:

Initial and continuing calibrations were analyzed according to the method. All calibration criteria were met.

Tuning:

The instrument was tuned using BFB. All method criteria were met.

Internal Standards:

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All acceptance criteria were met.

Summary:

No other analytical exception is noted. All data generated are acceptable.

EPA Methods 6010B and 7470A
Metals

Digestion Information:

For each sample, an aliquot was filtered in the laboratory, then preserved. The water samples were digested according to EPA methods 3010A and 7470A. No exception was encountered. All holding times were met.

Analysis Information:

Samples:

The samples were analyzed for total and dissolved metals according to EPA method 6010B using a Perkin Elmer Optima 5300DV ICP and according to EPA method 7470A using a Perkin Elmer AAnalyst 300.

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard.

Blanks:

Copper exceeded the reporting limit (RL, 5ug/L) in the method blanks at 6.5ug/L for total copper and 5.7ug/L for dissolved copper. No other target metal was detected above the RL in the method blanks. In the Continuing Calibration Blank (CCB) on 7-24-12 at 15:55, mercury was detected at 0.22 ug/L, greater than the RL. No corrective action is necessary, as this is a data-screening project.

Spikes:

Laboratory Control Spikes (LCS) were used for quality assurance. All acceptance criteria were met in the LCS.

No sample was designated by the client for an MS/MSD analysis.

Summary:

No other analytical exception was noted. All data are acceptable.

Inorganic Analyses

EPA Method 9056, SM 2320B, and SM 4500 H+B

Sample Preparation and Analysis Information:

The samples were prepared and analyzed according to the methods. A Dionex DX500 ion chromatograph was used for the EPA 9056 analysis. Some samples were received more than 24 hours after collection; all samples were analyzed for pH as soon as possible, on the day received. All other holding times were met.

Quality Control/Assurance

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard.

Blanks:

No target analyte was detected above the RL in the method blanks.

Spikes:

Laboratory Control Spikes (LCS/LCSD) were used for quality assurance. All recoveries met acceptance criteria.

No sample was designated by the client for MS/MSD analysis.

Summary:

No other analytical exception was noted. All data are acceptable.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

8-8-12

Sharon Dehmlow, Laboratory Director / Date

CHAIN OF CUSTODY

AND ARF

APPL - Analysis Request Form

68260

Client: Parsons
Address: 8000 Centre Park Drive Ste 200
Austin, TX 78754
Attn: Tammy Chang
Phone: 512-719-6092 Fax: 512-719-6099
Job: 748402.01 CSSA AOC-65
PO #: 748336.30000-00 (prime *G012)
Chain of Custody (Y/N): Y # 071812APPFA
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: STD

Received by: TBV
Date Received: 07/19/12 Time: 11:50
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -5
Chest Temp(s): 1,1,1.0°C
Color: J-PRPBLK,Q-ORNYL,VOA
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Diane Anderson mp
QC Report Type: DVP3/AFCEE/ERPIMS/TX
Due Date: 08/09/12

Comments:
pdf ARF to Tammy & Pam; send 1 DVP3 HC & CD to Tammy.
Data screening project: analyze samples ONCE; report deficiencies; do NOT re-analyze
Case Narrative. CSSA + AFCEE 3.1 QAPP. Only report MS/MSD when requested.
Use AFCEE forms with AFCEE flagging to report sample & QC data only.
APPL forms for everything else and APPL DVP3.
EDD: ERPIMS 4 Lab PC4 checked TXF to Pam.Ford@parsons.com
Some pH analysis received > 24 hrs of collection time.

7-20 Sent ARF

Sample Distribution:
VOA: 14-$86PW
Metals: 14-$HG, 14-$HGD, 14-$MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), 14-$MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn) 7-31
Wetlab: 14-$232W(HCO3,ALK), 14-$9056(CL,SO4), 14-$PH45
Other: 14-_M3010, 14-_M3010L, 14-_M7470, 14-_M7470L

Charges:

Invoice To:
BOA 748336.30000 TO# 3
8000 Centre Park Drive Ste 200
Austin, TX 78754-5140
Attn: Ellen Felfe

	Client ID	APPL ID	Sampled	Analyses Requested
1.	AOC65-VEW15-UGR	AY65098W	07/18/12 08:10	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn), $PH45
2.	AOC65-VEW16-LGR	AY65099W	07/18/12 08:12	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn), $PH45

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -5 UTC

3.	AOC65-VEW18-LGR	AY65100W	07/18/12 10:45	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45
4.	AOC65-VEW19-UGR	AY65101W	07/18/12 11:10	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45
5.	AOC65-VEW20	AY65102W	07/18/12 13:20	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45
6.	AOC65-VEW28A	AY65103W	07/18/12 09:20	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45
7.	AOC65-VEW28B	AY65104W	07/18/12 10:00	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45
8.	AOC65-VEW27	AY65105W	07/18/12 11:20	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45
9.	AOC65-VEW26	AY65106W	07/18/12 12:45	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45
10.	AOC65-VEW25	AY65107W	07/18/12 13:00	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45
11.	AOC65-VEW29	AY65108W	07/18/12 08:40	$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45

12. AOC65-VEW31	AY65109W 07/18/12 09:00		$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45
13. AOC65-VEW32	AY65110W 07/18/12 10:15		$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45
14. AOC65-TSW-01	AY65111W 07/18/12 14:00		$232W(HCO3,ALK), $86PW, $9056(CL,SO4), $HG, $HGD, $MT2L(Sb,As,Be,Cd,Cr,Cu,Pb,Ni,Se,Ag,Tl,Zn), $MTL1(Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl, Zn), $PH45

APPL Sample Receipt Form

ARF# **68260**

Sample	Container Type	Count	pH
AY65098	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65099	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65100	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65101	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65102	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65103	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65104	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65105	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65106	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65107	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65108	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65109	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65110	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA
AY65111	[3] PL 250mL	4	NA
	[6] PL 500mL - HNO3	1	1.7
	[13] VOAs - HCL	3	NA

Sample	Container Type	Count	pH

Renee Patterson

From: Chang, Tammy [Tammy.Chang@parsons.com]
Sent: Tuesday, July 24, 2012 1:07 PM
To: Renee Patterson
Cc: Ford, Pamela
Subject: RE: ISCO baseline samples. to APPL
Attachments: SKMBT_C452E12072414510.pdf

TB related info has been deleted and signatures have been added to few pages.

From: Renee Patterson [mailto:rpatterson@applinc.com]
Sent: Friday, July 20, 2012 1:35 PM
To: Chang, Tammy
Subject: RE: ISCO baseline samples. to APPL

oops, forgot to send you the COCs yesterday.

From: Chang, Tammy [mailto:Tammy.Chang@parsons.com]
Sent: Wednesday, July 18, 2012 2:06 PM
To: Renee Patterson; Diane Anderson; rwise; Jeremy Hale
Subject: FW: ISCO baseline samps. to APPL

1. The second set of CoC does not have a signature
2. The TBLOT info should be left blank since we did not include any TB in these three coolers.

   If you email be the CoCs (which our field crew already packed and sealed up the coolers) when you receive the shipment tomorrow, I will fix these mistakes.

   You will also noticed that Mn was marked for total, but not dissolved, which is correct.

   Tammy

From: Elliott, Samantha
Sent: Wednesday, July 18, 2012 3:16 PM
To: Chang, Tammy
Cc: Rice, Ken R; Lindley, Adrien; Ford, Pamela
Subject: ISCO baseline samps. to APPL

Three coolers going to APPL today, see attached.

Thanks,
Samantha Elliott
Scientist
(210) 347-6012
PARSONS

--
This message has been scanned for viruses and
dangerous content by **MailScanner**, and is
believed to be clean.

68260 1.0ea

Camp Stanley Storage Activity Chain Of Custody

COC ID:	071812APPFA	Relinquish_Date:	7/18/2012	Cooler ID:	A
Project Location:	AOC-65	Relinquished_By:	SE	LabCode:	APPF
Job Number:	748402.01	Relinquish_Time:	4:30 PM	Carrier:	FedEx
Creation Date:	7/18/2012	Collection Team:	SE_JDB	Airbill Carrier:	876436443907
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	Standard TAT

Sampler(s): Sam Elliott Julie Gouch

LOCID: **AOC65-VEW15-UGR** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~48074201~~ TC 7/24/12
SBD: 0 LOGTIME: 8:10 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-VEW15-UGR_071812_N0810 EBLOT: Containers: 8
Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

LOCID: **AOC65-VEW16-LGR** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~48074201~~ TC 7/24/12
SBD: 0 LOGTIME: 8:12 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-VEW16-LGR_071812_N0812 EBLOT: Containers: 8
Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

-15-

Relinquished by: S. Elliott Date 7-18-12 Time 1630
Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____
Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____
Recieved by: [signature] Date 7/19/12 Time 1150

Camp Stanley Storage Activity Chain Of Custody

COC ID:	071812APPFA	Relinquish_Date:	7/18/2012	Cooler ID:	A
Project Location:	AOC-65	Relinquished_By:	SE	LabCode:	APPF
Job Number:	748402.01	Relinquish_Time:	4:30 PM	Carrier:	FedEx
Creation Date:	7/18/2012	Collection Team:	SE_JDB	Airbill Carrier:	876436443907
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	Standard TAT

Sampler(s): Sam Elliott Julie Bouch

LOCID: **AOC65-VEW18-LGR** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~48074201~~ TC 7/24/12
SBD: 0 LOGTIME: 10:45 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-VEW18-LGR_071812_N1045 EBLOT: Containers: 8
Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

LOCID: **AOC65-VEW19-UGR** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~48074201~~ TC 7/24/12
SBD: 0 LOGTIME: 11:10 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-VEW19-UGR_071812_N1110 EBLOT: Containers: 8
Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

Relinquished by: S. Elliott Date 7-18-12 Time 1630
Recieved by: Will Lee Date 7/18/12 Time 1150

Relinquished by:_____ Date_____ Time____
Recieved by:_____ Date_____ Time____

Relinquished by:_____ Date_____ Time____
Recieved by:_____ Date_____ Time____

Camp Stanley Storage Activity Chain Of Custody

COC ID:	071812APPFA	Relinquish_Date:	7/18/2012	Cooler ID:	A
Project Location:	AOC-65	Relinquished_By:	SE	LabCode:	APPF
Job Number:	748402.01	Relinquish_Time:	4:30 PM	Carrier:	FedEx
Creation Date:	7/18/2012	Collection Team:	SE_JDB	Airbill Carrier:	876436443907
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	Standard TAT

Sampler(s): Sam Elliott Julie Bouch

LOCID: **AOC65-VEW20** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~18071201~~ TC 7/24/12

SBD: 0 LOGTIME: 13:20 SACODE: N SMCODE: G ABLOT:

SED: 0 FLDSAMPID AOC65-VEW20_071812_N1320 EBLOT: Containers: 8

Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

Relinquished by: S. Elliott Date 7-18-12 Time 1630

Recieved by: Bill Lan Date 7/19/12 Time 1150

Relinquished by:_____ Date_____ Time____

Recieved by:_____ Date_____ Time____

Relinquished by:_____ Date_____ Time____

Recieved by:_____ Date_____ Time____

Camp Stanley Storage Activity Chain Of Custody

1.0°C

COC ID:	071812APPFB	Relinquish_Date:	7/18/2012	Cooler ID:	B
Project Location:	AOC-65	Relinquished_By:	SE	LabCode:	APPF
Job Number:	748402.01	Relinquish_Time:	4:30 PM	Carrier:	FedEx
Creation Date:	7/18/2012	Collection Team:	SE_JDB	Airbill Carrier:	876436443918
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	Standard TAT

Sampler(s): Julie Bouch Sam Elliott

LOCID: **AOC65-VEW28A** LOGDATE: **7/18/2012** MATRIX: **WG** TBLOT: ~~18071201~~ TC 7/24/12
SBD: **0** LOGTIME: **9:20** SACODE: **N** SMCODE: **G** ABLOT:
SED: **0** FLDSAMPID **AOC65-VEW28A_071812_N0920** EBLOT: Containers: **8**
Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

LOCID: **AOC65-VEW28B** LOGDATE: **7/18/2012** MATRIX: **WG** TBLOT: ~~18071201~~ TC 7/24/12
SBD: **0** LOGTIME: **10:00** SACODE: **N** SMCODE: **G** ABLOT:
SED: **0** FLDSAMPID **AOC65-VEW28B_071812_N1000** EBLOT: Containers: **8**
Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

Relinquished by: S. Elliott (by TC) Date 7/18/12 Time 1630
Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____
Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____
Recieved by: [signature] Date 7/19/12 Time 1150

Camp Stanley Storage Activity Chain Of Custody

COC ID:	071812APPFB	Relinquish_Date:	7/18/2012	Cooler ID:	B
Project Location:	AOC-65	Relinquished_By:	SE	LabCode:	APPF
Job Number:	748402.01	Relinquish_Time:	4:30 PM	Carrier:	FedEx
Creation Date:	7/18/2012	Collection Team:	SE_JDB	Airbill Carrier:	876436443918
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	Standard TAT

Sampler(s): J Wilbanks Sam Elliott

LOCID: **AOC65-VEW27** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~18071201~~ TC 7/24/12

SBD: 0 LOGTIME: 11:20 SACODE: N SMCODE: G ABLOT:

SED: 0 FLDSAMPID AOC65-VEW27_071812_N1120 EBLOT: Containers: 8

Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

LOCID: **AOC65-VEW26** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~18071201~~ TC 7/24/12

SBD: 0 LOGTIME: 12:45 SACODE: N SMCODE: G ABLOT:

SED: 0 FLDSAMPID AOC65-VEW26_071812_N1245 EBLOT: Containers: 8

Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

Relinquished by: S. Elliott by TC Date 7/18/12 Time 1630

Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Recieved by: Bill Lee Date 7/19/12 Time 1150

Camp Stanley Storage Activity Chain Of Custody

COC ID:	071812APPFB	Relinquish_Date:	7/18/2012	Cooler ID:	B
Project Location:	AOC-65	Relinquished_By:	SE	LabCode:	APPF
Job Number:	748402.01	Relinquish_Time:	4:30 PM	Carrier:	FedEx
Creation Date:	7/18/2012	Collection Team:	SE_JDB	Airbill Carrier:	876436443918
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	Standard TAT

Sampler(s): Juliet Bouch Sam Elliott

LOCID: **AOC65-VEW25** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~10071201~~ TC 7/24/12

SBD: 0 LOGTIME: 13:00 SACODE: N SMCODE: G ABLOT:

SED: 0 FLDSAMPID AOC65-VEW25_071812_N1300 EBLOT: Containers: 8

Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

Relinquished by: S Elliott Fedex Date 7/18/12 Time 16:30

Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Recieved by: Will Farr Date 7/19/12 Time 1150

Camp Stanley Storage Activity Chain Of Custody

1.0 C

COC ID:	071812APPFC	Relinquish_Date:	7/18/2012	Cooler ID:	C
Project Location:	AOC-65	Relinquished_By:	SE	LabCode:	APPF
Job Number:	748402.01	Relinquish_Time:	4:30 PM	Carrier:	FedEx
Creation Date:	7/18/2012	Collection Team:	SE_JDB	Airbill Carrier:	876436443929
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	Standard TAT

Sampler(s): Sam Elliott Julie Boneth

Sam Elliott J. Boneth

LOCID: **AOC65-VEW29** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~18071201~~ TC 7/24/12

SBD: 0 LOGTIME: 8:40 SACODE: N SMCODE: G ABLOT:

SED: 0 FLDSAMPID AOC65-VEW29_071812_N0840 EBLOT: Containers: 8

Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

LOCID: **AOC65-VEW31** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~18071201~~ TC 7/24/12

SBD: 0 LOGTIME: 9:00 SACODE: N SMCODE: G ABLOT:

SED: 0 FLDSAMPID AOC65-VEW31_071812_N0900 EBLOT: Containers: 8

Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

-21-

Relinquished by: S. Elliott Date 7-18-12 Time 1630

Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____

Recieved by: [illegible] Date 7/19/12 Time 1150

Camp Stanley Storage Activity Chain Of Custody

COC ID:	071812APPFC	Relinquish_Date:	7/18/2012	Cooler ID:	C
Project Location:	AOC-65	Relinquished_By:	SE	LabCode:	APPF
Job Number:	748402.01	Relinquish_Time:	4:30 PM	Carrier:	FedEx
Creation Date:	7/18/2012	Collection Team:	SE_JDB	Airbill Carrier:	876436443929
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	Standard TAT

Sampler(s): Sam Elliott

LOCID: **AOC65-VEW32** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~18071201~~ TC 7/24/12
SBD: 0 LOGTIME: 10:15 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-VEW32_071812_N1015 EBLOT: Containers: 8
Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

LOCID: **AOC65-TSW-01** LOGDATE: 7/18/2012 MATRIX: WG TBLOT: ~~18071201~~ TC 7/24/12
SBD: 0 LOGTIME: 14:00 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-TSW-01_071812_N1400 EBLOT: Containers: 8
Remarks:

Analysis Required:

A2320	ALKALINITY, BICARBON	E150.1	pH
E300.1	CHLORIDE	E300.1	SULFATE (AS SO4)
SM2320B	BICARBONATE	SW6010B	SILVER
SW6010B	SILVER (DISSOLVED)	SW6010B	ARSENIC
SW6010B	ARSENIC (DISSOLVED)	SW6010B	BERYLLIUM
SW6010B	BERYLLIUM (DISSOLVE	SW6010B	CADMIUM
SW6010B	CADMIUM (DISSOLVED)	SW6010B	CHROMIUM
SW6010B	CHROMIUM (DISSOLVE	SW6010B	COPPER
SW6010B	COPPER (DISSOLVED)	SW6010B	MANGANESE
SW6010B	NICKEL	SW6010B	NICKEL (DISSOLVED)
SW6010B	LEAD	SW6010B	LEAD (DISSOLVED)
SW6010B	ANTIMONY	SW6010B	ANTIMONY (DISSOLVE
SW6010B	SELENIUM	SW6010B	SELENIUM (DISSOLVED
SW6010B	THALLIUM	SW6010B	THALLIUM (DISSOLVED
SW6010B	ZINC	SW6010B	ZINC (DISSOLVED)
SW7470A	MERCURY	SW7470A	MERCURY (DISSOLVED
SW8260B	VOC Short List		

Relinquished by: S. Elliott Date 7-18-12 Time 1630
Recieved by: Will Date 7-19-12 Time 115

Relinquished by: _____ Date _____ Time _____
Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____
Recieved by: _____ Date _____ Time _____

COOLER RECEIPT FORM

1) Project: 748402.01 CSSA AOC-65 Date Received: 7/19/12

2) Coolers: Number of Coolers: 3

3) YES NO Were coolers and samples screened for radioactivity?

4) YES NO Were custody seals on outside of cooler? How many? 3 Date on seal? 7/18/12

5) Name on seal? See label

6) YES NO NA Were custody seals unbroken and intact at the time of arrival?

7) YES NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex

8) Shipping slip numbers: 1) 8764 3644 3929 2) 8764 3644 3907 3) 8764 3644 3918

9) YES NO NA Was the shipping slip scanned into the database?

10) YES NO NA If cooler belongs to APPL, has it been logged into the ice chest database?

11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.): bubble bag in wet ice

12) YES NO NA For hand delivered samples was sufficient ice present to start the cooling process?

13) YES NO Was a temperature blank included in the cooler?

14) Serial number of certified NIST thermometer used: 439267 Correction factor: 0

15) Cooler temp(s): 1) 1.0°C 2) 1.0°C 3) 1.0°C 4) _____ 5) _____ 6) _____ 7) _____ 8) _____

Chain of custody:

16) YES NO Was a chain of custody received?

17) YES NO Were the custody papers signed in the appropriate places?

18) YES NO Was the project identifiable from custody papers?

19) YES NO Did the chain of custody include date and time of sampling?

20) YES NO Is location where sample was taken listed on the chain of custody?

Sample Labels:

21) YES NO Were container labels in good condition?

22) YES NO Was the client ID on the label?

23) YES NO Was the date of sampling on the label?

24) YES NO Was the time of sampling on the label?

25) YES NO Did all container labels agree with custody papers?

Sample Containers:

26) YES NO Were all containers sealed in separate bags?

27) YES NO Did all containers arrive unbroken?

28) YES NO Was there any leakage from samples?

29) YES NO Were any of the lids cracked or broken?

30) YES NO Were correct containers used for the tests indicated?

31) YES NO Was a sufficient amount of sample sent for tests indicated?

32) YES NO NA Were bubbles present in volatile samples? If yes, the following were received with air bubbl...

Larger than a pea: _____

Smaller than a pea: AY65099W02-W03, AY65100W01-W03, AY65108W03

Preservation & Hold time:

33) YES NO NA Was a sufficient amount of holding time remaining to analyze the samples?

34) YES NO NA Do the sample containers contain the same preservative as what is stated on the COC?

35) YES NO NA Was the pH taken of all non-VOA preserved samples and written on the sample container?

36) YES NO NA Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples > 12?

37) YES NO NA Unpreserved VOA Vials received? _____

38) YES NO NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF? _____

Lab notified if pH was not adequate: Metal filter and preserved. SA 7-19-12

Deficiencies: Received pH greater than 24 hours from collection time

Signature of personnel receiving samples: Yang Yo Second reviewer: Will Edwards

Signature of project manager notified: Renée Date and Time of notification: 7-19-12

Name of client notified: _____ Date and Time of notification: _____

Information given to client: _____

_____ by whom (Initials): _____

CUSTODY SEAL

Initials _____

Date _____

APPL, Inc.

(559) 275-2175

EPA METHOD 8260B
Volatile Organic Compounds

APPL, INC.

EPA METHOD 8260B
Volatile Organic Compounds
QC Summary

APPL, INC.

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
AAB #: 120720BT-169382
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: ug/L
Method Blank ID: 120720BT-BLK
Initial Calibration ID: T120719

Analyte	Method Blank	RL	Q
1,1-DCE	< RL	1.2	U
CIS-1,2-DCE	< RL	1.2	U
TCE	< RL	1.0	U
TETRACHLOROETHENE	< RL	1.4	U
TRANS-1,2-DCE	< RL	0.6	U
VINYL CHLORIDE	< RL	1.1	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHAN	101	69-139	
SURROGATE: 4-BROMOFLUOROBE	99.1	75-125	
SURROGATE: DIBROMOFLUOROME	99.5	75-125	
SURROGATE: TOLUENE-D8 (S)	100	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 68260, Sample: AY65098

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
AAB #: 120727AT-169484
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: ug/L
Method Blank ID: 120727AT-BLK
Initial Calibration ID: T120725

Analyte	Method Blank	RL	Q
1,1-DCE	< RL	1.2	U
CIS-1,2-DCE	< RL	1.2	U
TCE	< RL	1.0	U
TETRACHLOROETHENE	< RL	1.4	U
TRANS-1,2-DCE	< RL	0.6	U
VINYL CHLORIDE	< RL	1.1	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHAN	103	69-139	
SURROGATE: 4-BROMOFLUOROBE	99.1	75-125	
SURROGATE: DIBROMOFLUOROME	101	75-125	
SURROGATE: TOLUENE-D8 (S)	100	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 68260, Sample: AY65106

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA 8260B
AAB #: 120726AN-169492
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: ug/L
Method Blank ID: 120726AN-BLK
Initial Calibration ID: N120723

Analyte	Method Blank	RL	Q
TCE	< RL	1.0	U
TETRACHLOROETHENE	< RL	1.4	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHAN	102	69-139	
SURROGATE: 4-BROMOFLUOROBE	113	75-125	
SURROGATE: DIBROMOFLUOROME	103	75-125	
SURROGATE: TOLUENE-D8 (S)	113	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 68260, Sample: AY65101

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 68260

Case No: 68260 Date Analyzed: 07/21/12

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120720BT-LCS	Lab Control Spike	69-139	99.6		75-125	103	
120720BT-BLK	Blank	69-139	101		75-125	99.1	
AY65098	AOC65-VEW15-UGR	69-139	103		75-125	100	
AY65099	AOC65-VEW16-LGR	69-139	99.0		75-125	99.5	
AY65100	AOC65-VEW18-LGR	69-139	103		75-125	99.9	
AY65101	AOC65-VEW19-UGR	69-139	98.2		75-125	97.3	
AY65102	AOC65-VEW20	69-139	101		75-125	98.3	
AY65103	AOC65-VEW28A	69-139	103		75-125	100	
AY65104	AOC65-VEW28B	69-139	104		75-125	101	
AY65105	AOC65-VEW27	69-139	101		75-125	99.1	
AY65110	AOC65-VEW32	69-139	103		75-125	99.1	
AY65111	AOC65-TSW-01	69-139	101		75-125	97.8	

Comments: Batch: #86PW-120720BT

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 68260

Case No: 68260 Date Analyzed: 07/21/12

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120720BT-LCS	Lab Control Spike	75-125	98.5		75-125	99.1	
120720BT-BLK	Blank	75-125	99.5		75-125	100	
AY65098	AOC65-VEW15-UGR	75-125	100		75-125	99.4	
AY65099	AOC65-VEW16-LGR	75-125	97.0		75-125	98.8	
AY65100	AOC65-VEW18-LGR	75-125	101		75-125	100	
AY65101	AOC65-VEW19-UGR	75-125	97.0		75-125	98.4	
AY65102	AOC65-VEW20	75-125	99.8		75-125	100	
AY65103	AOC65-VEW28A	75-125	101		75-125	101	
AY65104	AOC65-VEW28B	75-125	99.5		75-125	101	
AY65105	AOC65-VEW27	75-125	98.1		75-125	97.0	
AY65110	AOC65-VEW32	75-125	99.7		75-125	98.2	
AY65111	AOC65-TSW-01	75-125	98.7		75-125	94.9	

Comments: Batch: #86PW-120720BT

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 68260

Case No: 68260 Date Analyzed: 07/27/12

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120727AT-LCS	Lab Control Spike	69-139	103		75-125	102	
120727AT-BLK	Blank	69-139	103		75-125	99.1	
AY65108	AOC65-VEW29	69-139	102		75-125	100	
AY65109	AOC65-VEW31	69-139	106		75-125	100	
AY65106	AOC65-VEW26	69-139	105		75-125	98.1	
AY65107	AOC65-VEW25	69-139	105		75-125	98.4	

Comments: Batch: #86PW-120727AT

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 68260

Case No: 68260 Date Analyzed: 07/27/12

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120727AT-LCS	Lab Control Spike	75-125	103		75-125	98.3	
120727AT-BLK	Blank	75-125	101		75-125	100	
AY65108	AOC65-VEW29	75-125	101		75-125	101	
AY65109	AOC65-VEW31	75-125	105		75-125	100	
AY65106	AOC65-VEW26	75-125	103		75-125	98.5	
AY65107	AOC65-VEW25	75-125	103		75-125	97.8	

Comments: Batch: #86PW-120727AT

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 68260

Case No: 68260 Date Analyzed: 07/27/12

Matrix: WATER Instrument: Neo

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120726AN-LCS	Lab Control Spike	69-139	104		75-125	102	
120726AN-BLK	Blank	69-139	102		75-125	113	
AY65101	AOC65-VEW19-UGR	69-139	118		75-125	94.8	
AY65102	AOC65-VEW20	69-139	110		75-125	113	
AY65110	AOC65-VEW32	69-139	112		75-125	108	
AY65105	AOC65-VEW27	69-139	118		75-125	107	
AY65111	AOC65-TSW-01	69-139	121		75-125	104	

Comments: Batch: #86PWD-120726A

Printed: 08/07/12 8:21:53 AM

Form 2 & 8, Surrogate Recovery Summary

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 68260

Case No: 68260 Date Analyzed: 07/27/12

Matrix: WATER Instrument: Neo

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
120726AN-LCS	Lab Control Spike	75-125	97.8		75-125	98.6	
120726AN-BLK	Blank	75-125	103		75-125	113	
AY65101	AOC65-VEW19-UGR	75-125	113		75-125	91.9	
AY65102	AOC65-VEW20	75-125	111		75-125	115	
AY65110	AOC65-VEW32	75-125	111		75-125	96.7	
AY65105	AOC65-VEW27	75-125	117		75-125	104	
AY65111	AOC65-TSW-01	75-125	119		75-125	93.7	

Comments: Batch: #86PWD-120726A

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
AAB #: 120720BT-169382
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120720BT LCS
Initial Calibration ID: T120719
Concentration Units: ug/L

Analyte	Expected	Found	% R	Control Limits	Q
1,1-DCE	10.00	9.69	96.9	75-125	
CIS-1,2-DCE	10.00	9.91	99.1	75-125	
TCE	10.00	10.13	101	71-125	
TETRACHLOROETHENE	10.00	9.87	98.7	71-125	
TRANS-1,2-DCE	10.00	9.03	90.3	75-125	
VINYL CHLORIDE	10.00	9.38	93.8	46-134	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	99.7	69-139	
SURROGATE: 4-BROMOFLUOROBENZE	103	75-125	
SURROGATE: DIBROMOFLUOROMETH	98.4	75-125	
SURROGATE: TOLUENE-D8 (S)	99.2	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 68260, QC Sample ID: AY65098

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
LCS ID: 120727AT LCS
Concentration Units: ug/L

AAB #: 120727AT-169484
Contract #: *G012
Initial Calibration ID: T120725

Analyte	Expected	Found	% R	Control Limits	Q
1,1-DCE	10.00	9.58	95.8	75-125	
CIS-1,2-DCE	10.00	10.16	102	75-125	
TCE	10.00	9.74	97.4	71-125	
TETRACHLOROETHENE	10.00	9.95	99.5	71-125	
TRANS-1,2-DCE	10.00	9.05	90.5	75-125	
VINYL CHLORIDE	10.00	9.36	93.6	46-134	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	103	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	102	75-125	
SURROGATE: DIBROMOFLUOROMETH	103	75-125	
SURROGATE: TOLUENE-D8 (S)	98.4	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 68260, QC Sample ID: AY65106

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 8260B
Lab Name: APPL, Inc
LCS ID: 120726AN LCS
Concentration Units: ug/L

AAB #: 120726AN-169492
Contract #: *G012
Initial Calibration ID: N120723

Analyte	Expected	Found	% R	Control Limits	Q
TCE	10.00	9.92	99.2	71-125	
TETRACHLOROETHENE	10.00	12.13	121	71-125	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	104	69-139	
SURROGATE: 4-BROMOFLUOROBENZE	102	75-125	
SURROGATE: DIBROMOFLUOROMETH	97.6	75-125	
SURROGATE: TOLUENE-D8 (S)	98.8	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: ARF: 68260, QC Sample ID: AY65101

AFCEE FORM O-7

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 68260

Case No: 68260 Date Analyzed: 07/27/12

Matrix: WATER Instrument: Neo

Blank ID: 120726AN-BLK Time Analyzed: 0250

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120726AN-LCS	Lab Control Spike	0726N25	07/27/12 0057
120726AN-BLK	Blank	0726N28	07/27/12 0250
AY65101	AOC65-VEW19-UGR	0726N33	07/27/12 0600
AY65102	AOC65-VEW20	0726N34	07/27/12 0638
AY65110	AOC65-VEW32	0726N35	07/27/12 0716
AY65105	AOC65-VEW27	0726N36	07/27/12 0753
AY65111	AOC65-TSW-01	0726N37	07/27/12 0831

Comments: Batch: #86PWD-120726A

Printed: 08/07/12 8:21:50 AM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 68260

Case No: 68260 Date Analyzed: 07/21/12

Matrix: WATER Instrument: Thor

Blank ID: 120720BT-BLK Time Analyzed: 0207

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120720BT-LCS	Lab Control Spike	0720T34	07/21/12 0016
120720BT-BLK	Blank	0720T38	07/21/12 0207
AY65098	AOC65-VEW15-UGR	0720T41	07/21/12 0330
AY65099	AOC65-VEW16-LGR	0720T42	07/21/12 0358
AY65100	AOC65-VEW18-LGR	0720T43	07/21/12 0425
AY65101	AOC65-VEW19-UGR	0720T44	07/21/12 0453
AY65102	AOC65-VEW20	0720T45	07/21/12 0521
AY65103	AOC65-VEW28A	0720T46	07/21/12 0548
AY65104	AOC65-VEW28B	0720T47	07/21/12 0616
AY65105	AOC65-VEW27	0720T48	07/21/12 0644
AY65110	AOC65-VEW32	0720T53	07/21/12 0903
AY65111	AOC65-TSW-01	0720T54	07/21/12 0930

Comments: Batch: #86PW-120720BT

Printed: 08/07/12 8:18:27 AM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 68260

Case No: 68260 Date Analyzed: 07/27/12

Matrix: WATER Instrument: Thor

Blank ID: 120727AT-BLK Time Analyzed: 1225

APPL ID.	Client Sample No.	File ID.	Date Analyzed
120727AT-LCS	Lab Control Spike	0727T05	07/27/12 1033
120727AT-BLK	Blank	0727T09	07/27/12 1225
AY65108	AOC65-VEW29	0727T13	07/27/12 1416
AY65109	AOC65-VEW31	0727T14	07/27/12 1444
AY65106	AOC65-VEW26	0727T16	07/27/12 1539
AY65107	AOC65-VEW25	0727T17	07/27/12 1607

Comments: Batch: #86PW-120727AT

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 68260
Matrix: Water
ID: 5ng- BFB STD 07-16-12B

SDG No: 68260
Date Analyzed: 07/20/12
Instrument: Thor
Time Analyzed: 22:53

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Vol Std 07-20	0720T33.D	07/20/12 23:48
2	Lab Control Spike	120720B LCS-1WT	0720T34.D	07/21/12 0:16
3	Blank	120720B BLK-1WT	0720T38.D	07/21/12 2:07
4	AOC65-VEW15-UGR	AY65098W01	0720T41.D	07/21/12 3:30
5	AOC65-VEW16-LGR	AY65099W01	0720T42.D	07/21/12 3:58
6	AOC65-VEW18-LGR	AY65100W01	0720T43.D	07/21/12 4:25
7	AOC65-VEW19-UGR	AY65101W01	0720T44.D	07/21/12 4:53
8	AOC65-VEW20	AY65102W01	0720T45.D	07/21/12 5:21
9	AOC65-VEW28A	AY65103W01	0720T46.D	07/21/12 5:48
10	AOC65-VEW28B	AY65104W01	0720T47.D	07/21/12 6:16
11	AOC65-VEW27	AY65105W01	0720T48.D	07/21/12 6:44
12	AOC65-VEW32	AY65110W01	0720T53.D	07/21/12 9:03
13	AOC65-TSW-01	AY65111W01	0720T54.D	07/21/12 9:30
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	14.9 - 40% of mass 95	17.2
75	30 - 60% of mass 95	47.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.3
173	0 - 2% of mass 174	0.4
174	50 - 100.49% of mass 95	98.7
175	5 - 9% of mass 174	7.4
176	95 - 101.49% of mass 174	96.1
177	5 - 9% of mass 176	6.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 68260
Matrix: Water
ID: 25ug/mL BFB Std 07-16-12

SDG No: 68260
Date Analyzed: 07/26/12
Instrument: Neo
Time Analyzed: 21:48

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Vol Std 07-26	0726N23W.D	07/26/12 23:42
2	Lab Control Spike	120726A LCS-1WN	0726N25W.D	07/27/12 0:57
3	Blank	120726A BLK-1WN	0726N28W.D	07/27/12 2:50
4	AOC65-VEW19-UGR	AY65101W02 DF2	0726N33W.D	07/27/12 6:00
5	AOC65-VEW20	AY65102W02 DF2	0726N34W.D	07/27/12 6:38
6	AOC65-VEW32	AY65110W02 DF50	0726N35W.D	07/27/12 7:16
7	AOC65-VEW27	AY65105W02 DF200	0726N36W.D	07/27/12 7:53
8	AOC65-TSW-01	AY65111W02 DF200	0726N37W.D	07/27/12 8:31
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	14.95 - 40% of mass 95	25.7
75	30 - 60% of mass 95	51.0
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.3
173	0 - 2% of mass 174	0.3
174	50 - 100% of mass 95	59.3
175	5 - 9% of mass 174	7.3
176	95 - 101% of mass 174	99.3
177	5 - 9% of mass 176	6.5

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 68260
Matrix: Water
ID: 5ng- BFB STD 07-16-12B

SDG No: 68260
Date Analyzed: 07/27/12
Instrument: Thor
Time Analyzed: 9:38

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Vol Std 07-27	0727T04.D	07/27/12 10:06
2	Lab Control Spike	120727A LCS-1WT	0727T05.D	07/27/12 10:33
3	Blank	120727A BLK-1WT	0727T09.D	07/27/12 12:25
4	AOC65-VEW29	AY65108W02	0727T13.D	07/27/12 14:16
5	AOC65-VEW31	AY65109W02	0727T14.D	07/27/12 14:44
6	AOC65-VEW26	AY65106W02	0727T16.D	07/27/12 15:39
7	AOC65-VEW25	AY65107W02	0727T17.D	07/27/12 16:07
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	14.9 - 40% of mass 95	17.2
75	30 - 60% of mass 95	47.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.8
173	0 - 2% of mass 174	1.1
174	50 - 100.49% of mass 95	98.8
175	5 - 9% of mass 174	6.9
176	95 - 101.49% of mass 174	95.1
177	5 - 9% of mass 176	6.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: *G012

Lab Code: _____ SDG No.: 68260

Lab File ID (Standard): 0719T10.D Date Analyzed: 07/19/12

Instrument ID: Thor Time Analyzed: 13:20

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	461760	6.74	382656	9.88	222464	12.20
	UPPER LIMIT	923520	7.24	765312	10.38	444928	12.70
	LOWER LIMIT	230880	6.24	191328	9.38	111232	11.70
	SAMPLE NO.						
01	10ug/L Vol Std 07-20-12	439488	6.73	356480	9.88	208576	12.20
02	120720B LCS-1WT	457792	6.73	368896	9.87	218432	12.20
03	120720B BLK-1WT	441088	6.73	358208	9.88	201600	12.20
04	AY65098W01	430592	6.72	352960	9.87	199360	12.20
05	AY65099W01	430400	6.73	346176	9.87	196544	12.20
06	AY65100W01	431104	6.72	353024	9.87	199680	12.20
07	AY65101W01	436992	6.73	353536	9.87	201536	12.20
08	AY65102W01	434752	6.74	353920	9.88	202880	12.20
09	AY65103W01	424960	6.73	344512	9.87	199872	12.20
10	AY65104W01	422464	6.73	341760	9.88	197312	12.20
11	AY65105W01	438720	6.73	362816	9.88	209024	12.20
12	AY65110W01	420096	6.73	344576	9.87	201216	12.20
13	AY65111W01	430080	6.72	360896	9.87	205696	12.20
14	5ng- BFB STD 07-16-12	383680	6.73	306688	9.87	178048	12.20
15	10ug/L Vol Std 07-27-12	390464	6.73	308608	9.88	188288	12.20
16	120727A LCS-1WT	389440	6.72	324224	9.87	186816	12.20
17	120727A BLK-1WT	385856	6.73	311488	9.87	178176	12.20
18	AY65108W02	397952	6.74	314304	9.88	179904	12.20
19	AY65109W02	387904	6.73	321280	9.88	188416	12.20
20	AY65106W02	380480	6.73	316928	9.88	176704	12.20
21	AY65107W02	372352	6.74	310016	9.88	179520	12.20
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: *G012

Lab Code: _____ SDG No.: 68260

Lab File ID (Standard): 0723N08W.D Date Analyzed: 07/23/12

Instrument ID: Neo Time Analyzed: 12:20

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	198528	13.29	152832	18.47	72304	22.66
	UPPER LIMIT	397056	13.79	305664	18.97	144608	23.16
	LOWER LIMIT	99264	12.79	76416	17.97	36152	22.16
	SAMPLE NO.						
01	10ug/L Vol Std 07-26-12	227392	13.28	169280	18.46	79472	22.65
02	120726A LCS-1WN	219200	13.29	158208	18.46	75632	22.65
03	120726A BLK-1WN	220672	13.28	141632	18.45	70792	22.64
04	AY65101W02 DF2	182144	13.28	150080	18.45	67984	22.65
05	AY65102W02 DF2	187136	13.28	120720	18.45	67248	22.65
06	AY65110W02 DF50	173952	13.28	127464	18.45	57424	22.65
07	AY65105W02 DF200	167104	13.28	123592	18.46	57712	22.65
08	AY65111W02 DF200	168512	13.28	137472	18.45	60096	22.64
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA METHOD 8260B
Volatile Organic Compounds
Sample Data

APPL, INC.

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120720BT-169382

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW15-UGR Lab Sample ID: AY65098 Matrix: Water

% Solids: NA Initial Calibration ID: T120719

Date Received: 19-Jul-12 Date Prepared: 21-Jul-12 Date Analyzed: 21-Jul-12

Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	29.64	1		
TCE	0.05	1.0	10.68	1		
TETRACHLOROETHENE	0.06	1.4	56.81	1		
TRANS-1,2-DCE	0.08	0.6	0.37	1		F
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	103	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	100	75-125	
SURROGATE: DIBROMOFLUOROMETH	100	75-125	
SURROGATE: TOLUENE-D8 (S)	99.4	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120720BT-169382

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW16-LGR Lab Sample ID: AY65099 Matrix: Water

% Solids: NA Initial Calibration ID: T120719

Date Received: 19-Jul-12 Date Prepared: 21-Jul-12 Date Analyzed: 21-Jul-12

Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	0.07	1		U
TCE	0.05	1.0	0.05	1		U
TETRACHLOROETHENE	0.06	1.4	0.93	1		F
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	99.0	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	99.5	75-125	
SURROGATE: DIBROMOFLUOROMETH	97.0	75-125	
SURROGATE: TOLUENE-D8 (S)	98.8	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120720BT-169382

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW18-LGR Lab Sample ID: AY65100 Matrix: Water

% Solids: NA Initial Calibration ID: T120719

Date Received: 19-Jul-12 Date Prepared: 21-Jul-12 Date Analyzed: 21-Jul-12

Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	2.23	1		
TCE	0.05	1.0	1.15	1		
TETRACHLOROETHENE	0.06	1.4	6.66	1		
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	103	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	99.9	75-125	
SURROGATE: DIBROMOFLUOROMETH	101	75-125	
SURROGATE: TOLUENE-D8 (S)	100	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120720BT-169382

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW19-UGR Lab Sample ID: AY65101 Matrix: Water

% Solids: NA Initial Calibration ID: T120719

Date Received: 19-Jul-12 Date Prepared: 21-Jul-12 Date Analyzed: 21-Jul-12

Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	27.18	1		
TCE	0.05	1.0	16.36	1		
TETRACHLOROETHENE	0.06	1.4	122.72	1		J
TRANS-1,2-DCE	0.08	0.6	0.80	1		
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	98.2	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	97.3	75-125	
SURROGATE: DIBROMOFLUOROMETH	97.0	75-125	
SURROGATE: TOLUENE-D8 (S)	98.4	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: J = Estimated value.

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120726AN-169492

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW19-UGR Lab Sample ID: AY65101 Matrix: Water

% Solids: NA Initial Calibration ID: N120723

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
TETRACHLOROETHENE	0.12	2.8	88.88	2		

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	118	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	94.8	75-125	
SURROGATE: DIBROMOFLUOROMETH	113	75-125	
SURROGATE: TOLUENE-D8 (S)	91.9	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120720BT-169382
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW20 Lab Sample ID: AY65102 Matrix: Water
% Solids: NA Initial Calibration ID: T120719
Date Received: 19-Jul-12 Date Prepared: 21-Jul-12 Date Analyzed: 21-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	95.89	1		
TCE	0.05	1.0	205.21	1		J
TETRACHLOROETHENE	0.06	1.4	5.77	1		
TRANS-1,2-DCE	0.08	0.6	10.44	1		
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	101	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	98.3	75-125	
SURROGATE: DIBROMOFLUOROMETH	99.8	75-125	
SURROGATE: TOLUENE-D8 (S)	100	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: J = Estimated value.
ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120726AN-169492

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW20 Lab Sample ID: AY65102 Matrix: Water

% Solids: NA Initial Calibration ID: N120723

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
TCE	0.10	2.0	185.72	2		

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	110	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	113	75-125	
SURROGATE: DIBROMOFLUOROMETH	111	75-125	
SURROGATE: TOLUENE-D8 (S)	115	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120720BT-169382
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28A Lab Sample ID: AY65103 Matrix: Water
% Solids: NA Initial Calibration ID: T120719
Date Received: 19-Jul-12 Date Prepared: 21-Jul-12 Date Analyzed: 21-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	0.07	1		U
TCE	0.05	1.0	5.18	1		
TETRACHLOROETHENE	0.06	1.4	11.17	1		
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	103	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	100	75-125	
SURROGATE: DIBROMOFLUOROMETH	101	75-125	
SURROGATE: TOLUENE-D8 (S)	101	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120720BT-169382
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28B Lab Sample ID: AY65104 Matrix: Water
% Solids: NA Initial Calibration ID: T120719
Date Received: 19-Jul-12 Date Prepared: 21-Jul-12 Date Analyzed: 21-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	0.07	1		U
TCE	0.05	1.0	2.08	1		
TETRACHLOROETHENE	0.06	1.4	46.31	1		
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	104	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	101	75-125	
SURROGATE: DIBROMOFLUOROMETH	99.5	75-125	
SURROGATE: TOLUENE-D8 (S)	101	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120720BT-169382
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW27 Lab Sample ID: AY65105 Matrix: Water
% Solids: NA Initial Calibration ID: T120719
Date Received: 19-Jul-12 Date Prepared: 21-Jul-12 Date Analyzed: 21-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	7.02	1		
TCE	0.05	1.0	31.30	1		
TETRACHLOROETHENE	0.06	1.4	3992.82	1		J
TRANS-1,2-DCE	0.08	0.6	0.30	1		F
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	101	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	99.1	75-125	
SURROGATE: DIBROMOFLUOROMETH	98.1	75-125	
SURROGATE: TOLUENE-D8 (S)	97.0	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: J = Estimated value.

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120726AN-169492

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW27 Lab Sample ID: AY65105 Matrix: Water

% Solids: NA Initial Calibration ID: N120723

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
TETRACHLOROETHENE	12.00	280.0	4998.29	200		

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	118	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	107	75-125	
SURROGATE: DIBROMOFLUOROMETH	117	75-125	
SURROGATE: TOLUENE-D8 (S)	104	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120727AT-169484
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW26 Lab Sample ID: AY65106 Matrix: Water
% Solids: NA Initial Calibration ID: T120725
Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	0.07	1		U
TCE	0.05	1.0	0.40	1		F
TETRACHLOROETHENE	0.06	1.4	1.61	1		
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	105	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	98.1	75-125	
SURROGATE: DIBROMOFLUOROMETH	103	75-125	
SURROGATE: TOLUENE-D8 (S)	98.5	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120727AT-169484
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW25 Lab Sample ID: AY65107 Matrix: Water
% Solids: NA Initial Calibration ID: T120725
Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	0.69	1		F
TCE	0.05	1.0	1.27	1		
TETRACHLOROETHENE	0.06	1.4	28.94	1		
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	105	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	98.4	75-125	
SURROGATE: DIBROMOFLUOROMETH	103	75-125	
SURROGATE: TOLUENE-D8 (S)	97.8	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120727AT-169484
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW29 Lab Sample ID: AY65108 Matrix: Water
% Solids: NA Initial Calibration ID: T120725
Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	0.07	1		U
TCE	0.05	1.0	0.19	1		F
TETRACHLOROETHENE	0.06	1.4	4.47	1		
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	102	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	100	75-125	
SURROGATE: DIBROMOFLUOROMETH	101	75-125	
SURROGATE: TOLUENE-D8 (S)	101	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120727AT-169484
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW31 Lab Sample ID: AY65109 Matrix: Water
% Solids: NA Initial Calibration ID: T120725
Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	0.07	1		U
TCE	0.05	1.0	0.05	1		U
TETRACHLOROETHENE	0.06	1.4	3.51	1		
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	106	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	100	75-125	
SURROGATE: DIBROMOFLUOROMETH	105	75-125	
SURROGATE: TOLUENE-D8 (S)	100	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

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ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120720BT-169382
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW32 Lab Sample ID: AY65110 Matrix: Water
% Solids: NA Initial Calibration ID: T120719
Date Received: 19-Jul-12 Date Prepared: 21-Jul-12 Date Analyzed: 21-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	0.60	1		F
TCE	0.05	1.0	1.68	1		
TETRACHLOROETHENE	0.06	1.4	1356.28	1		J
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	103	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	99.1	75-125	
SURROGATE: DIBROMOFLUOROMETH	99.7	75-125	
SURROGATE: TOLUENE-D8 (S)	98.2	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: J = Estimated value.
ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120726AN-169492

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW32 Lab Sample ID: AY65110 Matrix: Water

% Solids: NA Initial Calibration ID: N120723

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
TETRACHLOROETHENE	3.00	70.0	1339.94	50		

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	112	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	108	75-125	
SURROGATE: DIBROMOFLUOROMETH	111	75-125	
SURROGATE: TOLUENE-D8 (S)	96.7	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120720BT-169382
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-TSW-01 Lab Sample ID: AY65111 Matrix: Water
% Solids: NA Initial Calibration ID: T120719
Date Received: 19-Jul-12 Date Prepared: 21-Jul-12 Date Analyzed: 21-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DCE	0.12	1.2	0.12	1		U
CIS-1,2-DCE	0.07	1.2	1.18	1		F
TCE	0.05	1.0	4.76	1		
TETRACHLOROETHENE	0.06	1.4	3990.50	1		J
TRANS-1,2-DCE	0.08	0.6	0.08	1		U
VINYL CHLORIDE	0.08	1.1	0.08	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	101	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	97.8	75-125	
SURROGATE: DIBROMOFLUOROMETH	98.7	75-125	
SURROGATE: TOLUENE-D8 (S)	94.9	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments: J = Estimated value.

ARF: 68260

AFCEE FORM O-2

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 8260B Preparatory Method: 5030B AAB #: 120726AN-169492
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-TSW-01 Lab Sample ID: AY65111 Matrix: Water
% Solids: NA Initial Calibration ID: N120723
Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
TETRACHLOROETHENE	12.00	280.0	6419.27	200		

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	121	69-139	
SURROGATE: 4-BROMOFLUOROBENZ	104	75-125	
SURROGATE: DIBROMOFLUOROMETH	119	75-125	
SURROGATE: TOLUENE-D8 (S)	93.7	75-125	

Internal Std	Qualifier
1,4-DICHLOROBENZENE-D4 (IS)	
CHLOROBENZENE-D5 (IS)	
FLUOROBENZENE (IS)	

Comments:

ARF: 68260

AFCEE FORM O-2

EPA METHOD 8260B
Volatile Organic Compounds
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 68260
Case No: Initial Cal. Date: 07/19/12
Matrix: water Instrument: Thor Initials:

		Compound	0719T05.D	0719T06.D	0719T07.D	0719T08.D	0719T09.D	0719T10.D	0719T11.D	0719T12.D	0719T13.D		Avg	%RSD		r
			0.3	0.5	1	2	5	10	20	40	100					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane	0.1200	0.1240	0.1418	0.1356	0.1268	0.1115					0.13	8.6	TM	
3	TML	Freon 114	0.1415	0.1046	0.1361	0.1772	0.1673	0.1621	0.1749	0.1896	0.1665		0.16	17	TML	0.998
4	TM**L	Chloromethane		0.4629	0.4159	0.3768	0.3605	0.2990	0.3105				0.37	17	TM**L	0 999
5	TM*	Vinyl chloride	0.5005	0.4852	0.4531	0.5101	0.5250	0.4769	0.4974	0.4968	0.5019		0.49	4.2	TM*	
6	TM	Bromomethane		0.3766	0.3596	0.3226	0.3472	0.3041	0.2931	0.2684	0.2549		0.32	14	TM	
7	TM	Chloroethane	0.2747	0.3114	0.2850	0.2613	0.2962	0.2719	0.2859	0.2914	0.2834		0.28	5.1	TM	
8	TMQ	Dichlorofluoromethane	0.0090	0.0202	0.0126	0.0164	0.0152	0.0196	0.0254	0.0336	0.0648		0.02	70	TMQ	1.00
9	TM	Trichlorofluoromethane		0.0842	0.0966	0.1000	0.1198	0.1100					0.10	13	TM	
10	TMQ	Acrolein													TMQ	
11	TML	Acetone	0.3965	0.2944	0.1679	0.1468	0.1007	0.0866	0.0926	0.0801	0.0821		0.16	70	TML	1.000
12	TM	Freon-113	0.1778	0.1747	0.1931	0.2265	0.2246	0.2168	0.2084	0.2210	0.2060		0.21	9.5	TM	
13	TM*	1,1-DCE	0.3007	0.2729	0.2644	0.2720	0.2744	0.2696	0.2660	0.2835	0.2775		0 28	4.0	TM*	
14	TM	t-Butanol		0.0075	0.0074	0.0072	0.0076	0.0077	0.0092	0.0102			0.01	14	TM	
15	TML	Methyl Acetate	0.8726	0.6035	0.5101	0.4714	0.2802	0.2330	0.2248	0.2202	0.2132		0.40	57	TML	1.000
16	TM	Iodomethane	0.2492	0.2575	0.2660	0.2419	0.2622	0.2432	0.2408	0.2414	0.2418		0.25	4.0	TM	
17	TM	Acrylonitrile	0.0874	0.0549	0.0692	0.0728	0.0933	0.0806	0.0840	0.0846	0 0838		0.08	15	TM	
18	TML	Methylene chloride	0.3676	0.2647	0.1440	0.1292	0.1165	0.0964	0.0956	0.0949	0.0918		0.16	62	TML	1.000
19	TML	Carbon disulfide	0.0466	0.0453	0.0322	0.0318	0.0301	0.0270	0.0292	0.0278	0.0258		0.03	23	TML	0.999
20	TM	Methyl t-butyl ether (MtBE)	0.6119	0.5783	0.5229	0.5275	0.5662	0.5222	0.5070	0.4911	0.4631		0.53	8.6	TM	
21	TM	Trans-1,2-DCE	0.2297	0.2354	0.1695	0.1842	0.1947	0.1734	0.1779	0.1766	0.1709		0.19	13	TM	
22	TM	Diisopropyl Ether	0 1003	0.1361	0.1126	0.1164	0.1317	0.1212	0.1179	0.1198	0.1168		0.12	8.7	TM	
23	TM**	1,1-DCA	0.5526	0.4780	0.4682	0.4954	0.5506	0.5086	0.4958	0.5067	0.4843		0.50	5.9	TM**	
24	TM	Vinyl Acetate	0.2861	0.3189	0.2551	0.2716	0.3128	0.2787	0.2776	0.2848	0.2788		0.28	6.9	TM	
25	TM	Ethyl tert Butyl Ether	0.7356	0.6599	0.6680	0.6558	0.7593	0.6522	0.6460	0.6381	0.5738		0.67	8.2	TM	
26	TML	MEK (2-Butanone)	0.2041	0.1795	0.1594	0.1391	0.1113	0.1135	0.1203	0.1216	0.1272		0.14	23	TML	1.000
27	TM	Cis-1,2-DCE	0.3407	0.3327	0.3111	0.3113	0.3441	0.3184	0 3199	0.3183	0.3119		0.32	4.0	TM	
28	TM	2,2-Dichloropropane		0.2047	0.2143	0.2086	0.2158	0.2037	0.1976	0.1966	0.1845		0.20	5.0	TM	
29	TM*	Chloroform	0.7181	0.6349	0.6028	0.6230	0.6647	0.6037	0.5996	0.6037	0.5876		0.63	6.6	TM*	
30	TM	Bromochloromethane	0.1510	0.1457	0.1513	0.1633	0.1810	0.1595	0.1543	0.1538	0.1561		0.16	6.5	TM	
31	S	Dibromofluoromethane(S)	0.5051	0.3961	0.3766	0.3856	0.3635	0.3650	0.3693	0.3784	0.3815		0.39	11	S	
32	TM	1,1,1-TCA	0.4433	0.4047	0.3367	0.3737	0.3876	0.3695	0.3618	0.3671	0.3480		0.38	8.5	TM	
33	TM	Cyclohexane	0.1075	0.0984	0.0973	0.1087	0.1023	0.1026	0.0982	0.1080	0.0976		0.10	4.6	TM	
34	TM	1,1-Dichloropropene	0.2952	0.2623	0.2578	0.2666	0.2963	0.2712	0.2714	0.2756	0.2672		0.27	4.9	TM	
35	TM	2,2,4-Trimethylpentane	0.4193	0.3897	0.3643	0.3992	0.4174	0.3920	0.3860	0.4075	0.3655		0.39	5.1	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 68260
Case No: Initial Cal Date: 07/19/12
Matrix: water Instrument: Thor Initials:

		Compound	0.3	0.5	1	2	5	10	20	40	100		Avg	%RSD		
36	S	1,2-DCA-D4(S)	0.4628	0.4074	0.3542	0.3471	0.3446	0.3369	0.3408	0.3392	0.3393		0.36	12	S	
37	TM	Carbon Tetrachloride	0.3583	0.3585	0 3356	0.3521	0.3730	0.3393	0.3467	0.3628	0.3533		0.35	3.3	TM	
38	TM	Tert Amyl Methyl Ether	0.8104	0.7185	0.6881	0.6883	0.7716	0.7091	0.6860	0.6745	0.6278		0.71	7.6	TM	
39	TM	1,2-DCA	0.4427	0.3989	0.4073	0.4206	0.4411	0.4013	0.4023	0.3957	0 3873		0.41	4.8	TM	
40	TM	Benzene	1.330	1.229	1.037	1.104	1.170	1.075	1.059	1.066	1.029		1.1	9.1	TM	
41	TM	TCE	0.3220	0.3196	0.3000	0.3036	0.3233	0.2996	0.2973	0.2966	0.2829		0.30	4.5	TM	
42	TM	2-Pentanone	0.2622	0.2195	0.2350	0.2329	0.2443	0 2273	0.2432	0.2426	0.2555		0.24	5.6	TM	
43	TM*	1,2-Dichloropropane	0.3696	0.3784	0.3475	0.3772	0.4017	0.3593	0.3586	0.3516	0.3511		0.37	4.8	TM*	
44	TM	Bromodichloromethane	0.5464	0.5022	0.4808	0.4813	0.5587	0.4945	0.4955	0.4994	0.4996		0.51	5.4	TM	
45	TM	Methyl Cyclohexane	0.2160	0 2253	0.1988	0.2361	0.2203	0.2228	0.2114	0.2222	0.2069		0.22	5.1	TM	
46	TM	Dibromomethane	0.2224	0.1871	0.1941	0.1966	0.2119	0.1946	0.1959	0.1962	0.1934		0.20	5.5	TM	
47	TML	2-Chloroethyl vinyl ether			0.0023	0.0050	0.0079	0.0074	0.0077	0.0064	0.0063		0.01	32	TML	0.999
48	TM	MIBK (methyl isobutyl ketone	0.1836	0.1952	0.1595	0.1697	0.1709	0.1619	0.1669	0.1687	0.1789		0.17	6.5	TM	
49	TM	1-Bromo-2-chloroethane	0.2615	0.2802	0.2197	0.2499	0.2843	0.2418	0.2534	0.2519	0 2500		0.25	7.6	TM	
50	TM	Cis-1,3-Dichloropropene	0.5288	0.5220	0.4508	0.4775	0.5235	0.4876	0.4899	0.5108	0.5199		0.50	5.3	TM	
51	TM*	Toluene	1.349	1.351	1.277	1.293	1.418	1.314	1.307	1.310	1.296		1.3	3.2	TM*	
52	TM	Trans-1,3-Dichloropropene	0.5060	0.4246	0.3998	0.3819	0.4704	0.4238	0.4402	0.4550	0.4756		0.44	8.8	TM	
53	TM	1,1,2-TCA	0.3231	0.2925	0.2917	0.2877	0.3215	0.2847	0.2839	0.2826	0.2852		0.29	5.4	TM	
54	TM	2-Hexanone	0.2109	0.1986	0.1812	0.1996	0.1958	0.1884	0.1957	0.2026	0.2106		0.20	4.8	TM	
55	I	Chlorobenzene-D5 (IS)														
56	S	Toluene-D8(S)	1.945	1.553	1.390	1.493	1.349	1.331	1.429	1.411	1.401		1.5	13	S	
57	TM	1,2-EDB	0.4293	0.3708	0 3376	0.3631	0.4033	0.3618	0.3677	0.3665	0.3733		0.37	7.1	TM	
58	TM	Tetrachloroethene	0.5273	0.3800	0.4081	0.4402	0.4287	0.4130	0.4140	0.4108	0.3923		0.42	10	TM	
59	TM	1-Chlorohexane		0.4233	0.5404	0.5484	0.5087	0.4910	0.5018	0.5163	0.5060		0.50	7.5	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.5093	0.4750	0.4800	0.4853	0.5228	0.4867	0.5034	0.4895	0.5042		0.50	3.2	TM	
61	TM	m&p-Xylene	0.7775	0.7225	0.7109	0.7529	0.8468	0.7684	0.7958	0.7959	0.7812		0.77	5.3	TM	
62	TM	o-Xylene	0.8379	0.7723	0.6766	0.7783	0.8551	0.8049	0.8293	0.8221	0.8148		0.80	6.6	TM	
63	TM	Styrene	1.301	1.205	1.181	1.300	1.477	1.358	1.464	1.458	1.474		1.4	8.6	TM	
64	S	4-Bromofluorobenzene(S)	0.8941	0.6924	0.6735	0.7021	0.6390	0.6351	0.6830	0.6795	0.6919		0.70	11	S	
65	TM	1,3-Dichloropropane	0.6702	0.6903	0.6119	0.6806	0.6923	0.6397	0.6502	0.6458	0.6339		0.66	4.2	TM	
66	TM	Dibromochloromethane	0.5324	0.4622	0.4816	0.4777	0.5198	0.4771	0.5014	0.4950	0.5058		0.49	4.5	TM	
67	TM**	Chlorobenzene	1.394	1.309	1.286	1.325	1.349	1.240	1.255	1.250	1.223		1.3	4.4	TM**	
68	TM*	Ethylbenzene	2.124	2.073	1.840	2.023	2.142	1.972	2.058	2.044	2.014		2.0	4.4	TM*	
69	TM**	Bromoform	0.3594	0 3044	0.3153	0.3283	0.3636	0.3252	0.3395	0.3493	0.3641		0.34	6.4	TM**	
70	I	1,4-Dichlorobenzene-D (IS)														

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 68260
Case No: Initial Cal. Date: 07/19/12
Matrix: water Instrument: Thor Initials:

		Compound	0.3	0.5	1	2	5	10	20	40	100		Avg	%RSD		
71	TM	Isopropylbenzene	3.467	3.050	3.049	3.087	3.489	3.289	3.342	3.375	3.271		3.3	5.2	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.8851	0.9679	0.8759	0.9162	0.9988	0.8592	0.8910	0.8858	0.8834		0.91	5.1	TM**	
73	TM	1,2,3-Trichloropropane	0.3011	0.2573	0.2216	0.2692	0.2788	0.2452	0.2476	0.2483	0.2478		0.26	8.9	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1233	0.1619	0.1587	0.1593	0.1955	0.1733	0.1868	0.1920	0.1997		0.17	14	TM	
75	TM	Bromobenzene	1.091	1.144	1.005	1.075	1.155	1.068	1.071	1.055	1.035		1.1	4.4	TM	
76	TM	n-Propylbenzene	4.174	3.908	3.893	4.133	4.515	4.215	4.378	4.400	4.261		4.2	5.0	TM	
77	TM	4-Ethyltoluene	3.403	3.468	3.298	3.466	3.887	3.743	3.772	3.801	3.689		3.6	5.7	TM	
78	TM	2-Chlorotoluene	3.081	2.980	2.812	2.959	3.223	3.008	3.013	3.014	2.922		3.0	3.7	TM	
79	TM	1,3,5-Trimethylbenzene	2.835	2.688	2.726	2.902	3.286	3.099	3.174	3.182	3.072		3.0	7.2	TM	
80	TM	4-Chlorotoluene	2.900	2.859	2.765	2.855	3.310	3.011	3.062	3.033	2.941		3.0	5.4	TM	
81	TM	Tert-Butylbenzene	2.860	2.656	2.519	2.623	2.937	2.735	2.783	2.826	2.764		2.7	4.7	TM	
82	TM	1,2,4-Trimethylbenzene	3.036	2.836	2.905	2.957	3.327	3.187	3.242	3.250	3.161		3.1	5.6	TM	
83	TM	Sec-Butylbenzene	3.394	3.341	3.380	3.572	4.054	3.748	3.858	3.877	3.756		3.7	6.9	TM	
84	TM	p-Isopropyltoluene	2.818	2.824	2.797	3.020	3.405	3.187	3.271	3.320	3.225		3.1	7.6	TM	
85	TM	Benzyl Chloride	1.053	0.8317	0.9028	0.8503	0.9797	0.8739	0.8908	0.9346	1.011		0.93	8.1	TM	
86	TM	1,3-DCB	2.012	2.075	1.942	2.040	2.212	2.027	2.054	2.010	1.970		2.0	3.8	TM	
87	TM	1,4-DCB	2.332	2.267	2.134	2.043	2.254	2.079	2.072	2.042	1.986		2.1	5.7	TM	
88	TM	n-Butylbenzene	2.593	2.637	2.640	2.648	2.950	2.837	2.897	2.936	2.840		2.8	5.2	TM	
89	TM	1,2-DCB	2.109	2.010	1.946	1.881	2.124	1.970	1.946	1.916	1.874		2.0	4.6	TM	
90	TM	Hexachloroethane	0.6385	0.6103	0.5276	0.5154	0.5816	0.5288	0.5569	0.5673	0.5792		0.57	7.1	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.1427	0.1282	0.1718	0.1498	0.1896	0.1710	0.1873	0.1886	0.2003		0.17	14	TM	
92	TM	1,2,4-Trichlorobenzene	0.9309	0.8325	0.8167	0.8383	0.9761	0.9144	0.9363	0.9319	0.9714		0.91	6.7	TM	
93	TM	Hexachlorobutadiene	0.4199	0.3460	0.4009	0.3612	0.4008	0.3697	0.3737	0.3684	0.3634		0.38	6.3	TM	
94	TM	Naphthalene	2.301	2.300	2.079	2.264	2.715	2.596	2.749	2.843	2.906		2.5	12	TM	
95	TM	1,2,3-Trichlorobenzene	1.232	1.180	1.271	1.218	1.424	1.312	1.335	1.325	1.313		1.3	5.7	TM	
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/19/12
Instrument: Thor
Initial Cal. Date: 07/19/12
Data File: 0719T31.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.1266	0.1014	20	TM	
3	TML	Freon 114	0.1578	0.1581	0.22	TML	10
4	TM**L	Chloromethane	0.3709	0.3090	17	TM**L	2.0
5	TM*	Vinyl chloride	0.4941	0.4993	1.1	TM*	
6	TM	Bromomethane	0.3158	0.2956	6.4	TM	
7	TM	Chloroethane	0.2846	0.2799	1.6	TM	
8	TMQ	Dichlorofluoromethane	0.0241	0.0169	30	TMQ	9.1
9	TM	Trichlorofluoromethane	0.1021	0.1035	1.3	TM	
10	TMQ	Acrolein	0.0000	0.0065	0.00	TMQ	
11	TML	Acetone	0.1608	0.1059	34	TML	18
12	TM	Freon-113	0.2054	0.2048	0.31	TM	
13	TM*	1,1-DCE	0.2757	0.2657	3.6	TM*	
14	TM	t-Butanol	0.0081	0.0083	2.3	TM	
15	TML	Methyl Acetate	0.4032	0.2447	39	TML	1.8
16	TM	Iodomethane	0.2493	0.2358	5.4	TM	
17	TM	Acrylonitrile	0.0790	0.0808	2.3	TM	
18	TML	Methylene chloride	0.1556	0.0948	39	TML	5.5
19	TML	Carbon disulfide	0.0329	0.0300	8.9	TML	7.0
20	TM	Methyl t-butyl ether (MtBE)	0.5322	0.5046	5.2	TM	
21	TM	Trans-1,2-DCE	0.1902	0.1862	2.1	TM	
22	TM	Diisopropyl Ether	0.1192	0.1196	0.38	TM	
23	TM**	1,1-DCA	0.5045	0.5081	0.73	TM**	
24	TM	Vinyl Acetate	0.2849	0.2762	3.1	TM	
25	TM	Ethyl tert Butyl Ether	0.6654	0.6504	2.3	TM	
26	TML	MEK (2-Butanone)	0.1418	0.1260	11	TML	2.9
27	TM	Cis-1,2-DCE	0.3232	0.3228	0.12	TM	
28	TM	2,2-Dichloropropane	0.2032	0.1629	20	TM	
29	TM*	Chloroform	0.6265	0.6014	4.0	TM*	
30	TM	Bromochloromethane	0.1573	0.1601	1.8	TM	
31	S	Dibromofluoromethane(S)	0.3912	0.3840	1.8	S	
32	TM	1,1,1-TCA	0.3769	0.3627	3.8	TM	
33	TM	Cyclohexane	0.1023	0.1023	0.01	TM	
34	TM	1,1-Dichloropropene	0.2737	0.2734	0.13	TM	
35	TM	2,2,4-Trimethylpentane	0.3934	0.3395	14	TM	
36	S	1,2-DCA-D4(S)	0.3636	0.3559	2.1	S	
37	TM	Carbon Tetrachloride	0.3533	0.3549	0.46	TM	
38	TM	Tert Amyl Methyl Ether	0.7083	0.6971	1.6	TM	
39	TM	1,2-DCA	0.4108	0.4011	2.4	TM	
40	TM	Benzene	1.122	1.062	5.3	TM	
		Average			7.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/19/12
Instrument: Thor
Cal. Date: 07/19/12
Data File: 0719T31.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.3050	0.3245	6.4	TM	
42	TM	2-Pentanone	0.2403	0.2373	1.2	TM	
43	TM*	1,2-Dichloropropane	0.3661	0.3693	0.88	TM*	
44	TM	Bromodichloromethane	0.5065	0.4847	4.3	TM	
45	TM	Methyl Cyclohexane	0.2178	0.2085	4.3	TM	
46	TM	Dibromomethane	0.1991	0.1999	0.37	TM	
47	TML	2-Chloroethyl vinyl ether	0.0061	0.0063	2.4	TML	11
48	TM	MIBK (methyl isobutyl ketone)	0.1728	0.1759	1.8	TM	
49	TM	1-Bromo-2-chloroethane	0.2547	0.2495	2.1	TM	
50	TM	Cis-1,3-Dichloropropene	0.5012	0.4724	5.7	TM	
51	TM*	Toluene	1.324	1.341	1.3	TM*	
52	TM	Trans-1,3-Dichloropropene	0.4419	0.4104	7.1	TM	
53	TM	1,1,2-TCA	0.2948	0.2833	3.9	TM	
54	TM	2-Hexanone	0.1982	0.2000	0.95	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.478	1.447	2.1	S	
57	TM	1,2-EDB	0.3748	0.3669	2.1	TM	
58	TM	Tetrachloroethene	0.4238	0.4269	0.73	TM	
59	TM	1-Chlorohexane	0.5045	0.5027	0.36	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.4952	0.4849	2.1	TM	
61	TM	m&p-Xylene	0.7724	0.8080	4.6	TM	
62	TM	o-Xylene	0.7990	0.8295	3.8	TM	
63	TM	Styrene	1.358	1.406	3.5	TM	
64	S	4-Bromofluorobenzene(S)	0.6990	0.7156	2.4	S	
65	TM	1,3-Dichloropropane	0.6572	0.6637	0.99	TM	
66	TM	Dibromochloromethane	0.4948	0.4812	2.7	TM	
67	TM**	Chlorobenzene	1.292	1.269	1.8	TM**	
68	TM*	Ethylbenzene	2.032	2.056	1.2	TM*	
69	TM**	Bromoform	0.3388	0.3286	3.0	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	3.269	3.409	4.3	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.9070	0.8367	7.8	TM**	
73	TM	1,2,3-Trichloropropane	0.2574	0.2664	3.5	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1723	0.1823	5.8	TM	
75	TM	Bromobenzene	1.078	1.079	0.15	TM	
76	TM	n-Propylbenzene	4.209	4.445	5.6	TM	
77	TM	4-Ethyltoluene	3.614	3.749	3.7	TM	
78	TM	2-Chlorotoluene	3.001	3.080	2.6	TM	
79	TM	1,3,5-Trimethylbenzene	2.996	3.186	6.3	TM	
80	TM	4-Chlorotoluene	2.971	3.080	3.7	TM	
		Average			3.1		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/19/12
Instrument: Thor
Cal. Date: 07/19/12
Data File: 0719T31.D

		Compound	MEAN	CCRF	%D	%Drift		
81	TM	Tert-Butylbenzene	2.745	2.818	2.7	TM		
82	TM	1,2,4-Trimethylbenzene	3.100	3.213	3.6	TM		
83	TM	Sec-Butylbenzene	3.664	3.850	5.1	TM		
84	TM	p-Isopropyltoluene	3.096	3.241	4.7	TM		
85	TM	Benzyl Chloride	0.9252	0.6126	34	TM		*NT
86	TM	1,3-DCB	2.038	2.081	2.1	TM		
87	TM	1,4-DCB	2.134	2.096	1.8	TM		
88	TM	n-Butylbenzene	2.775	2.837	2.2	TM		
89	TM	1,2-DCB	1.975	1.941	1.7	TM		
90	TM	Hexachloroethane	0.5673	0.5516	2.8	TM		
91	TM	1,2-Dibromo-3-chloropropane	0.1699	0.1722	1.4	TM		
92	TM	1,2,4-Trichlorobenzene	0.9054	0.9040	0.15	TM		
93	TM	Hexachlorobutadiene	0.3782	0.3490	7.7	TM		
94	TM	Naphthalene	2.528	2.684	6.1	TM		
95	TM	1,2,3-Trichlorobenzene	1.290	1.318	2.2	TM		
96								
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			5.2			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/20/12
Instrument: Thor
Initial Cal. Date: 07/19/12
Data File: 0720T33.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.1266	0.1380	9.0	TM	
3	TML	Freon 114	0.1578	0.1785	13	TML	1.9
4	TM**L	Chloromethane	0.3709	0.2919	21	TM**L	7.6
5	TM*	Vinyl chloride	0.4941	0.5030	1.8	TM*	
6	TM	Bromomethane	0.3158	0.2898	8.2	TM	
7	TM	Chloroethane	0.2846	0.2729	4.1	TM	
8	TMQ	Dichlorofluoromethane	0.0241	0.0179	26	TMQ	4.8
9	TM	Trichlorofluoromethane	0.1021	0.1198	17	TM	
10	TMQ	Acrolein	0.0000	0.0065	0.00	TMQ	
11	TML	Acetone	0.1608	0.0934	42	TML	3.0
12	TM	Freon-113	0.2054	0.2236	8.8	TM	
13	TM*	1,1-DCE	0.2757	0.2744	0.45	TM*	
14	TM	t-Butanol	0.0081	0.0080	1.7	TM	
15	TML	Methyl Acetate	0.4032	0.2353	42	TML	2.7
16	TM	Iodomethane	0.2493	0.2470	0.94	TM	
17	TM	Acrylonitrile	0.0790	0.0859	8.8	TM	
18	TML	Methylene chloride	0.1556	0.0984	37	TML	1.6
19	TML	Carbon disulfide	0.0329	0.0266	19	TML	6.0
20	TM	Methyl t-butyl ether (MtBE)	0.5322	0.5150	3.2	TM	
21	TM	Trans-1,2-DCE	0.1902	0.1768	7.1	TM	
22	TM	Diisopropyl Ether	0.1192	0.1254	5.2	TM	
23	TM**	1,1-DCA	0.5045	0.5101	1.1	TM**	
24	TM	Vinyl Acetate	0.2849	0.2837	0.43	TM	
25	TM	Ethyl tert Butyl Ether	0.6654	0.6586	1.0	TM	
26	TML	MEK (2-Butanone)	0.1418	0.1197	16	TML	2.1
27	TM	Cis-1,2-DCE	0.3232	0.3220	0.36	TM	
28	TM	2,2-Dichloropropane	0.2032	0.1823	10	TM	
29	TM*	Chloroform	0.6265	0.6170	1.5	TM*	
30	TM	Bromochloromethane	0.1573	0.1591	1.1	TM	
31	S	Dibromofluoromethane(S)	0.3912	0.3839	1.9	S	
32	TM	1,1,1-TCA	0.3769	0.3671	2.6	TM	
33	TM	Cyclohexane	0.1023	0.1047	2.3	TM	
34	TM	1,1-Dichloropropene	0.2737	0.2784	1.7	TM	
35	TM	2,2,4-Trimethylpentane	0.3934	0.3805	3.3	TM	
36	S	1,2-DCA-D4(S)	0.3636	0.3640	0.11	S	
37	TM	Carbon Tetrachloride	0.3533	0.3402	3.7	TM	
38	TM	Tert Amyl Methyl Ether	0.7083	0.7049	0.47	TM	
39	TM	1,2-DCA	0.4108	0.3998	2.7	TM	
40	TM	Benzene	1.122	1.070	4.6	TM	
		Average			8.5		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/20/12
Instrument: Thor
Cal. Date: 07/19/12
Data File: 0720T33.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.3050	0.3246	6.4	TM	
42	TM	2-Pentanone	0.2403	0.2397	0.24	TM	
43	TM*	1,2-Dichloropropane	0.3661	0.3621	1.1	TM*	
44	TM	Bromodichloromethane	0.5065	0.4758	6.1	TM	
45	TM	Methyl Cyclohexane	0.2178	0.2236	2.7	TM	
46	TM	Dibromomethane	0.1991	0.1898	4.7	TM	
47	TML	2-Chloroethyl vinyl ether	0.0061	0.0061	0.02	TML	14
48	TM	MIBK (methyl isobutyl ketone)	0.1728	0.1727	0.08	TM	
49	TM	1-Bromo-2-chloroethane	0.2547	0.2466	3.2	TM	
50	TM	Cis-1,3-Dichloropropene	0.5012	0.4721	5.8	TM	
51	TM*	Toluene	1.324	1.325	0.05	TM*	
52	TM	Trans-1,3-Dichloropropene	0.4419	0.4154	6.0	TM	
53	TM	1,1,2-TCA	0.2948	0.2895	1.8	TM	
54	TM	2-Hexanone	0.1982	0.2058	3.9	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.478	1.454	1.6	S	
57	TM	1,2-EDB	0.3748	0.3696	1.4	TM	
58	TM	Tetrachloroethene	0.4238	0.4329	2.1	TM	
59	TM	1-Chlorohexane	0.5045	0.5117	1.4	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.4952	0.4806	2.9	TM	
61	TM	m&p-Xylene	0.7724	0.8011	3.7	TM	
62	TM	o-Xylene	0.7990	0.8289	3.7	TM	
63	TM	Styrene	1.358	1.410	3.8	TM	
64	S	4-Bromofluorobenzene(S)	0.6990	0.7080	1.3	S	
65	TM	1,3-Dichloropropane	0.6572	0.6533	0.59	TM	
66	TM	Dibromochloromethane	0.4948	0.4614	6.7	TM	
67	TM**	Chlorobenzene	1.292	1.276	1.3	TM**	
68	TM*	Ethylbenzene	2.032	2.034	0.09	TM*	
69	TM**	Bromoform	0.3388	0.3230	4.7	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	3.269	3.426	4.8	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.9070	0.8423	7.1	TM**	
73	TM	1,2,3-Trichloropropane	0.2574	0.2601	1.0	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1723	0.1807	4.9	TM	
75	TM	Bromobenzene	1.078	1.084	0.60	TM	
76	TM	n-Propylbenzene	4.209	4.449	5.7	TM	
77	TM	4-Ethyltoluene	3.614	3.823	5.8	TM	
78	TM	2-Chlorotoluene	3.001	3.071	2.3	TM	
79	TM	1,3,5-Trimethylbenzene	2.996	3.175	6.0	TM	
80	TM	4-Chlorotoluene	2.971	3.108	4.6	TM	
		Average			3.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/20/12
Instrument: Thor
Cal. Date: 07/19/12
Data File: 0720T33.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Tert-Butylbenzene	2.745	2.865	4.4	TM	
82	TM	1,2,4-Trimethylbenzene	3.100	3.249	4.8	TM	
83	TM	Sec-Butylbenzene	3.664	3.903	6.5	TM	
84	TM	p-Isopropyltoluene	3.096	3.314	7.0	TM	
85	TM	Benzyl Chloride	0.9252	0.6793	27	TM	* N.T 8/7/12
86	TM	1,3-DCB	2.038	2.063	1.2	TM	
87	TM	1,4-DCB	2.134	2.115	0.88	TM	
88	TM	n-Butylbenzene	2.775	2.893	4.2	TM	
89	TM	1,2-DCB	1.975	1.989	0.71	TM	
90	TM	Hexachloroethane	0.5673	0.5092	10	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.1699	0.1731	1.9	TM	
92	TM	1,2,4-Trichlorobenzene	0.9054	0.9506	5.0	TM	
93	TM	Hexachlorobutadiene	0.3782	0.3765	0.45	TM	
94	TM	Naphthalene	2.528	2.635	4.2	TM	
95	TM	1,2,3-Trichlorobenzene	1.290	1.334	3.4	TM	
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119							
120							
		Average			5.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/27/12
Instrument: Thor
Initial Cal. Date: 07/25/12
Data File: 0727T04.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.1266	0.1136	10	TM	
3	TML	Freon 114	0.1578	0.1719	9.0	TML	2.0
4	TM**L	Chloromethane	0.3709	0.2771	25	TM**L	13
5	TM*	Vinyl chloride	0.4941	0.4667	5.5	TM*	
6	TM	Bromomethane	0.3158	0.2905	8.0	TM	
7	TM	Chloroethane	0.2846	0.2635	7.4	TM	
8	TMQ	Dichlorofluoromethane	0.0241	0.0171	29	TMQ	8.1
9	TM	Trichlorofluoromethane	0.1021	0.1175	15	TM	
10	TMQ	Acrolein	0.0000	0.0053	0.00	TMQ	
11	TML	Acetone	0.1608	0.0965	40	TML	6.9
12	TM	Freon-113	0.2054	0.2212	7.7	TM	
13	TM*	1,1-DCE	0.2757	0.2728	1.0	TM*	
14	TM	t-Butanol	0.0081	0.0081	0.24	TM	
15	TML	Methyl Acetate	0.4032	0.2332	42	TML	3.7
16	TM	Iodomethane	0.2493	0.2425	2.7	TM	
17	TM	Acrylonitrile	0.0790	0.0806	2.1	TM	
18	TML	Methylene chloride	0.1556	0.1008	35	TML	1.1
19	TML	Carbon disulfide	0.0329	0.0262	20	TML	7.6
20	TM	Methyl t-butyl ether (MtBE)	0.5322	0.4996	6.1	TM	
21	TM	Trans-1,2-DCE	0.1902	0.1697	11	TM	
22	TM	Diisopropyl Ether	0.1192	0.1207	1.2	TM	
23	TM**	1,1-DCA	0.5045	0.5110	1.3	TM**	
24	TM	Vinyl Acetate	0.2849	0.2755	3.3	TM	
25	TM	Ethyl tert Butyl Ether	0.6654	0.6551	1.5	TM	
26	TML	MEK (2-Butanone)	0.1418	0.1238	13	TML	1.1
27	TM	Cis-1,2-DCE	0.3232	0.3257	0.79	TM	
28	TM	2,2-Dichloropropane	0.2032	0.2305	13	TM	
29	TM*	Chloroform	0.6265	0.6272	0.11	TM*	
30	TM	Bromochloromethane	0.1573	0.1573	0.03	TM	
31	S	Dibromofluoromethane(S)	0.3912	0.3877	0.90	S	
32	TM	1,1,1-TCA	0.3769	0.3753	0.44	TM	
33	TM	Cyclohexane	0.1023	0.0963	5.9	TM	
34	TM	1,1-Dichloropropene	0.2737	0.2654	3.1	TM	
35	TM	2,2,4-Trimethylpentane	0.3934	0.3987	1.3	TM	
36	S	1,2-DCA-D4(S)	0.3636	0.3651	0.43	S	
37	TM	Carbon Tetrachloride	0.3533	0.3624	2.6	TM	
38	TM	Tert Amyl Methyl Ether	0.7083	0.6837	3.5	TM	
39	TM	1,2-DCA	0.4108	0.3790	7.7	TM	
40	TM	Benzene	1.122	1.062	5.3	TM	
		Average			8.8		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/27/12
Instrument: Thor
Cal. Date: 07/25/12
Data File: 0727T04.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.3050	0.2946	3.4	TM	
42	TM	2-Pentanone	0.2403	0.2271	5.5	TM	
43	TM*	1,2-Dichloropropane	0.3661	0.3572	2.4	TM*	
44	TM	Bromodichloromethane	0.5065	0.5040	0.49	TM	
45	TM	Methyl Cyclohexane	0.2178	0.2095	3.8	TM	
46	TM	Dibromomethane	0.1991	0.1965	1.3	TM	
47	TML	2-Chloroethyl vinyl ether	0.0061	0.0066	7.9	TML	6.0
48	TM	MIBK (methyl isobutyl ketone)	0.1728	0.1609	6.9	TM	
49	TM	1-Bromo-2-chloroethane	0.2547	0.2513	1.3	TM	
50	TM	Cis-1,3-Dichloropropene	0.5012	0.4959	1.1	TM	
51	TM*	Toluene	1.324	1.313	0.80	TM*	
52	TM	Trans-1,3-Dichloropropene	0.4419	0.4398	0.48	TM	
53	TM	1,1,2-TCA	0.2948	0.2751	6.7	TM	
54	TM	2-Hexanone	0.1982	0.1857	6.3	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.478	1.496	1.2	S	
57	TM	1,2-EDB	0.3748	0.3820	1.9	TM	
58	TM	Tetrachloroethene	0.4238	0.4501	6.2	TM	
59	TM	1-Chlorohexane	0.5045	0.5330	5.6	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.4952	0.5202	5.1	TM	
61	TM	m&p-Xylene	0.7724	0.8263	7.0	TM	
62	TM	o-Xylene	0.7990	0.8455	5.8	TM	
63	TM	Styrene	1.358	1.444	6.4	TM	
64	S	4-Bromofluorobenzene(S)	0.6990	0.7358	5.3	S	
65	TM	1,3-Dichloropropane	0.6572	0.6620	0.73	TM	
66	TM	Dibromochloromethane	0.4948	0.5147	4.0	TM	
67	TM**	Chlorobenzene	1.292	1.323	2.3	TM**	
68	TM*	Ethylbenzene	2.032	2.101	3.4	TM*	
69	TM**	Bromoform	0.3388	0.3639	7.4	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	3.269	3.389	3.7	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.9070	0.8892	2.0	TM**	
73	TM	1,2,3-Trichloropropane	0.2574	0.2426	5.8	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1723	0.1881	9.2	TM	
75	TM	Bromobenzene	1.078	1.064	1.3	TM	
76	TM	n-Propylbenzene	4.209	4.447	5.7	TM	
77	TM	4-Ethyltoluene	3.614	3.824	5.8	TM	
78	TM	2-Chlorotoluene	3.001	3.038	1.2	TM	
79	TM	1,3,5-Trimethylbenzene	2.996	3.192	6.5	TM	
80	TM	4-Chlorotoluene	2.971	3.048	2.6	TM	
		Average			4.1		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/27/12
Instrument: Thor
Cal. Date: 07/25/12
Data File: 0727T04.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	2.745	2.820	2.7	TM	
82	TM	1,2,4-Trimethylbenzene	3.100	3.192	3.0	TM	
83	TM	Sec-Butylbenzene	3.664	3.915	6.8	TM	
84	TM	p-Isopropyltoluene	3.096	3.272	5.7	TM	
85	TM	Benzyl Chloride	0.9252	1.026	11	TM	
86	TM	1,3-DCB	2.038	2.108	3.4	TM	
87	TM	1,4-DCB	2.134	2.116	0.85	TM	
88	TM	n-Butylbenzene	2.775	2.893	4.2	TM	
89	TM	1,2-DCB	1.975	1.947	1.4	TM	
90	TM	Hexachloroethane	0.5673	0.5813	2.5	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.1699	0.1673	1.6	TM	
92	TM	1,2,4-Trichlorobenzene	0.9054	0.8982	0.79	TM	
93	TM	Hexachlorobutadiene	0.3782	0.4061	7.4	TM	
94	TM	Naphthalene	2.528	2.454	2.9	TM	
95	TM	1,2,3-Trichlorobenzene	1.290	1.289	0.10	TM	
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120							
		Average			3.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 68260
Case No: Initial Cal. Date: 07/23/12
Matrix: water Instrument: Neo Initials:

		Compound	0723N04W.D 0.3	0723N05W.D 0 5	0723N06W.D 1	0723N07W.D 5	0723N08W D 10	0723N09W.D 20	0723N10W D 40	0723N11W.D 100	0723N12W D 200		Avg	%RSD		
1	I	Fluorobenzene (IS)														
2	TML	Dichlorodifluoromethane	0.7158	0.8226	0.8802	1.193	1.463	1.636	1.532	1.529	1.554		1.3	29	TML	1.000
3	TM**	Chloromethane		0.3777	0.2820	0.4587	0.3675	0.4303	0.3879	0.4295	0.3827		0.39	14	TM**	
4	TM*	Vinyl chloride	1.440	1.336	1.187	1.862	1.845	1.910	1.643	1.640	1.603		1.6	15	TM*	
5	TM	1,3-Butadiene													TM	
6	TML	Bromomethane	0.4668	0.2856	0.1119	0.4787	0.4483	0.6541	0.6792	0.8424	0.8488		0.54	46	TML	0.998
7	TM	Chloroethane	0.7402	0.9328	0.8027	0.9885	0.8879	0.9021	0.8207	0.8427	0.7966		0.86	9.0	TM	
8	TM	Dichlorofluoromethane	0.5725	0.4744	0.4094	0.5275	0.4349	0.4741	0.4051	0.4442	0.4040		0.46	13	TM	
9	TM	Trichlorofluoromethane	0.2055	0.2090	0.2202	0.1991	0.2042	0.2340	0.2068	0.2096	0.1912		0.21	5.9	TM	
10	TM	Acrolein	0.0020	0.0025	0.0014	0.0009	0.0007	0.0008	0.0011	0.0012	0.0011		0.00	47	TM	
11	TML	Acetone	0.4850	0.2037	0.3399	0.1820	0.1929	0 1865	0.1674	0.1712	0.1449		0.23	48	TML	0.990
12	TM	Freon-113		0.4968	0.5183	0.5190	0.5966	0.6501	0.5843	0.6088	0.6101		0.57	9.6	TM	
13	TM*	1,1-DCE	0.8708	0.6772	0.5445	0.8482	0.8648	0.8811	0.7687	0.8121	0.7864		0.78	14	TM*	
14	TM	t-Butanol		0.0081	0.0093	0.0071	0.0069	0.0077	0.0073	0.0061			0.01	13	TM	
15	TML	Methyl Acetate	0.6955	1.276	1.045	0.5189	0.4519	0.4778	0.4275	0.4315	0.4200		0.64	49	TML	1.000
16	TML	Iodomethane	0.0421	0.0335	0.0439	0.1472	0.2487	0.2560	0.2566	0.2947	0.2962		0.18	63	TML	0.999
17	TML	Acrylonitrile	0.2334	0.1064	0.0674	0.1787	0.1635	0.1826	0.1525	0.1571	0.1546		0.16	30	TML	1.000
18	TM	Methylene chloride	0.6008	0.7531	0.7699	0.6956	0.6310	0.6725	0.5567	0.5966	0.5738		0.65	12	TM	
19	TML	Carbon disulfide	0.0272	0.0697	0.1064	0.2116	0.1949	0.1990	0.1808	0.1914	0.1876		0.15	44	TML	1.000
20	TM	Methyl t-butyl ether (MtBE)	1.763	1.462	1.488	1.884	1.687	1.716	1.577	1.558	1.462		1.6	9.2	TM	
21	TM	Hexane		0.8885	1.032	1.091	1.330	1.339	1.221	1.259	1.235		1.2	13	TM	
22	TM	Trans-1,2-DCE	0.6106	0.4386	0.4444	0.4836	0.4619	0.4531	0 4168	0.4332	0.4222		0.46	13	TM	
23	TM	Diisopropyl Ether	0.9855	1.008	0.8422	0.9630	0.8786	0.9291	0.8742	0.8978	0.8687		0.92	6.3	TM	
24	TM**	1,1-DCA	0.5416	0.3920	0.4571	0.4960	0.4722	0.4473	0.3990	0.3975	0.3235		0.44	15	TM**	
25	TM	Vinyl Acetate	0.6763	0.7695	0.6155	0.8371	0.7114	0.8094	0.7540	0.7590	0.7201		0.74	9.1	TM	
26	TM	Ethyl tert Butyl Ether		0 5616	0.5845	0.7300	0.6773	0.7442	0.5815	0.6140	0.5891		0.64	11	TM	
27	TM	MEK (2-Butanone)		0.1927	0.1411	0.1578	0.1446	0.1384	0.1265	0.1383			0.15	15	TM	
28	TM	Cis-1,2-DCE	0.8981	0.8320	0.6688	0.8234	0.8092	0.8160	0.7237	0.7854	0 7406		0.79	8.6	TM	
29	TM	2,2-Dichloropropane	0.3714	0.4412	0.2702	0.3855	0.3556	0.3752	0.3159	0.3735	0.3385		0.36	13	TM	
30	TM*	Chloroform	1.526	1.690	1.570	1.984	1.876	1.899	1.684	1.819	1.652		1.7	9.0	TM*	
31	TML	Bromochloromethane	0.0283	0.3011	0.1696	0.2853	0.2564	0.2639	0.2252	0.2428	0.2316		0.22	37	TML	0.999
32	S	Dibromofluoromethane(S)	0.8449	0.8367	0.8798	0.9880	1.004	1.028	0.9387				0.93	8.4	S	
33	TM	2,2,4-Trimethylpentane	0.3837	0.3777	0.3282	0.3178	0.3933	0.3874	0.3335	0.3593	0.3854		0.36	8.0	TM	
34	TM	1,1,1-TCA	1.195	1.200	1.110	1.352	1.295	1.364	1.220	1.264	1.159		1.2	6.9	TM	
35	TM	Cyclohexane		0.1980	0.1168	0.1403	0.1744	0.1627	0.1460	0.1622	0.1499		0.16	15	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 68260
Case No: Initial Cal. Date: 07/23/12
Matrix: water Instrument: Neo Initials:

		Compound	0.3	0.5	1	5	10	20	40	100	200		Avg	%RSD		
36	TM	1,1-Dichloropropene		0 6765	0.7196	0.9159	0.8567	0.8680	0.7845	0.7992	0.7660		0.80	10.0	TM	
37	S	1,2-DCA-D4(S)	0.9828	0.8847	0.8931	0.9677	0.9545	1.004					0.95	5.1	S	
38	TM	Carbon Tetrachloride		0.1959	0.2104	0.2526	0.2779	0.2969	0.2497	0.2607	0.2506		0.25	13	TM	
39	TM	Heptane													TM	
40	TM	Tert Amyl Methyl Ether	1.985	1.697	1.726	2.161	1 976	1.930	1.824	1 783	1 671		1.9	8.7	TM	
41	TM	1,2-DCA	0.3888	0.3491	0.3807	0 3901	0.3508	0.3902	0.3561	0.3287	0.3353		0.36	6.7	TM	
42	TM	Benzene	3.332	2.945	2 515	2.940	2.815	2.702	2.447	2.488	2.461		2.7	11	TM	
43	TM	TCE	0.8400	0.5681	0.7560	0.8707	0.7581	0.7930	0.6916	0.7295	0.6729		0.74	12	TM	
44	TM	2-Pentanone	0.1367	0.1202	0.1882	0.1429	0.1326	0.1479	0.1323	0.1360	0.1246		0.14	14	TM	
45	TM*	1,2-Dichloropropane	0.3630	0.2437	0.2498	0.3291	0.3268	0.3083	0.2690	0.2763	0.2666		0.29	14	TM*	
46	TM	Bromodichloromethane	1.195	1.319	1.275	1.531	1.420	1.470	1.364	1.402	1.258		1.4	7.9	TM	
47	TM	Dibromomethane	0.1074	0.1151	0.1636	0.1257	0.1399	0.1392	0.1290	0.1246	0.1127		0.13	13	TM	
48	TM	Methyl Cyclohexane		0.1677	0.1307	0.1563	0.1668	0.1541	0.1336	0.1409	0.1327		0.15	10	TM	
49	TM	2-Chloroethyl vinyl ether	0.1082	0.1084	0.0788	0.1005	0.0855	0.1010	0.0962	0.0914	0.0881		0.10	11	TM	
50	TM	1-Bromo-2-chloroethane	0.9119	0.7845	0.9206	0.9945	0.9386	1.009	0.8585	0.8610	0.8070		0.90	8.6	TM	
51	TM	Cis-1,3-Dichloropropene	1.113	1.284	1.127	1.558	1.431	1.445	1.314	1.311	1.246		1.3	11	TM	
52	TM*	Toluene	1.261	0.7125	1.099	1.059	1.029	0.9880	0.8828	0.9619	0.9285		0.99	15	TM*	
53	TM	Trans-1,3-Dichloropropene	0.3978	0.4324	0.3856	0.4913	0.3689	0.4396	0.3952	0.4025	0.3705		0.41	9.6	TM	
54	TM	1,1,2-TCA	0.5060	0.3999	0.4920	0.6074	0.5277	0.5457	0.4927	0.5089	0.4606		0.50	11	TM	
55	I	Chlorobenzene-D5 (IS)														
56	S	Toluene-D8(S)	3.363	3.238	3.420	3.510	3.185	3.312	3.410				3.3	3.3	S	
57	TM	1,2-EDB	0.8464	0.8357	0.6691	0.8980	0.6885	0.7345	0.6960	0.6840	0.7336		0.75	11	TM	
58	TM	Tetrachloroethene		0.2213	0.1612	0.2371	0.2026	0.2104	0.1697	0.1793	0.2127		0.20	13	TM	
59	TM	1-Chlorohexane		0.5977	0.5026	0.5956	0.5346	0.5080	0.4914	0.5056	0.6125		0.54	9.2	TM	
60	TM	1,1,1,2-Tetrachloroethane	1.327	1.072	0 9327	1.225	1.031	1.024	1.056	1.026	1.130		1.1	11	TM	
61	TML	m&p-Xylene	1.831	1.552	1.533	2.057	1.747	3.512	1.669	1.775	2.040		2.0	31	TML	0.994
62	TM	o-Xylene	1.456	1.616	1.693	1.972	1.868	1.852	1.674	1.818	2.034		1.8	10	TM	
63	TM	Styrene	3.311	2.759	2.892	3.444	3.149	3.057	2.896	3.083	3.441		3.1	7.9	TM	
64	S	4-Bromofluorobenzene(S)	1.765	1.399	1.520	1.626	1.562	1.502	1.536				1.6	7.3	S	
65	TM	2-Hexanone		0.1518	0.2395	0.1756	0.1571	0.1804	0.1943	0.1722	0.1733		0.18	15	TM	
66	TM	1,3-Dichloropropane	0.6395	0.5373	0.4702	0.5437	0.5012	0.4556	0.4168	0.3973	0.4957		0.50	15	TM	
67	TM	Dibromochloromethane	1.320	0.9419	0.9752	1.282	1.036	1.037	1.037	1.039	1.116		1.1	12	TM	
68	TM**	Chlorobenzene	2.807	2.740	2.313	2.914	2.596	2.690	2.485	2.515	2.933		2.7	7.8	TM**	
69	TM*	Ethylbenzene		2.394	1.702	2.168	1.595	1.702	1.721	1.868	2.119		1.9	15	TM*	
70	TM**	Bromoform	0.5727	0.5275	0.4654	0.6348	0.5569	0.5208	0.5345	0.5522	0.6031		0.55	8.9	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 68260
Case No: Initial Cal. Date: 07/23/12
Matrix: water Instrument: Neo
Initials:

		Compound	0.3	0.5	1	5	10	20	40	100	200		Avg	%RSD		
71	I	1,4-Dichlorobenzene-D (IS)														
72	TM	MIBK (methyl isobutyl ketone)		0.4943	0.6398	0.5521	0.4618	0.5961	0.5750	0.4957	0.4451		0.53	13	TM	
73	TM	Isopropylbenzene	4.432	4.254	2.996	4.330	3.198	3.768	3.405	3.410	3.274		3.7	15	TM	
74	TM**L	1,1,2,2-Tetrachloroethane	0.7951	0.8975	0.5611	0.8638	0.6694	0.7375	0.7094	0.6457	0.5830		0.72	16	TM**L	0.997
75	TML	1,2,3-Trichloropropane	0.3861	0.2989	0.2649	0.1782	0.1620	0.1651	0.1623	0.1487	0.1379		0.21	40	TML	0.998
76	TM	t-1,4-Dichloro-2-Butene		0.2771	0.2641	0.2702	0.2085	0.2294	0.2566	0.2111	0.2133		0.24	12	TM	
77	TML	Bromobenzene	1.019	1.143	0.8183	1.021	0.7073	0.8184	0.7761	0.7939	0.7645		0.87	17	TML	1.000
78	TM	n-Propylbenzene	5.798	5.444	5.055	5.802	5.098	5.551	4.898	5.304	5.463		5.4	5.9	TM	
79	TM	4-Ethyltoluene	11.8	9.797	10.9	13.5	10.7	12 0	11.4	11.3	11.1		11	9.0	TM	
80	TM	2-Chlorotoluene	3.966	2.780	3.197	3.441	2.967	3.078	3.136	2.961	3.007		3.2	11	TM	
81	TM	1,3,5-Trimethylbenzene	4.105	2.925	2.960	3.556	3.015	3.178	3.265	2.955	3.270		3.2	12	TM	
82	TM	4-Chlorotoluene	10.2	8.362	7.936	10.3	8.131	8.773	8.322	8.681	7.888		8.7	10	TM	
83	TM	Tert-Butylbenzene	8.846	7.818	7.835	9.736	7.213	8.803	7.950	8.341	7.401		8.2	9.7	TM	
84	TM	1,2,4-Trimethylbenzene	10.7	8.905	8.876	10.6	8.332	9.793	8.328	9.354	8.953		9.3	9.5	TM	
85	TM	Sec-Butylbenzene	13.4	11.5	11.2	13.1	11.0	12.7	11.0	12.1	11.1		12	8.0	TM	
86	TM	p-Isopropyltoluene	9.650	8.536	8.273	9.534	8.329	9.146	8.090	8.373	8.366		8.7	6.7	TM	
87	TM	Benzyl Chloride		3.404	2.949	3.228	2.624	3.043	2.828	2.616	2.321		2.9	12	TM	
88	TM	1,3-DCB	3.939	3.826	3.995	4.992	4.228	4.620	4.296	4.321	4.284		4.3	8.4	TM	
89	TM	1,4-DCB	4.564	4.745	4.047	5.052	4.202	4.586	4.081	4.267	4.007		4.4	8.2	TM	
90	TM	n-Butylbenzene	4.387	4.430	4.076	4.471	4.029	4.347	3.901	4.233	3.577		4.2	7.1	TM	
91	TM	1,2-DCB	4.216	3.834	3.544	4.464	3.612	4.008	3.879	3.666	3.554		3.9	8.2	TM	
92	TM	Hexachloroethane	3.036	2.366	2.445	2.670	2.412	2.659	2.464	2.497	2.428		2.6	8.2	TM	
93	TML	1,2-Dibromo-3-chloropropane	0.1287	0.9814	0.3849	0.3565	0.2653	0.3371	0.3026	0.2629	0.2523		0.36	67	TML	0.998
94	TM	1,2,4-Trichlorobenzene	3.629	2.852	2.312	3.283	2.592	2.710	2.754	2.599	2.351		2.8	15	TM	
95	TML	Hexachlorobutadiene	0.2358	0.5498	0.0699	0.4496	0.3240	0.4024	0.3746	0.3761	0.3642		0.35	39	TML	1.000
96	TM	Naphthalene		3.584	3.810	5.117	3.981	4.743	4.285	4.210	3.937		4.2	12	TM	
97	TML	1,2,3-Trichlorobenzene	0.1792	0.1400	0.1166	0.9739	0.7798	0.8247	0.8967	0.7745	0.7221		0.60	58	TML	0.997
98	TM	Dibromochlorobenzene													TM	
99																
100																
101																
102																
103																
104																
105																

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/25/12
Instrument: Neo
Initial Cal. Date: 07/23/12
Data File: 0724N27W.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TML	Dichlorodifluoromethane	1.259	1.386	10	TML	6.9	
3	TM**	Chloromethane	0.3895	0.3821	1.9	TM**		
4	TM*	Vinyl chloride	1.607	1.683	4.7	TM*		
5	TM	1,3-Butadiene	0.0000	0.0000	0.00	TM		
6	TML	Bromomethane	0.5351	0.5257	1.7	TML	11	
7	TM	Chloroethane	0.8571	0.8374	2.3	TM		
8	TM	Dichlorofluoromethane	0.4607	0.3935	15	TM		
9	TM	Trichlorofluoromethane	0.2088	0.2036	2.5	TM		
10	TM	Acrolein	0.0013	0.0002	84	TM		*nt
11	TML	Acetone	0.2304	0.1799	22	TML	8.5	
12	TM	Freon-113	0.5730	0.6102	6.5	TM		
13	TM*	1,1-DCE	0.7838	0.7836	0.02	TM*		
14	TM	t-Butanol	0.0075	0.0069	7.3	TM		
15	TML	Methyl Acetate	0.6382	0.4569	28	TML	4.0	
16	TML	Iodomethane	0.1799	0.1694	5.8	TML	25	nt
17	TML	Acrylonitrile	0.1551	0.1532	1.3	TML	7.1	
18	TM	Methylene chloride	0.6500	0.5734	12	TM		
19	TML	Carbon disulfide	0.1521	0.1766	16	TML	7.0	
20	TM	Methyl t-butyl ether (MtBE)	1.622	1.409	13	TM		
21	TM	Hexane	1.174	1.134	3.4	TM		
22	TM	Trans-1,2-DCE	0.4627	0.4169	9.9	TM		
23	TM	Diisopropyl Ether	0.9163	0.8822	3.7	TM		
24	TM**	1,1-DCA	0.4363	0.4580	5.0	TM**		
25	TM	Vinyl Acetate	0.7392	0.6783	8.2	TM		
26	TM	Ethyl tert Butyl Ether	0.6353	0.5797	8.8	TM		
27	TM	MEK (2-Butanone)	0.1485	0.1298	13	TM		
28	TM	Cis-1,2-DCE	0.7886	0.7753	1.7	TM		
29	TM	2,2-Dichloropropane	0.3585	0.2995	16	TM		
30	TM*	Chloroform	1.745	1.748	0.18	TM*		
31	TML	Bromochloromethane	0.2227	0.2559	15	TML	2.6	
32	S	Dibromofluoromethane(S)	0.9314	0.9662	3.7	S		
33	TM	2,2,4-Trimethylpentane	0.3629	0.3365	7.3	TM		
34	TM	1,1,1-TCA	1.240	1.213	2.1	TM		
35	TM	Cyclohexane	0.1563	0.1689	8.1	TM		
36	TM	1,1-Dichloropropene	0.7983	0.7799	2.3	TM		
37	S	1,2-DCA-D4(S)	0.9479	1.004	5.9	S		
38	TM	Carbon Tetrachloride	0.2493	0.2275	8.7	TM		
39	TM	Heptane	0.0000	0.0000	0.00	TM		
40	TM	Tert Amyl Methyl Ether	1.861	1.771	4.9	TM		
		Average			9.3			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 08260
Date Analyzed: 07/25/12
Instrument: Neo
Cal. Date: 07/23/12
Data File: 0724N27W.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.3633	0.3330	8.3	TM	
42	TM	Benzene	2.738	2.667	2.6	TM	
43	TM	TCE	0.7422	0.7566	1.9	TM	
44	TM	2-Pentanone	0.1402	0.1373	2.0	TM	
45	TM*	1,2-Dichloropropane	0.2925	0.3092	5.7	TM*	
46	TM	Bromodichloromethane	1.359	1.275	6.2	TM	
47	TM	Dibromomethane	0.1286	0.1238	3.7	TM	
48	TM	Methyl Cyclohexane	0.1479	0.1523	3.0	TM	
49	TM	2-Chloroethyl vinyl ether	0.0953	0.0853	11	TM	
50	TM	1-Bromo-2-chloroethane	0.8983	0.8442	6.0	TM	
51	TM	Cis-1,3-Dichloropropene	1.314	1.248	5.0	TM	
52	TM*	Toluene	0.9914	0.9540	3.8	TM*	
53	TM	Trans-1,3-Dichloropropene	0.4093	0.3737	8.7	TM	
54	TM	1,1,2-TCA	0.5045	0.5097	1.0	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	3.348	3.133	6.4	S	
57	TM	1,2-EDB	0.7540	0.6729	11	TM	
58	TM	Tetrachloroethene	0.1993	0.2250	13	TM	
59	TM	1-Chlorohexane	0.5435	0.5804	6.8	TM	
60	TM	1,1,1,2-Tetrachloroethane	1.092	1.000	8.4	TM	
61	TML	m&p-Xylene	1.968	1.664	15	TML	9.9
62	TM	o-Xylene	1.776	1.728	2.7	TM	
63	TM	Styrene	3.115	2.934	5.8	TM	
64	S	4-Bromofluorobenzene(S)	1.558	1.386	11	S	
65	TM	2-Hexanone	0.1805	0.1877	4.0	TM	
66	TM	1,3-Dichloropropane	0.4953	0.4513	8.9	TM	
67	TM	Dibromochloromethane	1.087	1.032	5.1	TM	
68	TM**	Chlorobenzene	2.666	2.558	4.0	TM**	
69	TM*	Ethylbenzene	1.909	1.674	12	TM*	
70	TM**	Bromoform	0.5520	0.4960	10	TM**	
71	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
72	TM	MIBK (methyl isobutyl ketone)	0.5325	0.5871	10	TM	
73	TM	Isopropylbenzene	3.674	3.755	2.2	TM	
74	TM**L	1,1,2,2-Tetrachloroethane	0.7181	0.7144	0.51	TM**L	6.6
75	TML	1,2,3-Trichloropropane	0.2116	0.1617	24	TML	8.1
76	TM	t-1,4-Dichloro-2-Butene	0.2413	0.2333	3.3	TM	
77	TML	Bromobenzene	0.8736	0.7877	9.8	TML	3.8
78	TM	n-Propylbenzene	5.379	5.477	1.8	TM	
79	TM	4-Ethyltoluene	11.4	10.9	4.6	TM	
80	TM	2-Chlorotoluene	3.170	3.210	1.2	TM	
		Average			6.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/25/12
Instrument: Neo
Cal. Date: 07/23/12
Data File: 0724N27W.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	3.248	3.180	2.1	TM	
82	TM	4-Chlorotoluene	8.735	9.086	4.0	TM	
83	TM	Tert-Butylbenzene	8.216	8.375	1.9	TM	
84	TM	1,2,4-Trimethylbenzene	9.320	9.304	0.17	TM	
85	TM	Sec-Butylbenzene	11.9	12.0	1.3	TM	
86	TM	p-Isopropyltoluene	8.700	9.295	6.8	TM	
87	TM	Benzyl Chloride	2.877	2.365	18	TM	
88	TM	1,3-DCB	4.278	4.776	12	TM	
89	TM	1,4-DCB	4.394	4.297	2.2	TM	
90	TM	n-Butylbenzene	4.161	3.984	4.2	TM	
91	TM	1,2-DCB	3.864	4.186	8.3	TM	
92	TM	Hexachloroethane	2.553	2.516	1.5	TM	
93	TML	1,2-Dibromo-3-chloropropane	0.3635	0.3221	11	TML	1.1
94	TM	1,2,4-Trichlorobenzene	2.787	2.753	1.2	TM	
95	TML	Hexachlorobutadiene	0.3496	0.4148	19	TML	8.7
96	TM	Naphthalene	4.208	4.297	2.1	TM	
97	TML	1,2,3-Trichlorobenzene	0.6008	0.7856	31	TML	12
98	TM	Dibromochlorobenzene	0.0000	0.0000	0.00	TM	
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			7.0		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/26/12
Instrument: Neo
Initial Cal. Date: 07/23/12
Data File: 0726N23W.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TML	Dichlorodifluoromethane	1.259	1.215	3.4	TML	18	
3	TM**	Chloromethane	0.3895	0.3538	9.2	TM**		
4	TM*	Vinyl chloride	1.607	1.512	6.0	TM*		
5	TM	1,3-Butadiene	0.0000	0.0000	0.00	TM		
6	TML	Bromomethane	0.5351	0.4281	20	TML	22	*nt
7	TM	Chloroethane	0.8571	0.7591	11	TM		
8	TM	Dichlorofluoromethane	0.4607	0.4129	10	TM		
9	TM	Trichlorofluoromethane	0.2088	0.1822	13	TM		
10	TM	Acrolein	0.0013	0.0012	7.2	TM		
11	TML	Acetone	0.2304	0.1630	29	TML	2.3	
12	TM	Freon-113	0.5730	0.5084	11	TM		
13	TM*	1,1-DCE	0.7838	0.6902	12	TM*		
14	TM	t-Butanol	0.0075	0.0068	9.2	TM		
15	TML	Methyl Acetate	0.6382	0.4142	35	TML	14	
16	TML	Iodomethane	0.1799	0.1462	19	TML	32	*nt
17	TML	Acrylonitrile	0.1551	0.1530	1.4	TML	7.2	
18	TM	Methylene chloride	0.6500	0.6013	7.5	TM		
19	TML	Carbon disulfide	0.1521	0.1558	2.4	TML	18	
20	TM	Methyl t-butyl ether (MtBE)	1.622	1.432	12	TM		
21	TM	Hexane	1.174	0.9935	15	TM		
22	TM	Trans-1,2-DCE	0.4627	0.3512	24	TM		*nt
23	TM	Diisopropyl Ether	0.9163	0.8062	12	TM		
24	TM**	1,1-DCA	0.4363	0.3974	8.9	TM**		
25	TM	Vinyl Acetate	0.7392	0.5928	20	TM		
26	TM	Ethyl tert Butyl Ether	0.6353	0.5860	7.8	TM		
27	TM	MEK (2-Butanone)	0.1485	0.1296	13	TM		
28	TM	Cis-1,2-DCE	0.7886	0.6929	12	TM		
29	TM	2,2-Dichloropropane	0.3585	0.3111	13	TM		
30	TM*	Chloroform	1.745	1.635	6.3	TM*		
31	TML	Bromochloromethane	0.2227	0.2357	5.9	TML	6.1	
32	S	Dibromofluoromethane(S)	0.9314	0.9401	0.94	S		
33	TM	2,2,4-Trimethylpentane	0.3629	0.3172	13	TM		
34	TM	1,1,1-TCA	1.240	1.117	9.9	TM		
35	TM	Cyclohexane	0.1563	0.1319	16	TM		
36	TM	1,1-Dichloropropene	0.7983	0.7085	11	TM		
37	S	1,2-DCA-D4(S)	0.9479	0.9632	1.6	S		
38	TM	Carbon Tetrachloride	0.2493	0.2278	8.6	TM		
39	TM	Heptane	0.0000	0.0000	0.00	TM		
40	TM	Tert Amyl Methyl Ether	1.861	1.626	13	TM		
		Average			11.0			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No: 68260
Case No: Date Analyzed: 07/26/12
Matrix: water Instrument: Neo
Cal. Date: 07/23/12
Data File: 0726N23W.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	1,2-DCA	0.3633	0.3183	12	TM		
42	TM	Benzene	2.738	2.396	12	TM		
43	TM	TCE	0.7422	0.6505	12	TM		
44	TM	2-Pentanone	0.1402	0.1355	3.3	TM		
45	TM*	1,2-Dichloropropane	0.2925	0.2825	3.4	TM*		
46	TM	Bromodichloromethane	1.359	1.190	12	TM		
47	TM	Dibromomethane	0.1286	0.1347	4.8	TM		
48	TM	Methyl Cyclohexane	0.1479	0.1413	4.4	TM		
49	TM	2-Chloroethyl vinyl ether	0.0953	0.0013	99	TM		*nt
50	TM	1-Bromo-2-chloroethane	0.8983	0.8327	7.3	TM		
51	TM	Cis-1,3-Dichloropropene	1.314	1.251	4.8	TM		
52	TM*	Toluene	0.9914	0.9847	0.67	TM*		
53	TM	Trans-1,3-Dichloropropene	0.4093	0.3747	8.5	TM		
54	TM	1,1,2-TCA	0.5045	0.4697	6.9	TM		
55	I	Chlorobenzene-D5 (IS)	ISTD			I		
56	S	Toluene-D8(S)	3.348	3.028	9.6	S		
57	TM	1,2-EDB	0.7540	0.5894	22	TM		*nt
58	TM	Tetrachloroethene	0.1993	0.1960	1.7	TM		
59	TM	1-Chlorohexane	0.5435	0.4881	10	TM		
60	TM	1,1,1,2-Tetrachloroethane	1.092	0.9835	9.9	TM		
61	TML	m&p-Xylene	1.968	1.602	19	TML	13	
62	TM	o-Xylene	1.776	1.613	9.2	TM		
63	TM	Styrene	3.115	2.812	9.7	TM		
64	S	4-Bromofluorobenzene(S)	1.558	1.427	8.4	S		
65	TM	2-Hexanone	0.1805	0.1630	9.7	TM		
66	TM	1,3-Dichloropropane	0.4953	0.4597	7.2	TM		
67	TM	Dibromochloromethane	1.087	0.9498	13	TM		
68	TM**	Chlorobenzene	2.666	2.340	12	TM**		
69	TM*	Ethylbenzene	1.909	1.627	15	TM*		
70	TM**	Bromoform	0.5520	0.5297	4.0	TM**		
71	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
72	TM	MIBK (methyl isobutyl ketone)	0.5325	0.5179	2.7	TM		
73	TM	Isopropylbenzene	3.674	3.011	18	TM		
74	TM**L	1,1,2,2-Tetrachloroethane	0.7181	0.6211	14	TM**L	22	
75	TML	1,2,3-Trichloropropane	0.2116	0.1429	32	TML	22	*nt
76	TM	t-1,4-Dichloro-2-Butene	0.2413	0.2783	15	TM		
77	TML	Bromobenzene	0.8736	0.6566	25	TML	21	*nt
78	TM	n-Propylbenzene	5.379	4.643	14	TM		
79	TM	4-Ethyltoluene	11.4	10.6	7.2	TM		
80	TM	2-Chlorotoluene	3.170	2.963	6.5	TM		
		Average			12.8			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: water

SDG No: 68260
Date Analyzed: 07/26/12
Instrument: Neo
Cal. Date: 07/23/12
Data File: 0726N23W.D

		Compound	MEAN	CCRF	%D	%Drift		
81	TM	1,3,5-Trimethylbenzene	3.248	2.971	8.5	TM		
82	TM	4-Chlorotoluene	8.735	7.651	12	TM		
83	TM	Tert-Butylbenzene	8.216	7.223	12	TM		
84	TM	1,2,4-Trimethylbenzene	9.320	8.110	13	TM		
85	TM	Sec-Butylbenzene	11.9	10.6	11	TM		
86	TM	p-Isopropyltoluene	8.700	7.909	9.1	TM		
87	TM	Benzyl Chloride	2.877	2.568	11	TM		
88	TM	1,3-DCB	4.278	3.896	8.9	TM		
89	TM	1,4-DCB	4.394	3.758	14	TM		
90	TM	n-Butylbenzene	4.161	3.773	9.3	TM		
91	TM	1,2-DCB	3.864	3.360	13	TM		
92	TM	Hexachloroethane	2.553	2.279	11	TM		
93	TML	1,2-Dibromo-3-chloropropane	0.3635	0.2643	27	TML	22	*nt
94	TM	1,2,4-Trichlorobenzene	2.787	2.249	19	TM		
95	TML	Hexachlorobutadiene	0.3496	0.0132	96	TML	101	nt
96	TM	Naphthalene	4.208	3.868	8.1	TM		
97	TML	1,2,3-Trichlorobenzene	0.6008	0.7507	25	TML	16	
98	TM	Dibromochlorobenzene	0.0000	0.0000	0.00	TM		
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			17.1			

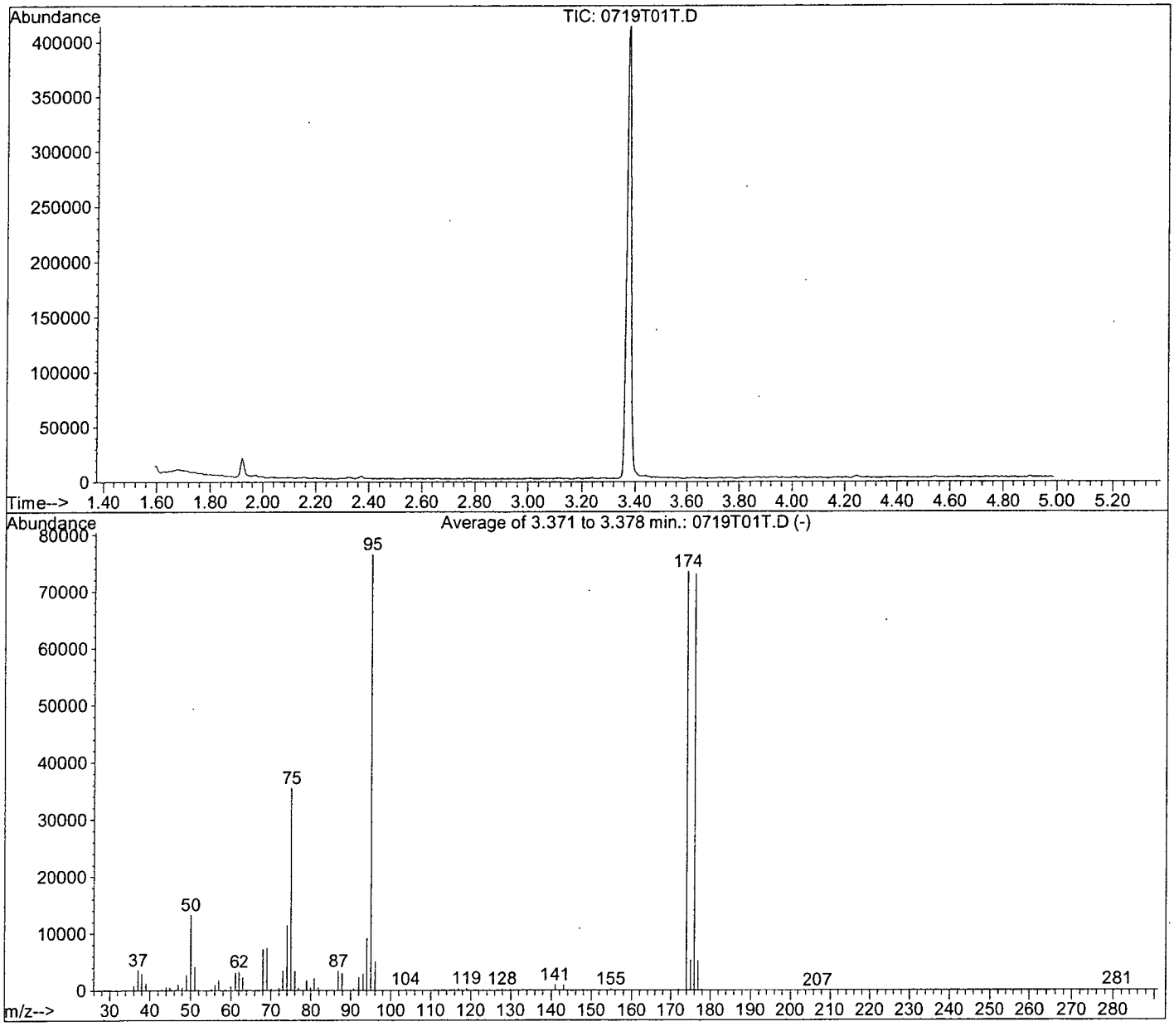
EPA METHOD 8260B
Volatile Organic Compounds
Raw Data

APPL, INC.

Data File : M:\THOR\DATA\T120719\0719T01T.D
Acq On : 19 Jul 12 9:15
Sample : 5ng- BFB STD 07-16-12B
Misc : 2ul

Vial: 1
Operator: DG,RS,HW,ARS,SV
Inst : Thor
Multiplr: 1.00

Method : M:\THOR\DATA\T120719\TALLW.M (RTE Integrator)
Title : METHOD 8260B



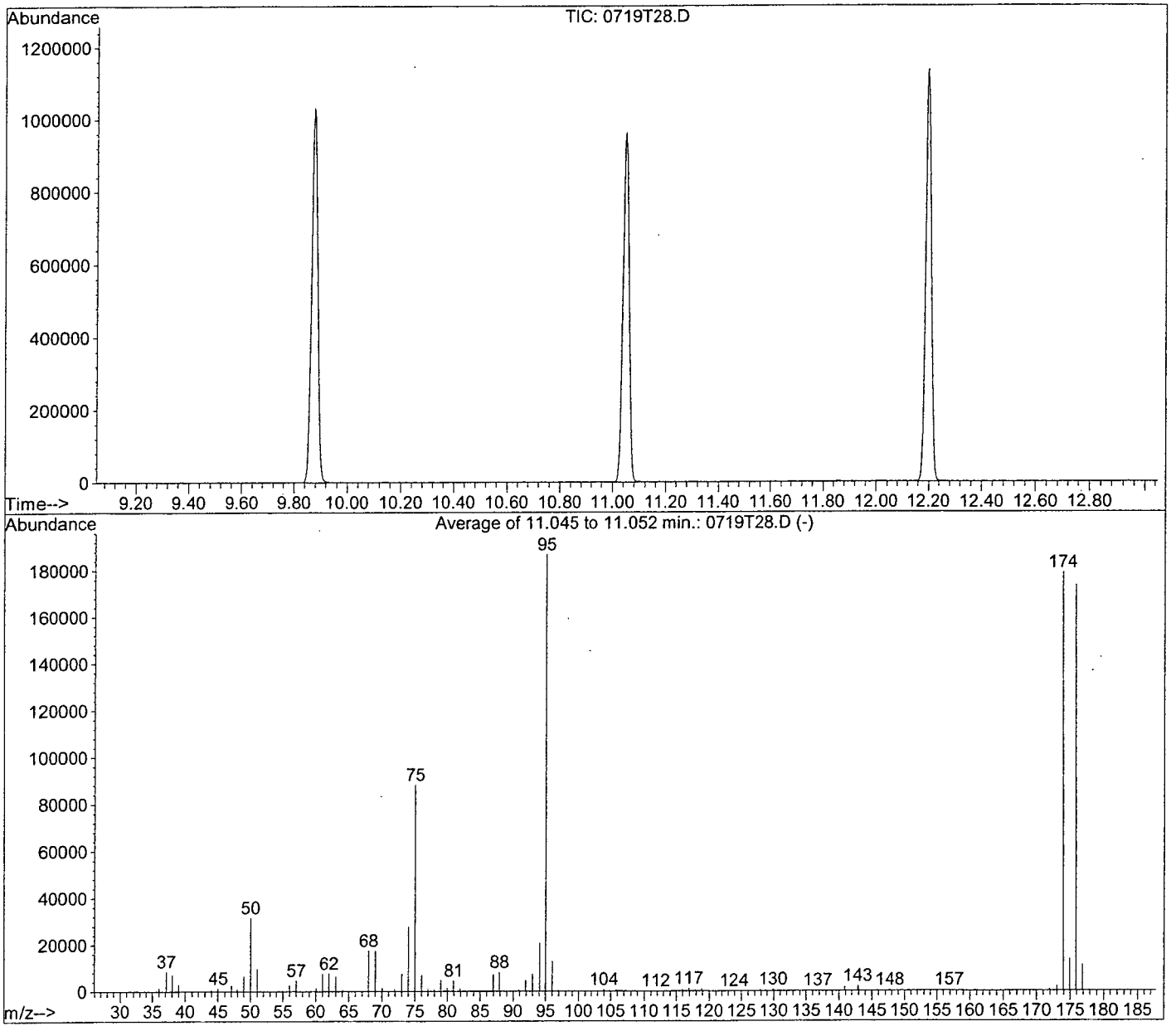
AutoFind: Scans 554, 555, 556; Background Corrected with Scan 544

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	13331	PASS
75	95	30	60	46.4	35536	PASS
95	95	100	100	100.0	76600	PASS
96	95	5	9	6.7	5096	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.0	73547	PASS
175	174	5	9	7.2	5311	PASS
176	174	95	101	99.3	73019	PASS
177	176	5	9	7.0	5141	PASS

Data File : M:\THOR\DATA\T120719\0719T28.D
Acq On : 19 Jul 12 21:40
Sample : 5ng- BFB Std 07-16-12B
Misc : 2uL

Vial: 28
Operator: DG,RS,HW,ARS,SV
Inst : Thor
Multiplr: 1.00

Method : M:\THOR\DATA\T120719\TALLW.M (RTE Integrator)
Title : METHOD 8260B



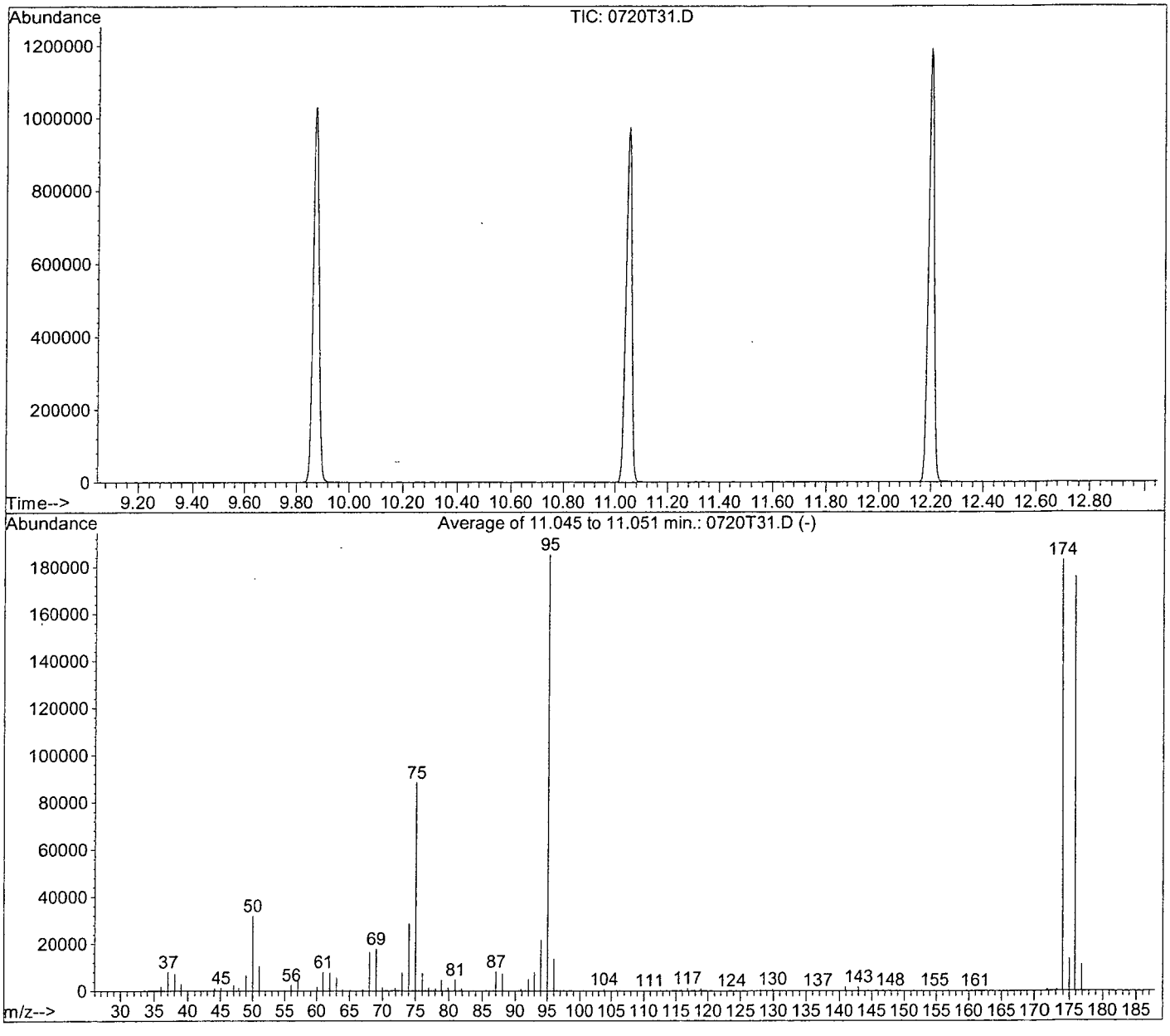
AutoFind: Scans 3065, 3066, 3067; Background Corrected with Scan 3051

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.9	31552	PASS
75	95	30	60	47.3	88245	PASS
95	95	100	100	100.0	186709	PASS
96	95	5	9	6.8	12716	PASS
173	174	0.00	2	1.0	1785	PASS
174	95	50	100	95.8	178816	PASS
175	174	5	9	7.5	13428	PASS
176	174	95	101	96.9	173248	PASS
177	176	5	9	6.2	10814	PASS

Data File : M:\THOR\DATA\T120719\0720T31.D
Acq On : 20 Jul 12 22:53
Sample : 5ng- BFB STD 07-16-12B
Misc : 2ul

Vial: 31
Operator: DG,RS,HW,ARS,SV
Inst : Thor
Multiplr: 1.00

Method : M:\THOR\DATA\T120719\TALLW.M (RTE Integrator)
Title : METHOD 8260B



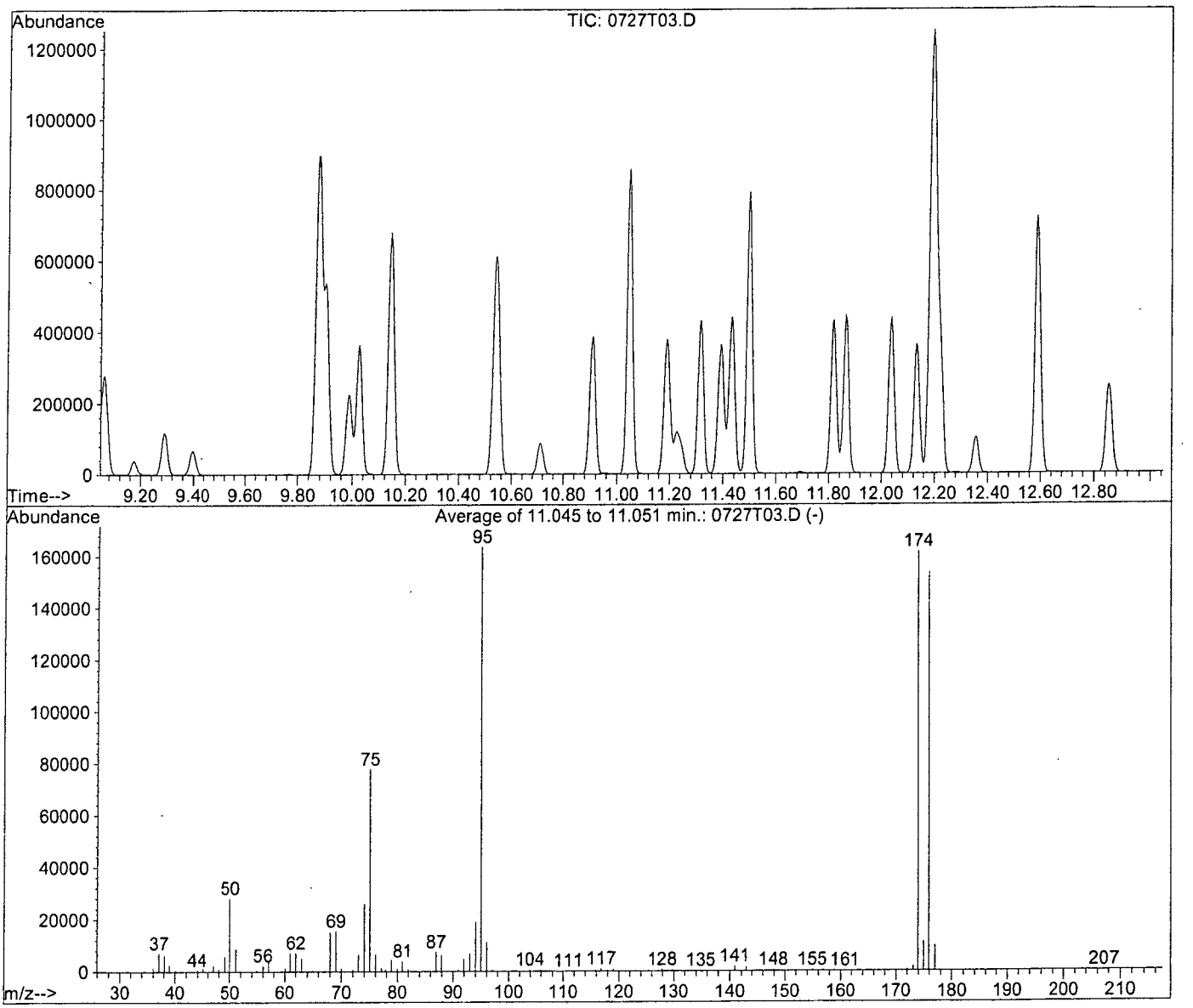
AutoFind: Scans 3065, 3066, 3067; Background Corrected with Scan 3051

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.2	31899	PASS
75	95	30	60	47.6	88277	PASS
95	95	100	100	100.0	185323	PASS
96	95	5	9	7.3	13449	PASS
173	174	0.00	2	0.4	723	PASS
174	95	50	100	98.7	182848	PASS
175	174	5	9	7.4	13590	PASS
176	174	95	101	96.1	175680	PASS
177	176	5	9	6.4	11297	PASS

Data File : M:\THOR\DATA\T120725\0727T03.D
Acq On : 27 Jul 12 9:38
Sample : 5ng- BFB STD 07-16-12B
Misc : 2uL

Vial: 1
Operator: DG,RS,HW,ARS,SV
Inst : Thor
Multiplr: 1.00

Method : M:\THOR\DATA\T120719\TALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 11.045 to 11.051 min.

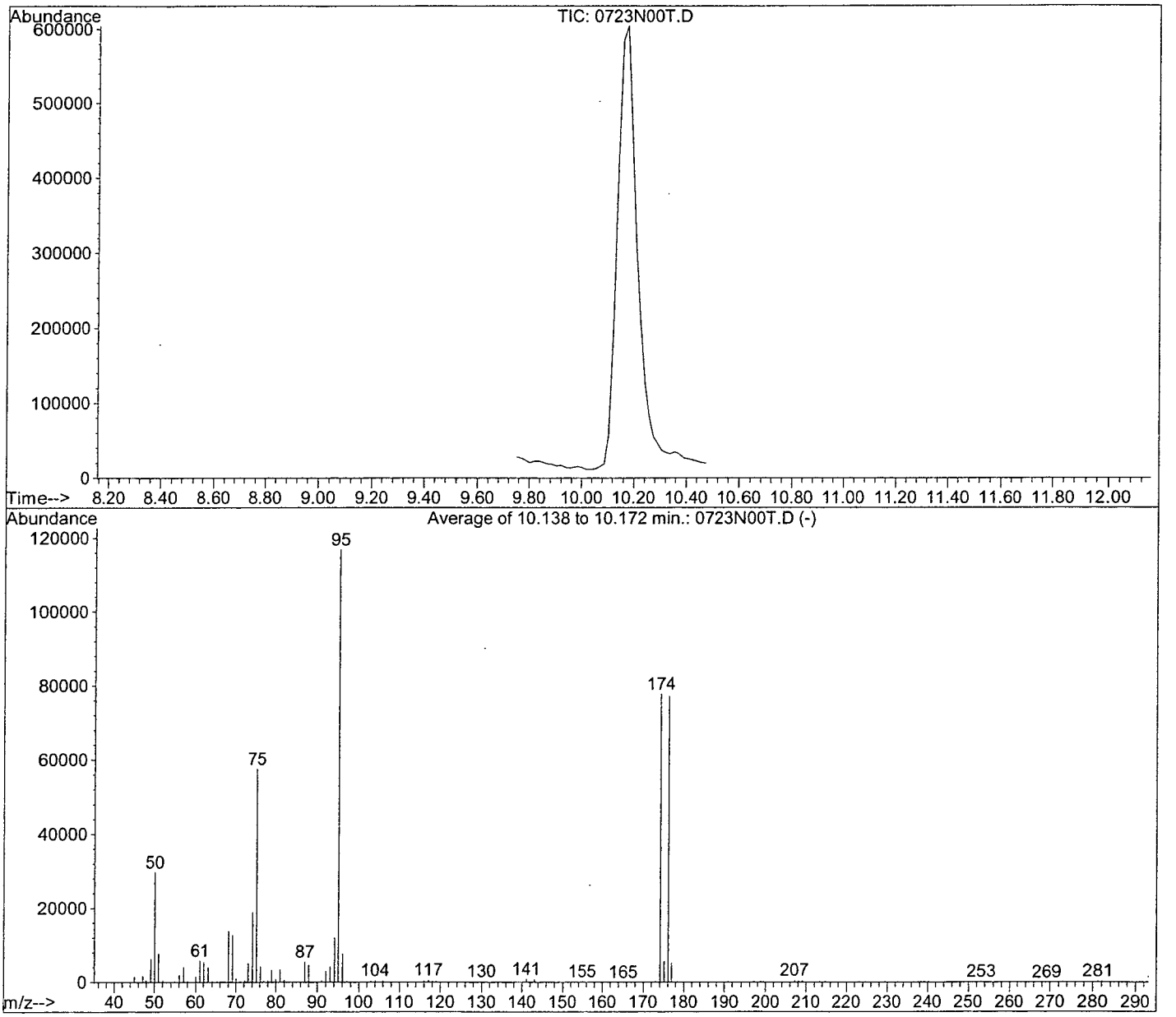
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.2	28195	PASS
75	95	30	60	47.6	77835	PASS
95	95	100	100	100.0	163669	PASS
96	95	5	9	6.8	11191	PASS
173	174	0.00	2	1.1	1801	PASS
174	95	50	100	98.8	161685	PASS
175	174	5	9	6.9	11170	PASS
176	174	95	101	95.1	153728	PASS
177	176	5	9	6.3	9722	PASS

BFB

Data File : M:\NEO\DATA\N120723\0723N00T.D
Acq On : 23 Jul 12 7:28
Sample : 25ug/mL BFB Std 07-16-12
Misc : 2uL

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Method : M:\NEO\DATA\N120723\NALLW.M (RTE Integrator)
Title : METHOD 8260B



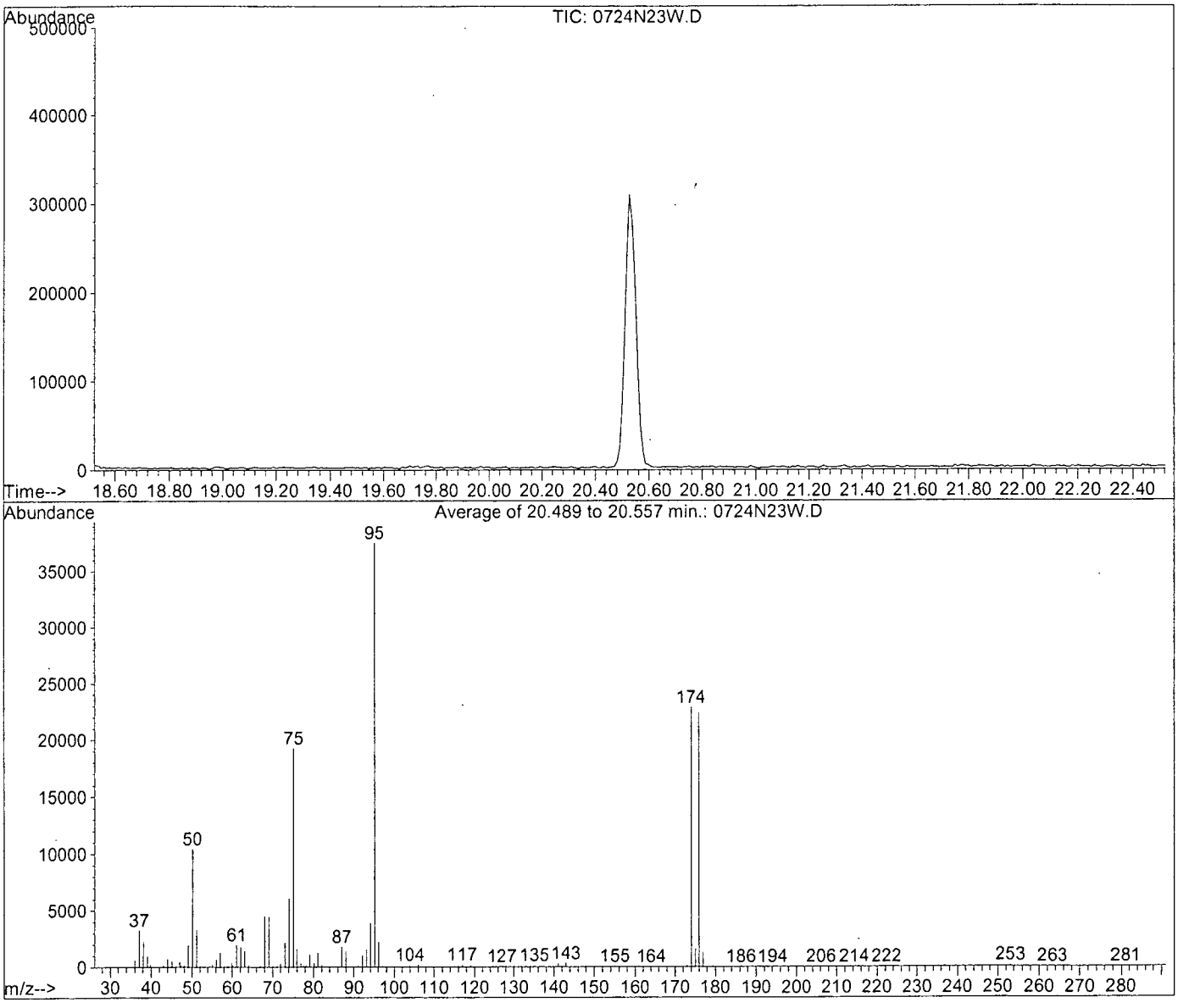
AutoFind: Scans 24, 25, 26; Background Corrected with Scan 18

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.5	29753	PASS
75	95	30	60	49.3	57552	PASS
95	95	100	100	100.0	116851	PASS
96	95	5	9	6.5	7613	PASS
173	174	0.00	2	0.4	274	PASS
174	95	50	100	66.6	77776	PASS
175	174	5	9	7.4	5731	PASS
176	174	95	101	99.1	77109	PASS
177	176	5	9	6.7	5165	PASS

Data File : M:\NEO\DATA\N120723\0724N23W.D
Acq On : 24 Jul 12 23:21
Sample : 25ug/mL BFB Std 07-16-12
Misc : 2uL

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Method : M:\NEO\DATA\N120723\NALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 20.489 to 20.557 min.

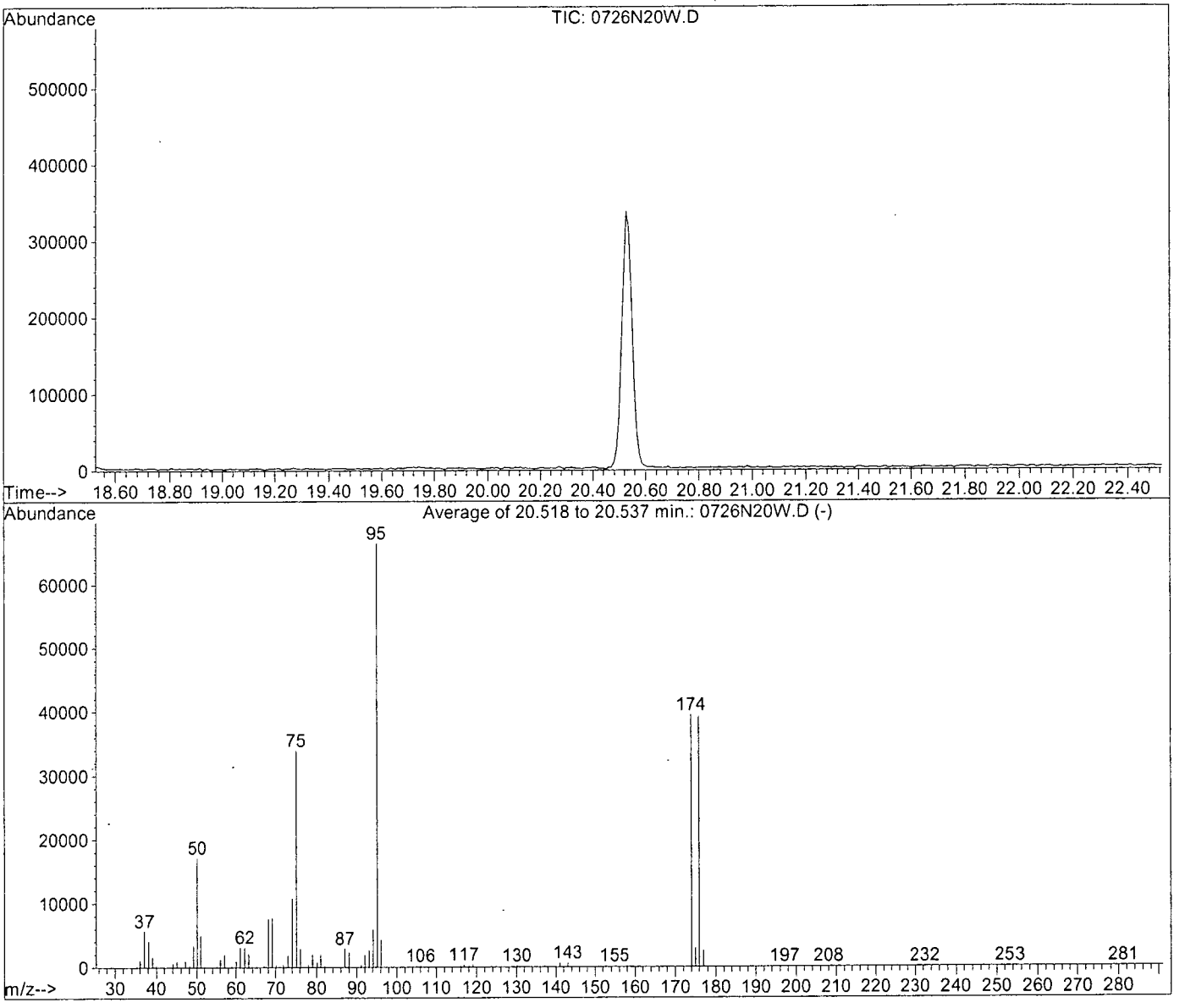
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	27.7	10404	PASS
75	95	30	60	51.3	19262	PASS
95	95	100	100	100.0	37516	PASS
96	95	5	9	5.8	2188	PASS
173	174	0.00	2	0.5	114	PASS
174	95	50	100	60.9	22847	PASS
175	174	5	9	6.8	1544	PASS
176	174	95	101	97.9	22370	PASS
177	176	5	9	5.7	1264	PASS

0724N23W.D NALLW.M Tue Aug 07 09:58:53 2012

Data File : M:\NEO\DATA\N120723\0726N20W.D
Acq On : 26 Jul 12 21:48
Sample : 25ug/mL BFB Std 07-16-12
Misc : 2uL

Vial: 1
Operator: SV,DG,RS
Inst : Neo
Multiplr: 1.00

Method : M:\NEO\DATA\N120723\NALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 20.518 to 20.537 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.7	17128	PASS
75	95	30	60	51.0	33925	PASS
95	95	100	100	100.0	66539	PASS
96	95	5	9	6.3	4215	PASS
173	174	0.00	2	0.3	103	PASS
174	95	50	100	59.3	39435	PASS
175	174	5	9	7.3	2860	PASS
176	174	95	101	99.3	39149	PASS
177	176	5	9	6.5	2526	PASS

0726N20W.D NALLW.M Tue Aug 07 09:59:29 2012

Injection Log

Directory: M:\THOR\DATA\T120719\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0719T01T.D	1	5ng- BFB STD 07-16-12B	2ul	19 Jul 12 9:15
2	5	0719T05.D	1	0.3ug/L Vol Std 07-19-12	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 11:01
3	6	0719T06.D	1	0.5ug/L Vol Std 07-19-12	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 11:29
4	7	0719T07.D	1	1.0ug/L Vol Std 07-19-12	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 11:57
5	8	0719T08.D	1	2.0ug/L Vol Std 07-19-12	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 12:25
6	9	0719T09.D	1	5.0ug/L Vol Std 07-19-12	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 12:53
7	10	0719T10.D	1	10ug/L Vol Std 07-19-12	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 13:20
8	11	0719T11.D	1	20ug/L Vol Std 07-19-12	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 13:48
9	12	0719T12.D	1	40ug/L Vol Std 07-19-12	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 14:16
10	13	0719T13.D	1	100ug/L Vol Std 07-19-12	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 14:44
11	28	0719T28.D	1	5ng- BFB Std 07-16-12B	2uL	19 Jul 12 21:40
12	30	0719T30.D	1	10ug/L Vol Std 07-19-12	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 22:35
13	31	0719T31.D	1	120719A LCS-1WT (SS)	10ml w/5ul of IS&S: 06-7-12	19 Jul 12 23:03
14	31	0720T31.D	1	5ng- BFB STD 07-16-12B	2ul	20 Jul 12 22:53
15	33	0720T33.D	1	10ug/L Vol Std 07-20-12	10ml w/5ul of IS&S: 06-7-12	20 Jul 12 23:48
16	34	0720T34.D	1	120720B LCS-1WT	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 00:16
17	38	0720T38.D	1	120720B BLK-1WT	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 2:07
18	41	0720T41.D	1	AY65098W01	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 3:30
19	42	0720T42.D	1	AY65099W01	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 3:58
20	43	0720T43.D	1	AY65100W01	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 4:25
21	44	0720T44.D	1	AY65101W01	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 4:53
22	45	0720T45.D	1	AY65102W01	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 5:21
23	46	0720T46.D	1	AY65103W01	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 5:48
24	47	0720T47.D	1	AY65104W01	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 6:16
25	48	0720T48.D	1	AY65105W01	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 6:44
26	53	0720T53.D	1	AY65110W01	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 9:03
27	54	0720T54.D	1	AY65111W01	10ml w/5ul of IS&S: 06-7-12	21 Jul 12 9:30
28	1	0727T03.D	1	5ng- BFB STD 07-16-12B	2uL	27 Jul 12 9:38
29	2	0727T04.D	1	10ug/L Vol Std 07-27-12	10ml w/5ul of IS&S: 06-7-12	27 Jul 12 10:06
30	3	0727T05.D	1	120727A LCS-1WT	10ml w/5ul of IS&S: 06-7-12	27 Jul 12 10:33
31	7	0727T09.D	1	120727A BLK-1WT	10ml w/5ul of IS&S: 06-7-12	27 Jul 12 12:25
32	11	0727T13.D	1	AY65108W02	10ml w/5ul of IS&S: 06-7-12	27 Jul 12 14:16
33	12	0727T14.D	1	AY65109W02	10ml w/5ul of IS&S: 06-7-12	27 Jul 12 14:44
34	14	0727T16.D	1	AY65106W02	10ml w/5ul of IS&S: 06-7-12	27 Jul 12 15:39
35	15	0727T17.D	1	AY65107W02	10ml w/5ul of IS&S: 06-7-12	27 Jul 12 16:07

Injection Log

Directory: M:\NEO\DATA\N120723\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0723N00T.D	1	25ug/mL BFB Std 07-16-12	2uL	23 Jul 12 7:28
2	1	0723N04W.D	1	0.3ug/L Vol Std 07-23-12	Water 10mL w/ IS:06-25-12	23 Jul 12 9:49
3	1	0723N05W.D	1	0.5ug/L Vol Std 07-23-12	Water 10mL w/ IS:06-25-12	23 Jul 12 10:27
4	1	0723N06W.D	1	1.0ug/L Vol Std 07-23-12	Water 10mL w/ IS:06-25-12	23 Jul 12 11:04
5	1	0723N07W.D	1	5.0ug/L Vol Std 07-23-12	Water 10mL w/ IS:06-25-12	23 Jul 12 11:42
6	1	0723N08W.D	1	10ug/L Vol Std 07-23-12	Water 10mL w/ IS:06-25-12	23 Jul 12 12:20
7	1	0723N09W.D	1	20ug/L Vol Std 07-23-12	Water 10mL w/ IS:06-25-12	23 Jul 12 12:58
8	1	0723N10W.D	1	40ug/L Vol Std 07-23-12	Water 10mL w/ IS:06-25-12	23 Jul 12 13:36
9	1	0723N11W.D	1	100ug/L Vol Std 07-23-12	Water 10mL w/ IS:06-25-12	23 Jul 12 14:14
10	1	0723N12W.D	1	200ug/L Vol Std 07-23-12	Water 10mL w/ IS:06-25-12	23 Jul 12 14:52
11	1	0724N23W.D	1	25ug/mL BFB Std 07-16-12	2uL	24 Jul 12 23:21
12	1	0724N27W.D	1	120724A LCS-1WN (SS)	Water 10mL w/ ISS:07-24-1:	25 Jul 12 1:52
13	1	0726N20W.D	1	25ug/mL BFB Std 07-16-12	2uL	26 Jul 12 21:48
14	1	0726N23W.D	1	10ug/L Vol Std 07-26-12	Water 10mL w/ IS&S:07-24-	26 Jul 12 23:42
15	1	0726N25W.D	1	120726A LCS-1WN	Water 10mL w/ IS&S:07-24-	27 Jul 12 00:57
16	1	0726N28W.D	1	120726A BLK-1WN	Water 10mL w/ IS&S:07-24-	27 Jul 12 2:50
17	1	0726N33W.D	2	AY65101W02 DF2	Water 10mL w/ IS&S:07-24-	27 Jul 12 6:00
18	1	0726N34W.D	2	AY65102W02 DF2	Water 10mL w/ IS&S:07-24-	27 Jul 12 6:38
19	1	0726N35W.D	50	AY65110W02 DF50	Water 10mL w/ IS&S:07-24-	27 Jul 12 7:16
20	1	0726N36W.D	200	AY65105W02 DF200	Water 10mL w/ IS&S:07-24-	27 Jul 12 7:53
21	1	0726N37W.D	200	AY65111W02 DF200	Water 10mL w/ IS&S:07-24-	27 Jul 12 8:31

METALS

APPL, INC.

METALS
QC Summary

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
Concentration Units: ug/L
Initial Calibration ID: 120720A

AAB #: 120720B-169300
Contract #: *G012
Method Blank ID: 120720B-BLK

300 RAS 7/31/12

Analyte	Method Blank	RL	Q
ANTIMONY (SB) (DISSOLVED)	< RL	5.0	U
ARSENIC (AS) (DISSOLVED)	< RL	5.0	U
BERYLLIUM (BE) (DISSOLVED)	< RL	2.0	U
CADMIUM (CD) (DISSOLVED)	< RL	5.0	U
CHROMIUM (CR) (DISSOLVED)	< RL	5.0	U
COPPER (CU) (DISSOLVED)	5.7	5.0	*
LEAD (PB) (DISSOLVED)	< RL	3.0	U
NICKEL (NI) (DISSOLVED)	< RL	5.0	U
SELENIUM (SE) (DISSOLVED)	< RL	5.0	U
SILVER (AG) (DISSOLVED)	< RL	1.0	U
THALLIUM (TL) (DISSOLVED)	< RL	5.0	U
ZINC (ZN) (DISSOLVED)	< RL	50.0	U

Comments: ARF: 68260, Sample: AY65111

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 7470A
Lab Name: APPL, Inc
Concentration Units: ug/L
Initial Calibration ID: 120724B

AAB #: 120720B-169338
Contract #: *G012
Method Blank ID: 120720B-BLK

Analyte	Method Blank	RL	Q
MERCURY (HG) (DISSOLVED)	< RL	0.2	U

Comments: ARF: 68260, Sample: AY65111

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
Concentration Units: ug/L
Initial Calibration ID: 120720A

AAB #: 120720A-169299
Contract #: *G012
Method Blank ID: 120720A-BLK

3010 RBS 7/31/12

Analyte	Method Blank	RL	Q
ANTIMONY (SB)	< RL	5.0	U
ARSENIC (AS)	< RL	5.0	U
BERYLLIUM (BE)	< RL	2.0	U
CADMIUM (CD)	< RL	5.0	U
CHROMIUM (CR)	< RL	5.0	U
COPPER (CU)	6	5.0	*
LEAD (PB)	< RL	5.0	U
MANGANESE (MN)	< RL	5.0	U
NICKEL (NI)	< RL	5.0	U
SELENIUM (SE)	< RL	5.0	U
SILVER (AG)	< RL	1.0	U
THALLIUM (TL)	< RL	5.0	U
ZINC (ZN)	< RL	50.0	U

Comments: ARF: 68260, Sample: AY65111

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 7470A
Lab Name: APPL, Inc
Concentration Units: ug/L
Initial Calibration ID: 120724B

AAB #: 120720A-169339
Contract #: *G012
Method Blank ID: 120720A-BLK

Analyte	Method Blank	RL	Q
MERCURY (HG)	< RL	0.2	U

Comments: ARF: 68260, Sample: AY65111

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
LCS ID: 120720B LCS
Concentration Units: ug/L

AAB #: 120720B-169300
Contract #: *G012
Initial Calibration ID: 120720A

Analyte	Expected	Found	% R	Control Limits	Q
ANTIMONY (SB) (DISSOLVED)	250.0	250.5	100	80-120	
ARSENIC (AS) (DISSOLVED)	250.0	238.5	95.4	80-120	
BERYLLIUM (BE) (DISSOLVED)	50.0	49.3	98.6	80-120	
CADMIUM (CD) (DISSOLVED)	50.0	49.9	99.8	80-120	
CHROMIUM (CR) (DISSOLVED)	250.0	272.3	109	80-120	
COPPER (CU) (DISSOLVED)	250.0	257.1	103	80-120	
LEAD (PB) (DISSOLVED)	250.0	257.2	103	80-120	
NICKEL (NI) (DISSOLVED)	250.0	265.2	106	80-120	
SELENIUM (SE) (DISSOLVED)	250.0	237.1	94.8	80-120	
SILVER (AG) (DISSOLVED)	100.000	96.560	96.6	80-120	
THALLIUM (TL) (DISSOLVED)	250.0	252.1	101	80-120	
ZINC (ZN) (DISSOLVED)	500.0	464.6	92.9	80-120	

Comments: ARF: 68260, Sample: AY65111

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 7470A
Lab Name: APPL, Inc
LCS ID: 120720B LCS
Concentration Units: ug/L

AAB #: 120720B-169338
Contract #: *G012
Initial Calibration ID: 120724B

Analyte	Expected	Found	% R	Control Limits	Q
MERCURY (HG) (DISSOLVED)	4.0	4.3	108	85-115	

Comments: ARF: 68260, Sample: AY65111

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
LCS ID: 120720A LCS
Concentration Units: ug/L

AAB #: 120720A-169299
Contract #: *G012
Initial Calibration ID: 120720A

Analyte	Expected	Found	% R	Control Limits	Q
ANTIMONY (SB)	250.0	249.7	99.9	80-120	
ARSENIC (AS)	250.0	239.8	95.9	80-120	
BERYLLIUM (BE)	50.0	48.2	96.4	80-120	
CADMIUM (CD)	50.00	50.08	100	80-120	
CHROMIUM (CR)	250.0	272.1	109	80-120	
COPPER (CU)	250	267	107	80-120	
LEAD (PB)	250.0	256.8	103	80-120	
MANGANESE (MN)	250.0	253.6	101	80-120	
NICKEL (NI)	250.0	264.3	106	80-120	
SELENIUM (SE)	250.0	237.8	95.1	80-120	
SILVER (AG)	100.000	95.620	95.6	80-120	
THALLIUM (TL)	250.0	250.7	100	80-120	
ZINC (ZN)	500	467	93.4	80-120	

Comments: ARF: 68260, Sample: AY65111

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 7470A
Lab Name: APPL, Inc
LCS ID: 120720A LCS
Concentration Units: ug/L

AAB #: 120720A-169339
Contract #: *G012
Initial Calibration ID: 120724B

Analyte	Expected	Found	% R	Control Limits	Q
MERCURY (HG)	4.0	4.4	110	85-115	

Comments: ARF: 68260, Sample: AY65111

METALS
Sample Data

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW15-UGR Lab Sample ID: AY65098 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	1.9	1	F
ARSENIC (AS)	0.2	5.0	0.4	1	F
BERYLLIUM (BE)	0.2	2.0	0.4	1	F
CADMIUM (CD)	0.30	5.0	0.93	1	F
CHROMIUM (CR)	1.0	5.0	5.3	1	
COPPER (CU)	3	5.0	8	1	B
LEAD (PB)	1.9	5.0	5.8	1	
MANGANESE (MN)	1.2	5.0	63.1	1	
NICKEL (NI)	1.0	5.0	3.8	1	F
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	0.932	1	F
THALLIUM (TL)	1.0	5.0	1.0	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW15-UGR Lab Sample ID: AY65098 Matrix: Water
% Solids: NA Initial Calibration ID: 120727B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 27-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ZINC (ZN)	80	500.0	9847	10	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW15-UGR Lab Sample ID: AY65098 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW15-UGR Lab Sample ID: AY65098 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	1.8	1	U
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.2	1	U
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	4.1	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	3.2	1	F
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.081	1	U
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.0	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW15-UGR Lab Sample ID: AY65098 Matrix: Water
% Solids: NA Initial Calibration ID: 120727B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 27-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ZINC (ZN) (DISSOLVED)	80.0	500.0	3819.0	10	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW15-UGR Lab Sample ID: AY65098 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW16-LGR Lab Sample ID: AY65099 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	1.8	1	U
ARSENIC (AS)	0.2	5.0	0.2	1	U
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	3.1	1	F
COPPER (CU)	3	5.0	6	1	B
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	19.4	1	
NICKEL (NI)	1.0	5.0	1.2	1	F
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	0.122	1	F
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	74	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW16-LGR Lab Sample ID: AY65099 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW16-LGR Lab Sample ID: AY65099 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	1.8	1	U
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.2	1	U
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	2.3	1	F
COPPER (CU) (DISSOLVED)	3.0	5.0	3.6	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	2.3	1	F
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	1.202	1	
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.6	1	F
ZINC (ZN) (DISSOLVED)	8.0	50.0	44.3	1	F

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW16-LGR Lab Sample ID: AY65099 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.1	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW18-LGR Lab Sample ID: AY65100 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	2.7	1	F
ARSENIC (AS)	0.2	5.0	5.1	1	
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	6.1	1	
COPPER (CU)	3	5.0	3	1	U
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	1979.0	1	
NICKEL (NI)	1.0	5.0	21.7	1	
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	17.140	1	
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	441	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW18-LGR Lab Sample ID: AY65100 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW18-LGR Lab Sample ID: AY65100 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	1.8	1	U
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.2	1	U
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	3.9	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	1.1	1	F
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.232	1	F
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.0	1	U
ZINC (ZN) (DISSOLVED)	8.0	50.0	17.5	1	F

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW18-LGR Lab Sample ID: AY65100 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.1	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW19-UGR Lab Sample ID: AY65101 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	2.1	1	F
ARSENIC (AS)	0.2	5.0	0.2	1	U
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	1.1	1	F
COPPER (CU)	3	5.0	3	1	U
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	8.0	1	
NICKEL (NI)	1.0	5.0	1.0	1	U
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	0.208	1	F
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	57	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW19-UGR Lab Sample ID: AY65101 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW19-UGR Lab Sample ID: AY65101 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	2.8	1	F
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.2	1	U
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	4.3	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	1.0	1	U
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.612	1	F
THALLIUM (TL) (DISSOLVED)	1.0	5.0	2.0	1	F
ZINC (ZN) (DISSOLVED)	8.0	50.0	41.8	1	F

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW19-UGR Lab Sample ID: AY65101 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.2	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW20 Lab Sample ID: AY65102 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	3.2	1	F
ARSENIC (AS)	0.2	5.0	17.3	1	
BERYLLIUM (BE)	0.2	2.0	3.9	1	
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	79.4	1	
COPPER (CU)	3	5.0	29	1	B
LEAD (PB)	1.9	5.0	11.5	1	
MANGANESE (MN)	1.2	5.0	687.2	1	
NICKEL (NI)	1.0	5.0	48.9	1	
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	4.068	1	
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	131	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW20 Lab Sample ID: AY65102 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW20 Lab Sample ID: AY65102 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	1.9	1	F
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.2	1	U
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	3.8	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	1.0	1	U
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.734	1	F
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.3	1	F
ZINC (ZN) (DISSOLVED)	8.0	50.0	8.0	1	U

Comments: ARF: 68260

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RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW20 Lab Sample ID: AY65102 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.1	1	U

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28A Lab Sample ID: AY65103 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	2.4	1	F
ARSENIC (AS)	0.2	5.0	6.1	1	
BERYLLIUM (BE)	0.2	2.0	2.2	1	
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	8.8	1	
COPPER (CU)	3	5.0	12	1	B
LEAD (PB)	1.9	5.0	6.4	1	
MANGANESE (MN)	1.2	5.0	143.1	1	
NICKEL (NI)	1.0	5.0	5.2	1	
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	1.276	1	
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	34	1	F

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28A Lab Sample ID: AY65103 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28A Lab Sample ID: AY65103 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	2.5	1	F
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.2	1	U
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	3.8	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	1.0	1	U
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.081	1	U
THALLIUM (TL) (DISSOLVED)	1.0	5.0	2.0	1	F
ZINC (ZN) (DISSOLVED)	8.0	50.0	8.0	1	U

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28A Lab Sample ID: AY65103 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.1	1	U

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28B Lab Sample ID: AY65104 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	1.8	1	U
ARSENIC (AS)	0.2	5.0	0.2	1	U
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	1.0	1	U
COPPER (CU)	3	5.0	3	1	U
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	14.0	1	
NICKEL (NI)	1.0	5.0	1.6	1	F
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	0.081	1	U
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	101	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28B Lab Sample ID: AY65104 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28B Lab Sample ID: AY65104 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	2.1	1	F
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.4	1	F
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	5.2	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	11.3	1	
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.081	1	U
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.0	1	U
ZINC (ZN) (DISSOLVED)	8.0	50.0	384.3	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28B Lab Sample ID: AY65104 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.1	1	U

Comments: ARF: 68260

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RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW27 Lab Sample ID: AY65105 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	2.4	1	F
ARSENIC (AS)	0.2	5.0	1.2	1	F
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	1.6	1	F
COPPER (CU)	3	5.0	4	1	B
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	17.7	1	
NICKEL (NI)	1.0	5.0	1.0	1	U
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	1.205	1	
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	8	1	U

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW27 Lab Sample ID: AY65105 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW27 Lab Sample ID: AY65105 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	1.8	1	U
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.7	1	F
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	3.5	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	1.0	1	U
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.113	1	F
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.0	1	U
ZINC (ZN) (DISSOLVED)	8.0	50.0	8.0	1	U

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW27 Lab Sample ID: AY65105 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.2	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW26 Lab Sample ID: AY65106 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	2.5	1	F
ARSENIC (AS)	0.2	5.0	0.2	1	U
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	1.5	1	F
COPPER (CU)	3	5.0	4	1	B
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	7.3	1	
NICKEL (NI)	1.0	5.0	2.4	1	F
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	0.842	1	F
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	8	1	U

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW26 Lab Sample ID: AY65106 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW26 Lab Sample ID: AY65106 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	1.9	1	F
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.2	1	U
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	3.3	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	2.0	1	F
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	1.168	1	
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.0	1	U
ZINC (ZN) (DISSOLVED)	8.0	50.0	8.0	1	U

Comments: ARF: 68260

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INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW26 Lab Sample ID: AY65106 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW25 Lab Sample ID: AY65107 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	1.8	1	U
ARSENIC (AS)	0.2	5.0	5.9	1	
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	11.2	1	
COPPER (CU)	3	5.0	3	1	U
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	651.3	1	
NICKEL (NI)	1.0	5.0	12.4	1	
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	18.380	1	
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	8	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW25 Lab Sample ID: AY65107 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW25 Lab Sample ID: AY65107 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	1.8	1	U
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.2	1	U
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	3.9	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	1.0	1	U
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.240	1	F
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.0	1	U
ZINC (ZN) (DISSOLVED)	8.0	50.0	8.0	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW25 Lab Sample ID: AY65107 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW29 Lab Sample ID: AY65108 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	1.8	1	U
ARSENIC (AS)	0.2	5.0	0.5	1	F
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	1.0	1	U
COPPER (CU)	3	5.0	3	1	B
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	5.2	1	
NICKEL (NI)	1.0	5.0	2.0	1	F
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	0.193	1	F
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	8	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW29 Lab Sample ID: AY65108 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW29 Lab Sample ID: AY65108 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	2.3	1	F
ARSENIC (AS) (DISSOLVED)	0.2	5.0	2.2	1	F
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.2	1	F
COPPER (CU) (DISSOLVED)	3.0	5.0	6.6	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	11.1	1	
NICKEL (NI) (DISSOLVED)	1.0	5.0	2.8	1	F
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.252	1	F
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.0	1	U
ZINC (ZN) (DISSOLVED)	8.0	50.0	8.0	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW29 Lab Sample ID: AY65108 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW31 Lab Sample ID: AY65109 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	1.8	1	U
ARSENIC (AS)	0.2	5.0	0.2	1	U
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	1.0	1	U
COPPER (CU)	3	5.0	3	1	U
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	4.1	1	F
NICKEL (NI)	1.0	5.0	1.0	1	U
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	0.554	1	F
THALLIUM (TL)	1.0	5.0	1.2	1	F
ZINC (ZN)	8	50.0	8	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW31 Lab Sample ID: AY65109 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW31 Lab Sample ID: AY65109 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	2.5	1	F
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.5	1	F
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	5.9	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	1.3	1	F
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.609	1	F
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.0	1	U
ZINC (ZN) (DISSOLVED)	8.0	50.0	8.0	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW31 Lab Sample ID: AY65109 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW32 Lab Sample ID: AY65110 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	1.8	1	U
ARSENIC (AS)	0.2	5.0	0.2	1	U
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	1.6	1	F
COPPER (CU)	3	5.0	4	1	B
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	5.3	1	
NICKEL (NI)	1.0	5.0	1.0	1	U
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	0.659	1	F
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	8	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW32 Lab Sample ID: AY65110 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW32 Lab Sample ID: AY65110 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	2.6	1	F
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.2	1	U
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	6.6	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	1.0	1	U
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.120	1	F
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.0	1	U
ZINC (ZN) (DISSOLVED)	8.0	50.0	8.0	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW32 Lab Sample ID: AY65110 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720A-169299
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-TSW-01 Lab Sample ID: AY65111 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB)	1.8	5.0	1.8	1	U
ARSENIC (AS)	0.2	5.0	1.5	1	F
BERYLLIUM (BE)	0.2	2.0	0.2	1	U
CADMIUM (CD)	0.30	5.0	0.30	1	U
CHROMIUM (CR)	1.0	5.0	3.1	1	F
COPPER (CU)	3	5.0	3	1	U
LEAD (PB)	1.9	5.0	1.9	1	U
MANGANESE (MN)	1.2	5.0	48.0	1	
NICKEL (NI)	1.0	5.0	10.4	1	
SELENIUM (SE)	3.2	5.0	3.2	1	U
SILVER (AG)	0.081	1.0	1.070	1	
THALLIUM (TL)	1.0	5.0	1.0	1	U
ZINC (ZN)	8	50.0	14	1	F

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720A-169339
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-TSW-01 Lab Sample ID: AY65111 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.1	0.2	0.2	1	

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 6010B Preparatory Method: 3010A AAB #: 120720B-169300
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-TSW-01 Lab Sample ID: AY65111 Matrix: Water
% Solids: NA Initial Calibration ID: 120720A
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ANTIMONY (SB) (DISSOLVED)	1.8	5.0	1.8	1	U
ARSENIC (AS) (DISSOLVED)	0.2	5.0	0.2	1	U
BERYLLIUM (BE) (DISSOLVED)	0.2	2.0	0.2	1	U
CADMIUM (CD) (DISSOLVED)	0.3	5.0	0.3	1	U
CHROMIUM (CR) (DISSOLVED)	1.0	5.0	1.0	1	U
COPPER (CU) (DISSOLVED)	3.0	5.0	5.2	1	B
LEAD (PB) (DISSOLVED)	1.9	3.0	1.9	1	U
NICKEL (NI) (DISSOLVED)	1.0	5.0	6.6	1	
SELENIUM (SE) (DISSOLVED)	3.2	5.0	3.2	1	U
SILVER (AG) (DISSOLVED)	0.081	1.0	0.438	1	F
THALLIUM (TL) (DISSOLVED)	1.0	5.0	1.9	1	F
ZINC (ZN) (DISSOLVED)	8.0	50.0	8.0	1	U

Comments: ARF: 68260

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: 7470A AAB #: 120720B-169338
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-TSW-01 Lab Sample ID: AY65111 Matrix: Water
% Solids: NA Initial Calibration ID: 120724B
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 24-Jul-12
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG) (DISSOLVED)	0.1	0.2	0.2	1	

Comments: ARF: 68260

METALS
Calibration Data

APPL, INC.

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 68260 SDG: 68260

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 07/20/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 10:38	%R(1)	True CCV1	Found 11:04	%R(1)	True CCV2	Found 13:44	%R(1)	
Silver (Ag)	500	482	96.4	500	498.9	99.8	375	378.1	101	P
Arsenic (As)	1000	963.8	96.4	1000	992.5	99.3	750	738.3	98.4	P
Beryllium (Be)	1000	973.1	97.3	1000	966.8	96.7	750	720.3	96.0	P
Cadmium (Cd)	1000	1013	101	1000	1010	101	750	756.5	101	P
Chromium (Cr)	1000	1011	101	1000	1011	101	750	755.8	101	P
Copper (Cu)	1000	990	99.0	1000	1005	101	750	756.4	101	P
Manganese (Mn)	1000	1007	101	1000	968.7	96.9	750	734.6	97.9	P
Nickel (Ni)	1000	1039	104	1000	1010	101	750	766.5	102	P
Lead (Pb)	1000	1030	103	1000	1007	101	750	764.8	102	P
Antimony (Sb)	1000	1006	101	1000	997.3	99.7	750	766.5	102	P
Selenium (Se)	1000	992.4	99.2	1000	988.8	98.9	750	752.9	100	P
Thallium (Tl)	1000	965.4	96.5	1000	1003	100	750	767.3	102	P
Zinc (Zn)	1000	1041	104	1000	1020	102	750	747.4	99.7	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No: 68260 SDG: 68260
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 07/20/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 10:38	%R(1)	True CCV1	Found 14:38	%R(1)	True CCV2	Found 15:40	%R(1)	
Silver (Ag)	500	482	96.4	500	509.7	102	375	383.3	102	P
Arsenic (As)	1000	963.8	96.4	1000	997.5	99.8	750	748.4	99.8	P
Beryllium (Be)	1000	973.1	97.3	1000	988.8	98.9	750	731.8	97.6	P
Cadmium (Cd)	1000	1013	101	1000	1013	101	750	765.1	102	P
Chromium (Cr)	1000	1011	101	1000	1010	101	750	765.4	102	P
Copper (Cu)	1000	990	99.0	1000	1018	102	750	770.1	103	P
Manganese (Mn)	1000	1007	101	1000	1004	100	750	741.7	98.9	P
Nickel (Ni)	1000	1039	104	1000	1026	103	750	776.3	104	P
Lead (Pb)	1000	1030	103	1000	1016	102	750	774.5	103	P
Antimony (Sb)	1000	1006	101	1000	1033	103	750	781.9	104	P
Selenium (Se)	1000	992.4	99.2	1000	1012	101	750	761.2	101	P
Thallium (Tl)	1000	965.4	96.5	1000	1018	102	750	776	103	P
Zinc (Zn)	1000	1041	104	1000	990.3	99.0	750	759	101	P

(1) Control Limits: Metals 90-110 ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 68260 SDG: 68260

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 07/20/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 10:38	%R(1)	True CCV1	Found 16:39	%R(1)	True CCV2	Found 17:39	%R(1)	
Silver (Ag)	500	482	96.4	500	513.6	103	375	392.8	105	P
Arsenic (As)	1000	963.8	96.4	1000	1000	100	750	756.3	101	P
Beryllium (Be)	1000	973.1	97.3	1000	1010	101	750	756.7	101	P
Cadmium (Cd)	1000	1013	101	1000	1023	102	750	785.3	105	P
Chromium (Cr)	1000	1011	101	1000	1017	102	750	778.4	104	P
Copper (Cu)	1000	990	99.0	1000	1019	102	750	777.2	104	P
Manganese (Mn)	1000	1007	101	1000	979.4	97.9	750	759.8	101	P
Nickel (Ni)	1000	1039	104	1000	1032	103	750	793.8	106	P
Lead (Pb)	1000	1030	103	1000	1032	103	750	791.6	106	P
Antimony (Sb)	1000	1006	101	1000	1052	105	750	801.6	107	P
Selenium (Se)	1000	992.4	99.2	1000	1026	103	750	783.3	104	P
Thallium (Tl)	1000	965.4	96.5	1000	1039	104	750	790.3	105	P
Zinc (Zn)	1000	1041	104	1000	1008	101	750	769.8	103	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No: 68260 SDG: 68260
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 07/20/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 10:38	%R(1)	True CCV1	Found 18:35	%R(1)	True	Found	%R(1)	
Silver (Ag)	500	482	96.4	500	522.3	104				P
Arsenic (As)	1000	963.8	96.4	1000	1006	101				P
Beryllium (Be)	1000	973.1	97.3	1000	1022	102				P
Cadmium (Cd)	1000	1013	101	1000	1032	103				P
Chromium (Cr)	1000	1011	101	1000	1026	103				P
Copper (Cu)	1000	990	99.0	1000	1033	103				P
Manganese (Mn)	1000	1007	101	1000	1002	100				P
Nickel (Ni)	1000	1039	104	1000	1040	104				P
Lead (Pb)	1000	1030	103	1000	1048	105				P
Antimony (Sb)	1000	1006	101	1000	1072	107				P
Selenium (Se)	1000	992.4	99.2	1000	1043	104				P
Thallium (Tl)	1000	965.4	96.5	1000	1052	105				P
Zinc (Zn)	1000	1041	104	1000	1007	101				P

(1) Control Limits: Metals 90-110 ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 68260 SDG: 68260

Preparation Blank Matrix (soil/water): water

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

Analysis Date: 07/20/12

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)								Preparation Blank		M
		C	1	C	2	C	3	C		C			
	10:49		11:19		13:51		14:45		14:05				
Silver (Ag)	1.00	U	1.00	U	.76	J	1.00	U	1.00	U	P		
Arsenic (As)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P		
Beryllium (Be)	2.00	U	2.00	U	2.00	U	2.00	U	2.00	U	P		
Cadmium (Cd)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P		
Chromium (Cr)	5.00	U	5.00	U	5.00	U	5.00	U	3.87	J	P		
Copper (Cu)	5.00	U	5.00	U	5.00	U	5.00	U	6.46	*	*		
Manganese (Mn)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P		
Nickel (Ni)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P		
Lead (Pb)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P		
Antimony (Sb)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P		
Selenium (Se)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P		
Thallium (Tl)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P		
Zinc (Zn)	50.00	U	50.00	U	50.00	U	50.00	U	50.00	U	P		

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 68260 SDG: 68260

Preparation Blank Matrix (soil/water): water

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

Analysis Date: 07/20/12

Analyte	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
	10:49		15:47		16:43		17:43		14:13		
Silver (Ag)	1.00	U	.89	J	1.00	U	1.00	U	1.00	U	P
Arsenic (As)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P
Beryllium (Be)	2.00	U	2.00	U	2.00	U	.25	J	2.00	U	P
Cadmium (Cd)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P
Chromium (Cr)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P
Copper (Cu)	5.00	U	5.00	U	5.00	U	5.00	U	5.67	*	*
Manganese (Mn)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P
Nickel (Ni)	5.00	U	5.00	U	.85	J	5.00	U	5.00	U	P
Lead (Pb)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P
Antimony (Sb)	5.00	U	2.15	J	2.42	J	5.00	U	5.00	U	P
Selenium (Se)	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	P
Thallium (Tl)	5.00	U	5.00	U	3.00	J	2.51	J	2.00	J	P
Zinc (Zn)	50.00	U	50.00	U	50.00	U	50.00	U	50.00	U	P

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 68260 SDG: 68260

Preparation Blank Matrix (soil/water): water

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

Analysis Date: 07/20/12

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
	10:49		18:42						14:13		
Silver (Ag)	1.00	U	1.00	U					1.00	U	P
Arsenic (As)	5.00	U	5.00	U					5.00	U	P
Beryllium (Be)	2.00	U	2.00	U					2.00	U	P
Cadmium (Cd)	5.00	U	5.00	U					5.00	U	P
Chromium (Cr)	5.00	U	5.00	U					5.00	U	P
Copper (Cu)	5.00	U	5.00	U					5.67	*	*
Manganese (Mn)	5.00	U	5.00	U					5.00	U	P
Nickel (Ni)	5.00	U	.55	J					5.00	U	P
Lead (Pb)	5.00	U	5.00	U					5.00	U	P
Antimony (Sb)	5.00	U	5.00	U					5.00	U	P
Selenium (Se)	5.00	U	5.00	U					5.00	U	P
Thallium (Tl)	5.00	U	2.58	J					2.00	J	P
Zinc (Zn)	50.00	U	50.00	U					50.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No.: 68260 SDG: 68260
ICP ID Number: Phoebe ICS Source: Environmental Express

Analysis Date: 07/20/12 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 10:58	Sol AB 11:01	%R(1)
Silver (Ag)		1000	ND	1037	104
Aluminum (Al)	200000	200000	198400	196400	98.2
Arsenic (As)		500	1.083	501.3	100
Beryllium (Be)		500	ND	484.2	96.8
Calcium (Ca)	200000	200000	200700	197800	98.9
Cadmium (Cd)		1000	0.059	977.7	97.8
Chromium (Cr)		500	0.215	499.5	99.9
Copper (Cu)		500	ND	512.9	103
Iron (Fe)	200000	200000	190500	188400	94.2
Magnesium (Mg)	200000	200000	198800	196400	98.2
Manganese (Mn)		500	0.92	491.6	98.3
Nickel (Ni)		1000	ND	979.1	97.9
Lead (Pb)		1000	0.881	992.5	99.3
Antimony (Sb)		500	0.254	487.9	97.6
Selenium (Se)		500	ND	493.6	98.7
Thallium (Tl)		500	ND	477.6	95.5
Zinc (Zn)		1000	ND	988.6	98.9

(1) Control Limits: Metals 80-120

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 68260 SDG: 68260

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 07/27/12 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:51	%R(1)	True CCV1	Found 12:09	%R(1)	True CCV2	Found 12:46	%R(1)	
Zinc (Zn)	1000	1085	109	1000	1060	106	750	793.2	106	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 68260 SDG: 68260

Preparation Blank Matrix (soil/water): water

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

Analysis Date: 07/27/12

Analyte	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
	11:55		12:12		12:48						
Zinc (Zn)	50.00	U	50.00	U	50.00	U					P

A.P.P.L. INC.

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name:	A.P.P.L. INC.	Contract:	Parsons
ARF No.:	68260	SDG:	68260
ICP ID Number:	Phoebe	ICS Source:	Environmental Express

Analysis Date: 07/27/12 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 12:03	Sol AB 12:07	%R(1)
Aluminum (Al)	200000	200000	196400	192300	96.2
Calcium (Ca)	200000	200000	197600	193400	96.7
Iron (Fe)	200000	200000	180600	177200	88.6
Magnesium (Mg)	200000	200000	192300	188700	94.3
Zinc (Zn)		1000	ND	938.3	93.8

(1) Control Limits: Metals 80-120

Parsons

Hg BY METHOD 7470A ARF 68260
QCG: 120720A&B-7470A
ANALYSIS DATE: 07/24/12

R=0.99983

NAME	TRUE	RESULT	% RECOVERY
ICV	4.00ppb	4.155	103.9%
ICB	0ppb	0.089	
CCV-1	5.00ppb	5.077	101.5%
CCB-1	0ppb	0.099	
CCV-2	5.00ppb	5.213	104.3%
CCB-2	0ppb	0.135	
CCV-3	5.00ppb	5.234	104.7%
CCB-3	0ppb	0.145	
CCV-4	5.00ppb	5.273	105.5%
CCB-4	0ppb	0.169	
CCV-5	5.00ppb	5.174	103.5%
CCB-5	0ppb	0.218	

METALS
Raw Data

APPL, INC.

Mercury Digestion Worksheet

Method Name 7470A Mercury Digestion (Lab Filter) **Prep Method** M7470L **Set** 120720B **Units** mL

Spikes			
Spiked ID 1	Hg WORKING STANDARD 7-20-12		
Spiked ID 2	Hg WORKING ICV 7-20-12		
Spiked ID 3			
Spiked ID 4			
Spiked By	NM	Date:	07/20/12 9:30:00 AM
Witnessed By	BC	Date:	07/20/12 9:30:00 AM

Starting Temp:	95 c
Ending Temp:	95 c
Temp Type:	Modblock1 Dissolve
End Date/Time	07/20/12 11:30:00 AM

Mercury Calibration

Sample	Spike Amount	Spike ID	Final Volume
0 ppb		1	144.5 ml
0.2 ppb	0.4 ml	1	144.5 ml
0.5 ppb	1 ml	1	144.5 ml
1 ppb	2 ml	1	144.5 ml
2 ppb	4 ml	1	144.5 ml
5 ppb	10 ml	1	144.5 ml
5 ppb	10 ml	1	144.5 ml
10 ppb	20 ml	1	144.5 ml
ICV	8 ml	2	144.5 ml

Start Date/Time of Calibration 07/20/12 9:30

Sufficient Vol for Matrix QC:	Yes

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120720B Blk				50mL	72.25mL	07/20/12 9:30	equip: Modblock1 Dissolve
2	120720B LCS		4mL	1	50mL	72.25mL	07/20/12 9:30	equip: Modblock1
3	AY65098	AY65098W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
4	AY65099	AY65099W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
5	AY65100	AY65100W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
6	AY65101	AY65101W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
7	AY65102	AY65102W07			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
8	AY65103	AY65103W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
9	AY65104	AY65104W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
10	AY65105	AY65105W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
11	AY65106	AY65106W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
12	AY65107	AY65107W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
13	AY65108	AY65108W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
14	AY65109	AY65109W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
15	AY65110	AY65110W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
16	AY65111	AY65111W06			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
17	AY65111 MS	AY65111W07	4mL	1	50mL	72.25mL	07/20/12 9:30	equip: Modblock1
18	AY65111 MSD	AY65111W07	4mL	1	50mL	72.25mL	07/20/12 9:30	equip: Modblock1

Solvent and Lot#
HNO3 J.T.B L10023 0229
H2SO4 J.T.B. K18F01 0180
KMnO4 6-20-12
k2S2O8 5-22-12
Decolorizer 6-22-12

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	BA
Date	7-20-12
Time	11:30
Moved to	metals

Technician's Initials	
Scanned By	lo
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	07/20/12 9:13:46 AM

Reviewed By: BA **Date:** 7-20-12

Mercury Digestion Worksheet

Method Name 7470A Mercury Digestion **Prep Method** M7470 **Set** 120720A **Units** mL

Spikes			
Spiked ID 1	Hg WORKING STANDARD prep 7-20-12		
Spiked ID 2	Hg WORKING ICV prep 7-20-12		
Spiked ID 3			
Spiked ID 4			
Spiked By	NM	Date:	07/20/12 9:30:00 AM
Witnessed By	BC	Date:	07/20/12 9:30:00 AM

Starting Temp:	95 c
Ending Temp:	95 c
Temp Type:	Modblock1 Total
End Date/Time	07/20/12 11:30:00 AM

Mercury Calibration

Sample	Spike Amount	Spike ID	Final Volume
0 ppb		1	144.5 ml
0.2 ppb	0.4 ml	1	144.5 ml
0.5 ppb	1 ml	1	144.5 ml
1 ppb	2 ml	1	144.5 ml
2 ppb	4 ml	1	144.5 ml
5 ppb	10 ml	1	144.5 ml
5 ppb	10 ml	1	144.5 ml
10 ppb	20 ml	1	144.5 ml
ICV	8 ml	2	144.5 ml

Start Date/Time of Calibration 07/20/12 9:30

Sufficient Vol for Matrix QC: Yes

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120720A Blk				50mL	72.25mL	07/20/12 9:30	equip: Modblock1 Total
2	120720A LCS		4mL	1	50mL	72.25mL	07/20/12 9:30	equip: Modblock1
3	AY65098	AY65098W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
4	AY65099	AY65099W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
5	AY65100	AY65100W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
6	AY65101	AY65101W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
7	AY65102	AY65102W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
8	AY65103	AY65103W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
9	AY65104	AY65104W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
10	AY65105	AY65105W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
11	AY65106	AY65106W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
12	AY65107	AY65107W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
13	AY65108	AY65108W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
14	AY65109	AY65109W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
15	AY65110	AY65110W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
16	AY65111	AY65111W08			50mL	72.25mL	07/20/12 9:30	equip: Modblock1
17	AY65111 MS	AY65111W08	4mL	1	50mL	72.25mL	07/20/12 9:30	equip: Modblock1
18	AY65111 MSD	AY65111W08	4mL	1	50mL	72.25mL	07/20/12 9:30	equip: Modblock1

Solvent and Lot#
HNO3 J.T.B L10023 0229
H2SO4 J.T.B k18F01 0180
KMnO4 6-20-12
K2s2o8 5-22-12
Decolorizer 6-22-12

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	RA
Date	7-20-12
Time	11:30
Moved to	Metals

Technician's Initials	
Scanned By	lo
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	07/20/12 9:07:19 AM

Reviewed By: RA **Date:** 7-20-12

Metals Digestion Worksheet

Method Name 3010A Digestion **Prep Method** M3010 **Set** 120720B **Units** mL

Spikes			
Spiked ID 1	LCSW LOT# 1036660-30911		
Spiked ID 2	LCSW LOT# 1036821-30981		
Spiked ID 3			
Spiked ID 4			
Spiked By	NM	Date:	07/20/12 8:45:00 AM
Witnessed By	BC	Date:	07/20/12 8:45:00 AM

Starting Temp:	95 c
Ending Temp:	95 c
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	Yes
End Date/Time	07/20/12 13:30

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120720B Blk				50mL	50mL	07/20/12 8:45	equip: Modblock2
2	120720B LCS		500uL	1+2	50mL	50mL	07/20/12 8:45	equip: Modblock2
3	AY65098	AY65098W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
4	AY65099	AY65099W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
5	AY65100	AY65100W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
6	AY65101	AY65101W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
7	AY65102	AY65102W07			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
8	AY65103	AY65103W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
9	AY65104	AY65104W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
10	AY65105	AY65105W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
11	AY65106	AY65106W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
12	AY65107	AY65107W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
13	AY65108	AY65108W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
14	AY65109	AY65109W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
15	AY65110	AY65110W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
16	AY65111	AY65111W06			50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
17	AY65111 MS	AY65111W07	500uL	1+2	50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve
18	AY65111 MSD	AY65111W07	500uL	1+2	50mL	50mL	07/20/12 8:45	equip: Modblock2 Dissolve

Solvent and Lot#
HNO3 J.T.B L10023 0229
1:1 HCL 7-20-12

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	EA
Date	7-20-12
Time	13:30
Moved to	metals

Technician's Initials	
Scanned By	lo
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	07/20/12 8:23:07 AM

Reviewed By: EA **Date:** 7-20-12

Metals Digestion Worksheet

Method Name 3010A Digestion **Prep Method** M3010 **Set** 120720A **Units** mL

Spikes			
Spiked ID 1	LCSW LOT# 1036660-30911		
Spiked ID 2	LCSW LOT# 1036821-30981		
Spiked ID 3			
Spiked ID 4			
Spiked By	NM	Date:	07/20/12 8:45:00 AM
Witnessed By	BC	Date:	07/20/12 8:45:00 AM

Starting Temp:	95 c
Ending Temp:	95 c
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	Yes
End Date/Time	07/20/12 13:30

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	120720A Blk				50mL	50mL	07/20/12 8:45	equip: Modblock2
2	120720A LCS		500uL	1+2	50mL	50mL	07/20/12 8:45	equip: Modblock2
3	AY65067	AY65067W05			50mL	50mL	07/20/12 8:45	equip: Modblock2
4	AY65070	AY65070W05			50mL	50mL	07/20/12 8:45	equip: Modblock2
5	AY65098	AY65098W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
6	AY65099	AY65099W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
7	AY65100	AY65100W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
8	AY65101	AY65101W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
9	AY65102	AY65102W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
10	AY65103	AY65103W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
11	AY65104	AY65104W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
12	AY65105	AY65105W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
13	AY65106	AY65106W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
14	AY65107	AY65107W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
15	AY65108	AY65108W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
16	AY65109	AY65109W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
17	AY65110	AY65110W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
18	AY65111	AY65111W08			50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
19	AY65111 MS	AY65111W08	500uL	1+2	50mL	50mL	07/20/12 8:45	equip: Modblock2 Total
20	AY65111 MSD	AY65111W08	500uL	1+2	50mL	50mL	07/20/12 8:45	equip: Modblock2 Total

Solvent and Lot#
HNO3 J.T.B L10023 0229
1:1 HCL 7-20-12

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	BA
Date	7-20-12
Time	13:30
Moved to	Metals

Technician's Initials	
Scanned By	lo
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	07/20/12 8:16:35 AM

Reviewed By: BA **Date:** 7-20-12

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	20 Jul 2012	10:24	CalBlk 120720BC I:PB O:BC		120720A6010	1.
2	20 Jul 2012	10:28	STD 1 120720BC I:PB O:BC		120720A6010	1.
3	20 Jul 2012	10:32	STD 2 120720BC I:PB O:BC		120720A6010	1.
4	20 Jul 2012	10:35	STD 3 120720BC I:PB O:BC		120720A6010	1.
5	20 Jul 2012	10:38	ICV 120720BC I:PB O:BC		120720A6010	1.
6	20 Jul 2012	10:49	ICB 120720BC I:PB O:BC		120720A6010	1.
8	20 Jul 2012	10:58	ICSA 120720BC I:PB O:BC		120720A6010	1.
9	20 Jul 2012	11:01	ICSAB 120720BC I:PB O:BC		120720A6010	1.
10	20 Jul 2012	11:04	CCV1 120720BC I:PB O:BC		120720A6010	1.
11	20 Jul 2012	11:19	CCB 120720BC I:PB O:BC		120720A6010	1.
46	20 Jul 2012	13:44	CCV2 120720BC I:PB O:BC		120720A6010	1.
47	20 Jul 2012	13:51	CCB 120720BC I:PB O:BC		120720A6010	1.
50	20 Jul 2012	14:05	120720A-3010-BLK		120720A6010	1.
51	20 Jul 2012	14:09	120720A-3010-LCS		120720A6010	1.
52	20 Jul 2012	14:13	120720B-3010-BLK		120720A6010	1.
53	20 Jul 2012	14:17	120720B-3010-LCS		120720A6010	1.
56	20 Jul 2012	14:30	AY65098W08-D		120720A6010	1.
57	20 Jul 2012	14:34	AY65099W08-D		120720A6010	1.
58	20 Jul 2012	14:38	CCV1 120720BC I:PB O:BC		120720A6010	1.
59	20 Jul 2012	14:45	CCB 120720BC I:PB O:BC		120720A6010	1.
61	20 Jul 2012	14:58	AY65100W08-D		120720A6010	1.
62	20 Jul 2012	15:02	AY65101W08-D		120720A6010	1.
63	20 Jul 2012	15:07	AY65102W08-D		120720A6010	1.
64	20 Jul 2012	15:10	AY65103W08-D		120720A6010	1.
65	20 Jul 2012	15:15	AY65104W08-D		120720A6010	1.
66	20 Jul 2012	15:21	AY65105W08-D		120720A6010	1.
67	20 Jul 2012	15:26	AY65106W08-D		120720A6010	1.
68	20 Jul 2012	15:31	AY65107W08-D		120720A6010	1.
69	20 Jul 2012	15:35	AY65108W08-D		120720A6010	1.
70	20 Jul 2012	15:40	CCV2 120720BC I:PB O:BC		120720A6010	1.
71	20 Jul 2012	15:47	CCB 120720BC I:PB O:BC		120720A6010	1.
72	20 Jul 2012	15:51	AY65109W08-D		120720A6010	1.
73	20 Jul 2012	15:56	AY65110W08-D		120720A6010	1.
74	20 Jul 2012	16:02	AY65111W08-D		120720A6010	1.
79	20 Jul 2012	16:24	AY65098W06		120720A6010	1.
80	20 Jul 2012	16:29	AY65099W06		120720A6010	1.
81	20 Jul 2012	16:34	AY65100W06		120720A6010	1.
82	20 Jul 2012	16:39	CCV1 120720BC I:PB O:BC		120720A6010	1.
83	20 Jul 2012	16:43	CCB 120720BC I:PB O:BC		120720A6010	1.
84	20 Jul 2012	16:48	AY65101W06		120720A6010	1.
85	20 Jul 2012	16:53	AY65102W07		120720A6010	1.
86	20 Jul 2012	16:58	AY65103W06		120720A6010	1.
87	20 Jul 2012	17:03	AY65104W06		120720A6010	1.

88	20 Jul 2012	17:08	AY65105W06	120720A6010	1.
89	20 Jul 2012	17:14	AY65106W06	120720A6010	1.
90	20 Jul 2012	17:19	AY65107W06	120720A6010	1.
91	20 Jul 2012	17:24	AY65108W06	120720A6010	1.
92	20 Jul 2012	17:29	AY65109W06	120720A6010	1.
93	20 Jul 2012	17:34	AY65110W06	120720A6010	1.
94	20 Jul 2012	17:39	CCV2 120720BC I:PB O:BC	120720A6010	1.
95	20 Jul 2012	17:43	CCB 120720BC I:PB O:BC	120720A6010	1.
96	20 Jul 2012	17:47	AY65111W06	120720A6010	1.
106	20 Jul 2012	18:35	CCV1 120720BC I:PB O:BC	120720A6010	1.
107	20 Jul 2012	18:42	CCB 120720BC I:PB O:BC	120720A6010	1.

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	27 Jul 2012	11:37	CalBlk 120727BC I:PB O:BC		120727B6010	1.
2	27 Jul 2012	11:41	STD 1 120727BC I:PB O:BC		120727B6010	1.
3	27 Jul 2012	11:45	STD 2 120727BC I:PB O:BC		120727B6010	1.
4	27 Jul 2012	11:47	STD 3 120727BC I:PB O:BC		120727B6010	1.
5	27 Jul 2012	11:51	ICV 120727BC I:PB O:BC		120727B6010	1.
6	27 Jul 2012	11:55	ICB 120727BC I:PB O:BC		120727B6010	1.
8	27 Jul 2012	12:03	ICSA 120727BC I:PB O:BC		120727B6010	1.
9	27 Jul 2012	12:07	ICSAB 120727BC I:PB O:BC		120727B6010	1.
10	27 Jul 2012	12:09	CCV1 120727BC I:PB O:BC		120727B6010	1.
11	27 Jul 2012	12:12	CCB 120727BC I:PB O:BC		120727B6010	1.
12	27 Jul 2012	12:16	AY65098W08-1/10		120727B6010	10.
13	27 Jul 2012	12:20	AY65098W06-D-1/10		120727B6010	10.
17	27 Jul 2012	12:46	CCV2 120727BC I:PB O:BC		120727B6010	1.
18	27 Jul 2012	12:48	CCB 120727BC I:PB O:BC		120727B6010	1.

Sample_ID	EL	Sam_Date	Sam_Time	Mean_SA	Units	Batch_ID	Wt	Dilu
Calib. Blank	Hg	07/24/12	14:31:17		µg/L			
0.2 07-23-12 NM	Hg	07/24/12	14:32:30		µg/L			
0.5	Hg	07/24/12	14:33:44		µg/L			
1	Hg	07/24/12	14:35:50		µg/L			
2	Hg	07/24/12	14:37:57		µg/L			
5	Hg	07/24/12	14:40:05		µg/L			
10	Hg	07/24/12	14:42:13		µg/L			
ICV 07-23-12 NM	Hg	07/24/12	14:45:26	4.154676	µg/L			
ICB 07-23-12 NM	Hg	07/24/12	14:47:32	0.088728	µg/L			
CCV 07-23-12 NM	Hg	07/24/12	14:48:48	5.076587	µg/L			
CCB 07-23-12 NM	Hg	07/24/12	14:50:55	0.098754	µg/L			
120720B BLK	Hg	07/24/12	14:52:09	0.116505	µg/L	120720B-7470A		
120720B LCS	Hg	07/24/12	14:53:22	4.320941	µg/L	120720B-7470A		
120720A BLK	Hg	07/24/12	14:55:28	0.138587	µg/L	120720A-7470A		
120720A LCS	Hg	07/24/12	14:56:41	4.361146	µg/L	120720A-7470A		
AY65098W06	Hg	07/24/12	14:58:47	0.156338	µg/L	120720B-7470A		
AY65099W06	Hg	07/24/12	15:00:00	0.135493	µg/L	120720B-7470A		
AY65100W06	Hg	07/24/12	15:01:13	0.116381	µg/L	120720B-7470A		
AY65101W06	Hg	07/24/12	15:02:27	0.159977	µg/L	120720B-7470A		
AY65102W07	Hg	07/24/12	15:03:40	0.133562	µg/L	120720B-7470A		
AY65103W06	Hg	07/24/12	15:04:56	0.136458	µg/L	120720B-7470A		
CCV 07-23-12 NM	Hg	07/24/12	15:06:09	5.212922	µg/L			
CCB 07-23-12 NM	Hg	07/24/12	15:08:16	0.13527	µg/L			
AY65104W06	Hg	07/24/12	15:09:33	0.142474	µg/L	120720B-7470A		
AY65105W06	Hg	07/24/12	15:10:46	0.176366	µg/L	120720B-7470A		
AY65106W06	Hg	07/24/12	15:11:59	0.172925	µg/L	120720B-7470A		
AY65107W06	Hg	07/24/12	15:13:13	0.178049	µg/L	120720B-7470A		
AY65108W06	Hg	07/24/12	15:14:26	0.18768	µg/L	120720B-7470A		
AY65109W06	Hg	07/24/12	15:15:41	0.183743	µg/L	120720B-7470A		
AY65110W06	Hg	07/24/12	15:16:54	0.193002	µg/L	120720B-7470A		
AY65111W06	Hg	07/24/12	15:18:09	0.189883	µg/L	120720B-7470A		
~~AY65111W07 MS~~	~~Hg~~	~~07/24/12~~	~~15:19:22~~	~~4.637653~~	~~µg/L~~	~~120720B-7470A~~	~~——~~	~~—~~
~~AY65111W07 MSD~~	~~Hg~~	~~07/24/12~~	~~15:21:29~~	~~4.67605~~	~~µg/L~~	~~120720B-7470A~~	~~——~~	~~—~~
CCV 07-23-12 NM	Hg	07/24/12	15:24:47	5.234088	µg/L			
CCB 07-23-12 NM	Hg	07/24/12	15:26:56	0.145296	µg/L			
AY65098W08	Hg	07/24/12	15:28:50	0.174187	µg/L	120720A-7470A		
AY65099W08	Hg	07/24/12	15:30:03	0.197186	µg/L	120720A-7470A		
AY65100W08	Hg	07/24/12	15:31:16	0.224963	µg/L	120720A-7470A		
AY65101W08	Hg	07/24/12	15:32:29	0.194414	µg/L	120720A-7470A		
AY65102W08	Hg	07/24/12	15:33:43	0.183347	µg/L	120720A-7470A		
AY65103W08	Hg	07/24/12	15:34:56	0.194537	µg/L	120720A-7470A		
AY65104W08	Hg	07/24/12	15:36:09	0.161685	µg/L	120720A-7470A		
AY65105W08	Hg	07/24/12	15:37:22	0.19981	µg/L	120720A-7470A		
AY65106W08	Hg	07/24/12	15:38:36	0.167355	µg/L	120720A-7470A		
AY65107W08	Hg	07/24/12	15:39:49	0.180822	µg/L	120720A-7470A		
CCV 07-23-12 NM	Hg	07/24/12	15:41:03	5.272956	µg/L			
CCB 07-23-12 NM	Hg	07/24/12	15:43:14	0.169459	µg/L			
AY65108W08	Hg	07/24/12	15:44:30	0.215135	µg/L	120720A-7470A		
AY65109W08	Hg	07/24/12	15:45:46	0.201865	µg/L	120720A-7470A		
AY65110W08	Hg	07/24/12	15:47:00	0.206297	µg/L	120720A-7470A		
AY65111W08	Hg	07/24/12	15:48:13	0.206222	µg/L	120720A-7470A		

~~AY65111W08 MS~~	~~Hg~~	~~07/24/12~~	~~15:49:26~~	~~4.706303~~	~~µg/L~~	~~120720A-7470A~~	~~——~~	~~—~~	
~~AY65111W08 MSD~~	~~Hg~~	~~07/24/12~~	~~15:51:32~~	~~4.705659~~	~~µg/L~~	~~120720A-7470A~~	~~——~~	~~—~~	
CCV 07-23-12 NM	Hg	07/24/12	15:53:42	5.173831	µg/L				
CCB 07-23-12 NM	Hg	07/24/12	15:55:50	0.218205	µg/L				

R=0.99983

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 9056
Lab Name: APPL, Inc
Concentration Units: mg/L
Initial Calibration ID: 120621

AAB #: 120720A-169438
Contract #: *G012
Method Blank ID: 120720A-BLK

Analyte	Method Blank	RL	Q
CHLORIDE	< RL	1.000	U
SULFATE	< RL	1.000	U

Comments: ARF: 68260, Sample: AY65098

AFCEE FORM W-5

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: SM 2320B
AAB #: 120731C-169665
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: mg/L
Method Blank ID: 120731C-BLK
Initial Calibration ID: NA

Analyte	Method Blank	RL	Q
BICARBONATE AS CACO3	< RL	2.0	U
TOTAL ALKALINITY AS CACO3	< RL	2.0	U

Comments: ARF: 68260, Sample: AY65100

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: SM 2320B
AAB #: 120727A-169470
Lab Name: APPL, Inc
Contract #: *G012
Concentration Units: mg/L
Method Blank ID: 120727A-BLK
Initial Calibration ID: NA

Analyte	Method Blank	RL	Q
BICARBONATE AS CACO3	< RL	2.0	U
TOTAL ALKALINITY AS CACO3	< RL	2.0	U

Comments: ARF: 68260, Sample: AY65101

AFCEE FORM W-5

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 9056
Lab Name: APPL, Inc
LCS ID: 120720A LCS
Concentration Units: mg/L

AAB #: 120720A-169438
Contract #: *G012
Initial Calibration ID: 120621

Analyte	Expected	Found	% R	Control Limits	Q
CHLORIDE	20.00	19.06	95.3	79-109	
SULFATE	20.00	19.93	99.7	82-110	

Comments: ARF: 68260, Sample: AY65098

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE DUPLICATE

Analytical Method: EPA 9056
Lab Name: APPL, Inc
LCS ID: 120720A LCS
Concentration Units: mg/L

AAB #: 120720A-169438
Contract #: *G012
Initial Calibration ID: 120621

Analyte	Expected	Found	% R	Control Limits	Q
CHLORIDE	20.00	19.10	95.5	79-109	
SULFATE	20.00	20.07	100	82-110	

Comments: ARF: 68260, Sample: AY65098

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SM 2320B
AAB #: 120731C-169665
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120731C LCS
Concentration Units: mg/L

Analyte	Expected	Found	% R	Control Limits	Q
BICARBONATE AS CACO3	250.0	251.1	100	90-110	
TOTAL ALKALINITY AS CACO3	250.00	264.10	106	90-110	

Comments: ARF: 68260, Sample: AY65100

AFCEE FORM W-6

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE DUPLICATE

Analytical Method: SM 2320B
AAB #: 120731C-169665
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120731C LCS
Concentration Units: mg/L

Analyte	Expected	Found	% R	Control Limits	Q
BICARBONATE AS CACO3	250.0	255.4	102	90-110	
TOTAL ALKALINITY AS CACO3	250.00	268.40	107	90-110	

Comments: ARF: 68260, Sample: AY65100

AFCEE FORM W-6

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: SM 2320B
AAB #: 120727A-169470
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120727A LCS
Concentration Units: mg/L

Analyte	Expected	Found	% R	Control Limits	Q
BICARBONATE AS CACO3	250.0	255.3	102	90-110	
TOTAL ALKALINITY AS CACO3	250.00	270.15	108	90-110	

Comments: ARF: 68260, Sample: AY65101

AFCEE FORM W-6

AFCEE
WET CHEM ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE DUPLICATE

Analytical Method: SM 2320B
AAB #: 120727A-169470
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 120727A LCS
Concentration Units: mg/L

Analyte	Expected	Found	% R	Control Limits	Q
BICARBONATE AS CACO3	250.0	255.1	102	90-110	
TOTAL ALKALINITY AS CACO3	250.00	269.97	108	90-110	

Comments: ARF: 68260, Sample: AY65101

INORGANIC ANALYSIS
Sample Data

APPL, INC.

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW15-UGR Lab Sample ID: AY65098 Matrix: Water

% Solids: NA Initial Calibration ID: 120621

Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	4.06	1	
SULFATE	0.26	1.000	24.16	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW16-LGR Lab Sample ID: AY65099 Matrix: Water

% Solids: NA Initial Calibration ID: 120621

Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	5.46	1	
SULFATE	0.26	1.000	23.64	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW18-LGR Lab Sample ID: AY65100 Matrix: Water

% Solids: NA Initial Calibration ID: 120621

Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	5.10	1	
SULFATE	0.26	1.000	34.84	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW19-UGR Lab Sample ID: AY65101 Matrix: Water

% Solids: NA Initial Calibration ID: 120621

Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	9.03	1	
SULFATE	0.26	1.000	28.79	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW20 Lab Sample ID: AY65102 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	11.41	1	

Comments: ARF: 68260

AFCEE FORM W-2

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW20 Lab Sample ID: AY65102 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
SULFATE	2.60	10.000	227.55	10	

Comments: ARF: 68260

AFCEE FORM W-2

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW28A Lab Sample ID: AY65103 Matrix: Water

% Solids: NA Initial Calibration ID: 120621

Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	13.07	1	
SULFATE	0.26	1.000	17.65	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28B Lab Sample ID: AY65104 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	10.74	1	

Comments: ARF: 68260

AFCEE FORM W-2

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW28B Lab Sample ID: AY65104 Matrix: Water

% Solids: NA Initial Calibration ID: 120621

Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
SULFATE	0.52	2.000	57.91	2	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW27 Lab Sample ID: AY65105 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	7.59	1	

Comments: ARF: 68260

AFCEE FORM W-2

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW27 Lab Sample ID: AY65105 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
SULFATE	0.52	2.000	53.67	2	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW26 Lab Sample ID: AY65106 Matrix: Water

% Solids: NA Initial Calibration ID: 120621

Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	6.33	1	
SULFATE	0.26	1.000	23.61	1	

Comments: ARF: 68260

AFCEE FORM W-2

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW25 Lab Sample ID: AY65107 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	7.94	1	
SULFATE	0.26	1.000	20.39	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW29 Lab Sample ID: AY65108 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	6.91	1	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW29 Lab Sample ID: AY65108 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
SULFATE	1.30	5.000	114.74	5	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW31 Lab Sample ID: AY65109 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	14.07	1	
SULFATE	0.26	1.000	26.34	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW32 Lab Sample ID: AY65110 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	2.72	1	
SULFATE	0.26	1.000	11.67	1	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-TSW-01 Lab Sample ID: AY65111 Matrix: Water

% Solids: NA Initial Calibration ID: 120621

Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
CHLORIDE	0.08	1.000	15.07	1	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 9056 AAB #: 120720A-169438
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-TSW-01 Lab Sample ID: AY65111 Matrix: Water
% Solids: NA Initial Calibration ID: 120621
Date Received: 19-Jul-12 Date Prepared: 20-Jul-12 Date Analyzed: 20-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
SULFATE	2.60	10.000	238.78	10	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW15-UGR Lab Sample ID: AY65098 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	375.2	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	375.17	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW16-LGR Lab Sample ID: AY65099 Matrix: Water
% Solids: NA
Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	272.0	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	272.01	1	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120731C-169665

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW18-LGR Lab Sample ID: AY65100 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 31-Jul-12 Date Analyzed: 31-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	3718.6	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	3718.60	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW19-UGR Lab Sample ID: AY65101 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	206.9	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	206.94	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW20 Lab Sample ID: AY65102 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	810.9	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	810.89	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28A Lab Sample ID: AY65103 Matrix: Water
% Solids: NA
Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	1011.6	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	1011.56	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW28B Lab Sample ID: AY65104 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	303.1	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	303.12	1	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW27 Lab Sample ID: AY65105 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	249.0	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	249.02	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW26 Lab Sample ID: AY65106 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	319.3	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	319.30	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120731C-169665

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW25 Lab Sample ID: AY65107 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 31-Jul-12 Date Analyzed: 31-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	7900.4	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	7900.40	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW29 Lab Sample ID: AY65108 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	229.1	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	229.13	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW31 Lab Sample ID: AY65109 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	266.3	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	266.26	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW32 Lab Sample ID: AY65110 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	219.8	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	219.76	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM 2320B AAB #: 120727A-169470

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-TSW-01 Lab Sample ID: AY65111 Matrix: Water

% Solids: NA

Date Received: 19-Jul-12 Date Prepared: 27-Jul-12 Date Analyzed: 27-Jul-12

Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
BICARBONATE AS CACO3	0.3	2.0	200.2	1	
TOTAL ALKALINITY AS CACO3	0.85	2.0	200.23	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW15-UGR Lab Sample ID: AY65098 Matrix: Water

% Solids: NA Initial Calibration ID: 120719B

Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12

Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.7@22.2C	1	

Comments: ARF: 68260

AFCEE FORM W-2

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW16-LGR Lab Sample ID: AY65099 Matrix: Water

% Solids: NA Initial Calibration ID: 120719B

Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12

Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.2@20.3C	1	

Comments: ARF: 68260

AFCEE FORM W-2

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW18-LGR Lab Sample ID: AY65100 Matrix: Water

% Solids: NA Initial Calibration ID: 120719B

Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12

Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.2@20.3C	1	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-VEW19-UGR Lab Sample ID: AY65101 Matrix: Water

% Solids: NA Initial Calibration ID: 120719B

Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12

Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.7@20.7C	1	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW20 Lab Sample ID: AY65102 Matrix: Water
% Solids: NA Initial Calibration ID: 120719B
Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12
Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.6@17.5C	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28A Lab Sample ID: AY65103 Matrix: Water
% Solids: NA Initial Calibration ID: 120719B
Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12
Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.3@20.8C	1	

Comments: ARF: 68260

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW28B Lab Sample ID: AY65104 Matrix: Water
% Solids: NA Initial Calibration ID: 120719B
Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12
Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.7@22.2C	1	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW27 Lab Sample ID: AY65105 Matrix: Water
% Solids: NA Initial Calibration ID: 120719B
Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12
Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.4@21.4C	1	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW26 Lab Sample ID: AY65106 Matrix: Water
% Solids: NA Initial Calibration ID: 120719B
Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12
Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.6@15.9C	1	

Comments: ARF: 68260

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WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW25 Lab Sample ID: AY65107 Matrix: Water
% Solids: NA Initial Calibration ID: 120719B
Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12
Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.4@15.4C	1	

Comments: ARF: 68260

AFCEE FORM W-2

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW29 Lab Sample ID: AY65108 Matrix: Water
% Solids: NA Initial Calibration ID: 120719B
Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12
Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.3@18.1C	1	

Comments: ARF: 68260

AFCEE FORM W-2

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW31 Lab Sample ID: AY65109 Matrix: Water
% Solids: NA Initial Calibration ID: 120719B
Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12
Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.0@18.9C	1	

Comments: ARF: 68260

AFCEE FORM W-2

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-VEW32 Lab Sample ID: AY65110 Matrix: Water
% Solids: NA Initial Calibration ID: 120719B
Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12
Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.5@19.3C	1	

Comments: ARF: 68260

AFCEE FORM W-2

AFCEE
WET CHEM ANALYSES DATA SHEET 2
RESULTS

Analytical Method: SM4500HB AAB #: 120719b-169202

Lab Name: APPL, Inc Contract #: *G012

Field Sample ID: AOC65-TSW-01 Lab Sample ID: AY65111 Matrix: Water

% Solids: NA Initial Calibration ID: 120719B

Date Received: 19-Jul-12 Date Prepared: 19-Jul-12 Date Analyzed: 19-Jul-12

Concentration Units: pH Units

Analyte	MDL	RL	Concentration	Dilution	Qualifier
PH		1.0	7.3@19.7C	1	

Comments: ARF: 68260

AFCEE FORM W-2

INORGANIC ANALYSIS
Calibration Data

APPL, INC.

INORGANIC ANALYSES
AUTO CALIBRATION

Analytical Method: 300/9056

Lab Name: APPL, Inc.

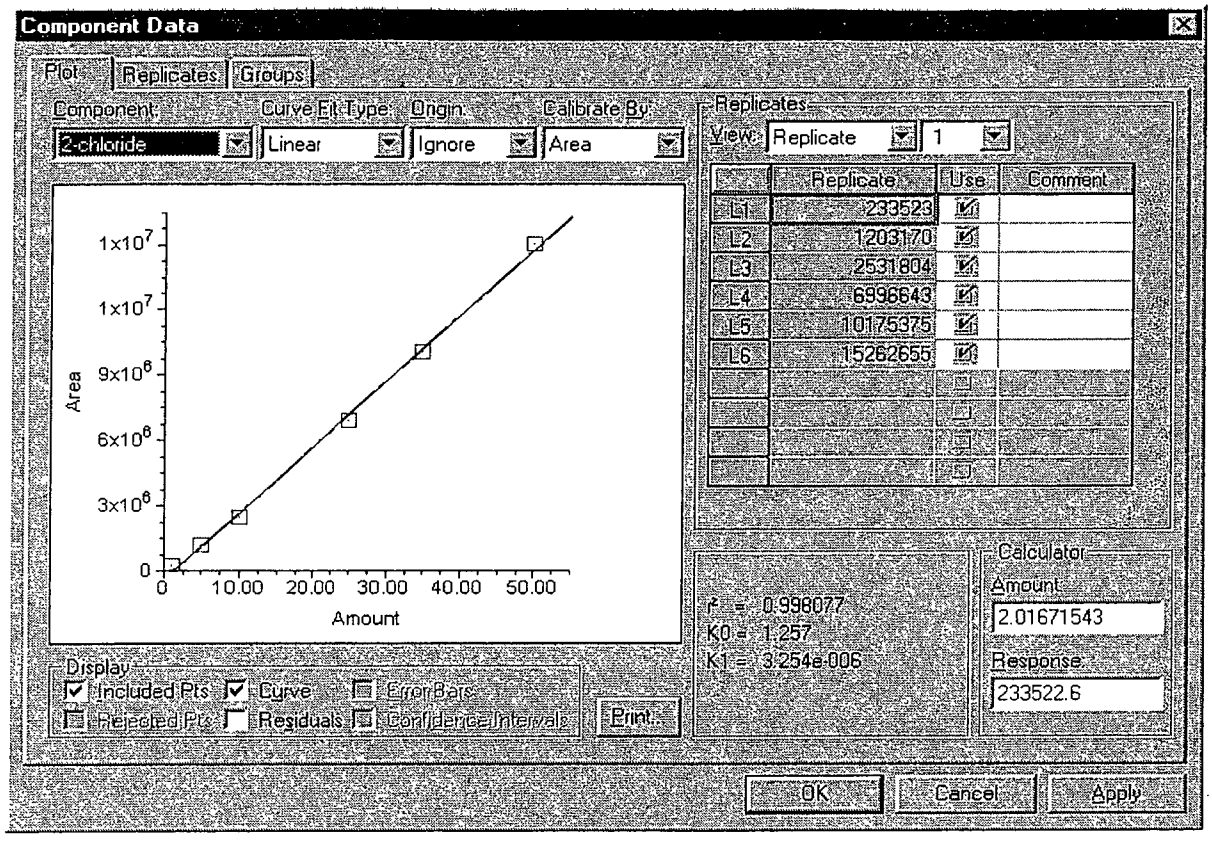
Instrument ID: Dionex

Autocal ID: 120621a

Concentration Units (mg/L or mg/kg): mg/L

Analyte	1	2	3	4	5	6	7
	Autocal 13:42	Autocal 13:55	Autocal 14:08	Autocal 14:21	Autocal 14:34	Autocal 14:47	
Bromide	52042	267297	537154	1404643	1921326	2810345	
Chloride	233522	1203169	2531804	6996643	10175374	15262655	
Fluoride	33519	188448	408578	1035973	1455507	2149843	
Nitrate-N	110234	580866	1177659	3106000	4368094	6418610	
Nitrite-N	44175	265378	543229	1395528	1926318	2805545	
Phosphate-P	119236	406805	688437	1423889	1893921	2609301	
Sulfate	161378	848584	1807412	4691601	6666095	9819286	

Comments:


Component Data
Plot
Replicates
Groups
Component:
2-chloride
Curve Fit Type:
Linear
Origin:
Ignore
Calibrate By:
Area
Area
Amount
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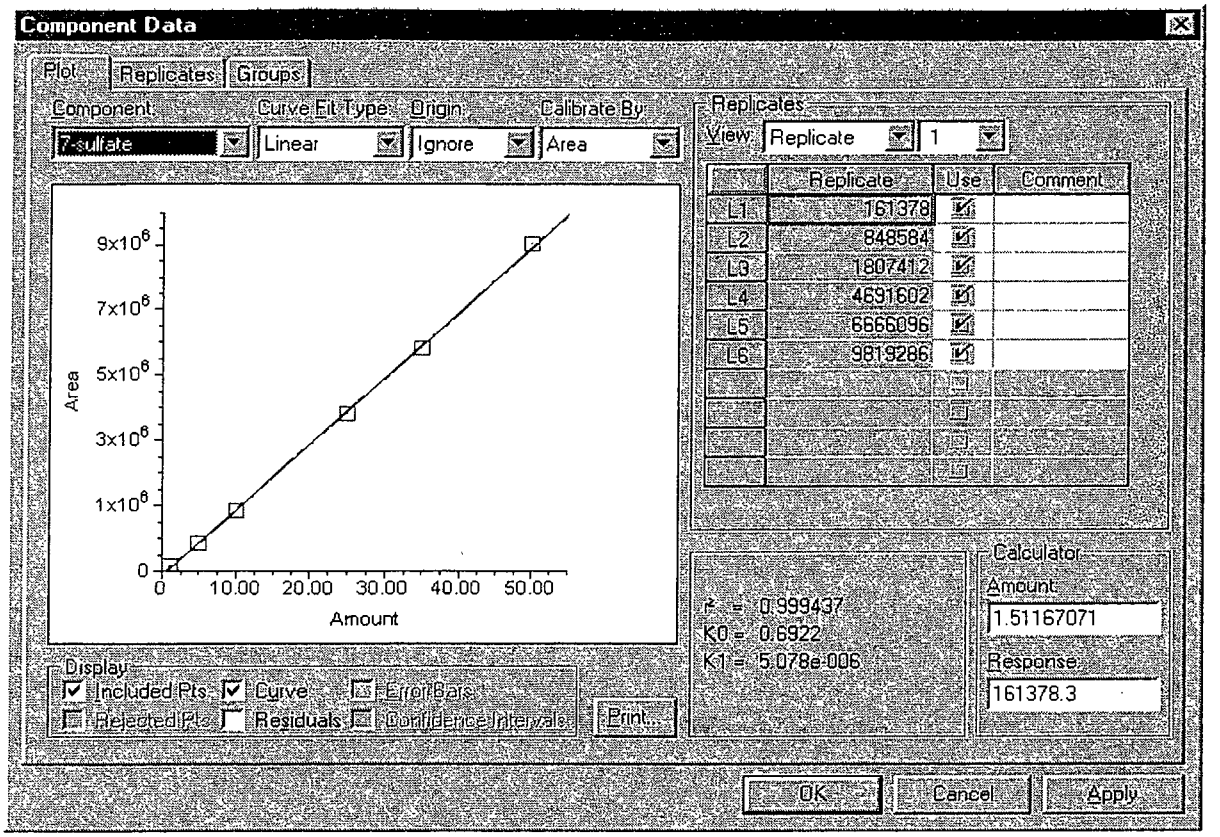
1x10^7
9x10^6
6x10^6
3x10^6
0
0
10.00
20.00
30.00
40.00
50.00
Display
Included Pts
Curve
Error Bars
Rejected Pts
Residuals
Confidence Intervals
Print...
Replicates
View:
Replicate
1
Replicate
Use
Comment
L1
233523
L2
1203170
L3
2531804
L4
6996643
L5
10175375
L6
15262655
r² = 0.998077
K0 = 1.257
K1 = 3.254e-006
Calculator
Amount
2.01671543
Response
233522.6
OK
Cancel
Apply


Component Data
Plot
Replicates
Groups
Component
Curve Fit Type
Origin
Calibrate By
7-sulfate
Linear
Ignore
Area
9x10^6
7x10^6
5x10^6
3x10^6
1x10^6
0
Area
0
10.00
20.00
30.00
40.00
50.00
Amount
Replicates
View
Replicate
1
Replicate
Use
Comment
L1
161378
L2
848584
L3
1807412
L4
4691602
L5
6666096
L6
9819286
r = 0.999437
K0 = 0.6922
K1 = 5.078e-006
Calculator
Amount
1.51167071
Response
161378.3
Display
Included Pts
Curve
Error Bars
Rejected Pts
Residuals
Confidence Intervals
Print...
OK
Cancel
Apply

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No: 68260 SDG: 68260
Initial Calibration Source: o2si
Continuing Calibration Source: o2si
Analysis Date: 06/21/12

Analyte	Calibration Verification									M
	True ICV	Found 15:16	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	12.3116	98.5							
chloride	20	18.3868	91.9							
fluoride	2.5	2.27319	90.9							
Nitrate(NO3)-N	5	4.88760	97.8							
Nitrite(NO2)-N	3.04	2.83108	93.1							
phosphate-p	5	4.90175	98.0							
sulfate	20	19.0437	95.2							

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 68260 SDG: 68260

Preparation Blank Matrix (soil/water): water

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

Analyte	Calibration Blanks										M
	ICB 06/21/12 15:28	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	.100	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)-N	.100	U									
phosphate-p	.200	U									
sulfate	1.000	U									

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 68260 SDG: 68260

Initial Calibration Source: o2si

Continuing Calibration Source: o2si

Analysis Date: 07/20/12

Analyte	Calibration Verification									M
	True CCV1	Found 8:52	%R(1)	True CCV1	Found 11:26	%R(1)	True CCV1	Found 13:59	%R(1)	
chloride	25	24.2990	97.2	25	24.4874	97.9	25	24.4535	97.8	
sulfate	25	25.3106	101	25	25.2949	101	25	25.2397	101	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 68260 SDG: 68260

Initial Calibration Source: o2si

Continuing Calibration Source: o2si

Analysis Date: 07/20/12

Analyte	Calibration Verification									M
	True CCV1	Found 16:33	%R(1)	True CCV1	Found 18:15	%R(1)	True	Found	%R(1)	
chloride	25	24.5654	98.3	25	24.5415	98.2				
sulfate	25	25.4731	102	25	25.6123	102				

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 68260 SDG: 68260

Preparation Blank Matrix (soil/water): water

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

Analyte	Calibration Blanks										M
	CCB 07/20/12 09:05	C	CCB 07/20/12 11:38	C	CCB 07/20/12 14:12	C	CCB 07/20/12 16:46	C	CCB 07/20/12 18:28	C	
chloride	1.000	U	1.000	U	1.000	U	1.000	U	1.0000	U	
sulfate	1.000	U	1.000	U	1.000	U	1.000	U	1.0000	U	

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 68260 SDG: 68260

Initial Calibration Source: CPI

Continuing Calibration Source: CPI

Analysis Date: 07/19/12

Analyte	Calibration Verification									M
	True CCV1	Found 9:04	%R(1)	True CCV1	Found 13:28	%R(1)	True CCV1	Found 16:06	%R(1)	
pH	7	7.02	100	7	7.02	100	7	7.02	100	

(1) Control Limits: 99-101

ILM02.0

INORGANIC ANALYSIS
Raw Data

APPL, INC.

300/9056 Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
26	21 Jun 2012	13:42	CAL STD #1 06/21/12		120621a	12.0 6/22/12
27	21 Jun 2012	13:55	CAL STD #2		120621a	1.
28	21 Jun 2012	14:08	CAL STD #3		120621a	1.
29	21 Jun 2012	14:21	CAL STD #4		120621a	1.
30	21 Jun 2012	14:34	CAL STD #5		120621a	1.
31	21 Jun 2012	14:47	CAL STD #6		120621a	1.
32	21 Jun 2012	15:16	ICV 120621		120621a	1.
33	21 Jun 2012	15:28	ICB		120621a	1.

300/9056 Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	20 Jul 2012	08:52	CCV 120720		120720a	1.
4	20 Jul 2012	09:05	CCB		120720a	1.
5	20 Jul 2012	09:17	120720A LCS		120720a	1.
6	20 Jul 2012	09:30	120720A LCSD		120720a	1.
9	20 Jul 2012	10:09	AY65098W05		120720a	1.
10	20 Jul 2012	10:21	AY65099W05		120720a	1.
11	20 Jul 2012	10:34	AY65100W05		120720a	1.
12	20 Jul 2012	10:47	AY65101W05		120720a	1.
15	20 Jul 2012	11:26	CCV 120720		120720a	1.
16	20 Jul 2012	11:38	CCB		120720a	1.
18	20 Jul 2012	12:04	AY65102W05		120720a	1.
19	20 Jul 2012	12:17	AY65103W05		120720a	1.
20	20 Jul 2012	12:30	AY65104W05		120720a	1.
21	20 Jul 2012	12:42	AY65105W05		120720a	1.
22	20 Jul 2012	12:55	AY65106W04		120720a	1.
23	20 Jul 2012	13:08	AY65107W05		120720a	1.
24	20 Jul 2012	13:21	AY65108W05		120720a	1.
25	20 Jul 2012	13:34	AY65109W04		120720a	1.
27	20 Jul 2012	13:59	CCV 120720		120720a	1.
28	20 Jul 2012	14:12	CCB		120720a	1.
29	20 Jul 2012	14:25	AY65110W04		120720a	1.
30	20 Jul 2012	14:37	AY65111W05		120720a	1.
37	20 Jul 2012	16:07	AY65104W05 1/2		120720a	2.
39	20 Jul 2012	16:33	CCV 120720		120720a	1.
40	20 Jul 2012	16:46	CCB		120720a	1.
42	20 Jul 2012	17:11	AY65102W05 1/10		120720a	10.
43	20 Jul 2012	17:24	AY65105W05 1/2		120720a	2.
45	20 Jul 2012	17:50	AY65108W05 1/5		120720a	5.
46	20 Jul 2012	18:03	AY65111W05 1/10		120720a	10.
47	20 Jul 2012	18:15	CCV 120720		120720a	1.
48	20 Jul 2012	18:28	CCB		120720a	1.

Laboratory Report

Parsons

Project #: 748350.01100 CSSA

ARF: 70770

Samples collected: May 16, 2013

APPL, Inc.

Summary Package

for

Project #: 748350.01100 CSSA

ARF 70770

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

CASE NARRATIVE

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Case Narrative

ARF: 70770

Project: 748350.01100 CSSA

California State Certification Number: CA1312 (DW & WW)

NELAP Certification number: 05233CA (HW)

Texas Certificate Number: T104704242-10-3

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Sample Receipt Information:

The samples were received May 17, 2013, at 3.0°C. The samples were assigned Analytical Request Form (ARF) number 70770. The sample numbers and requested analyses were compared to the chain of custody and email communications. A revised COC was received on May 17th. No other exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
AOC65-WC13	AY80649	SOIL	05/16/13	05/17/13
AOC65-WC14	AY80650	SOIL	05/16/13	05/17/13

TCLP VOCs
EPA Method 8260B

Sample Preparation:

The solid sample was leached according to EPA method 1311 and the leachate was purged according to EPA method 5030B. All holding times were met.

Sample Analysis Information:

The sample was analyzed according to the method using an Agilent Chromatograph with a mass spectrometer detector.

Quality Control/Assurance:

Calibrations:

Initial and continuing calibrations were performed according to the method.

Blanks:

No target compound was detected at or above its reporting limit in the method blank.

Spikes:

A Laboratory Control Spike (LCS) was used for quality assurance. A second-source standard was used for the LCS. All LCS recovery criteria were met.

No sample was designated by the client for MS/MSD analysis.

Surrogates:

Surrogate recoveries are summarized on Form 2 & 8. All surrogate recoveries were acceptable.

Tuning:

The instrument was tuned using BFB. All method criteria were met.

Internal Standards:

The internal standard area counts were compared to the mid-point of the initial calibration according to method 8260. All method criteria were met.

Summary:

No problem was encountered. The data generated are acceptable.

EPA Methods 6010B and 7470A
TCLP Metals

Digestion Information:

The solid sample was leached according to EPA method 1311, and the leachate was digested according to EPA methods 3010A and 7470A. No exceptions were encountered. All holding times were met.

Analysis Information:

Samples:

The sample was analyzed for TCLP metals according to EPA method 6010B using a Perkin Elmer Optima 5300DV ICP and according to EPA method 7470A using a Perkin Elmer AAnalyst 300.

Calibrations:

Calibrations were performed according to the methods for the initial calibration and the initial calibration verification. The initial calibration verification is prepared from a second source standard. All calibration acceptance criteria were met.

Blanks:

No target metal was detected above the reporting limit (RL) in the method blanks.

Spikes:

Laboratory Control Spikes (LCS) were used for quality assurance. All LCS acceptance criteria were met.

No sample was designated by the client for MS/MSD analysis.

Summary:

No analytical exception is noted.

CERTIFICATION

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

5-24-13

Sharon Dehmlow, Laboratory Director / Date

CHAIN OF CUSTODY
AND ARF

APPL - Analysis Request Form 70770

Client: **Parsons**
Address: **8000 Centre Park Drive Ste 200**
Austin, TX 78754
Attn: **Tammy Chang**
Phone: **512-719-6092** Fax: **512-719-6099**
Job: **748350.01100 CSSA**
PO #: **748336.30000-00 (prime *G012)**
Chain of Custody (Y/N): **Y** # **051613APPFA**
RAD Screen (Y/N): **Y** pH (Y/N): **N**
Turn Around Type: **3 DAYS**

Received by: **WLA**
Date Received: **05/17/13** Time: **11:30**
Delivered by: **FED EX**
Shuttle Custody Seals (Y/N): **Y** Time Zone: **-5**
Chest Temp(s): **3.0°C**
Color: **VOA,A-GRN**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Diane Anderson**
QC Report Type: **DVP3/AFCEE/ERPIMS/TX**
Due Date: **05/20/13**

Comments:
Prelim results due 5-22-13; final report due 5-29-13
pdf ARF to Tammy & Pam; send 1 DVP3 HC & send DVP3 on CD to Tammy.
Data screening project: analyze samples ONCE; report deficiencies; do NOT re-analyze
Case Narrative. CSSA QAPP. Onlyreport MS/MSD when requested.
Use AFCEE forms with AFCEE flagging to report sample & QC data only.
APPL forms for everything else and APPL DVP3.
EDD: ERPIMS 4 Lab PC4 checked TXF to Pamela.Ford@parsons.com
Revised COC rec'd 5-17-13. rp

emailed login 5-20-13 rp

Sample Distribution:
VOA: 1-$TCLPV
Metals: 1-$60LP(As,Ba,Cd,Cr,Pb,Se,Ag), 1-$HGT
Other: 1-_M3010TCLP, 1-_M7470TCLP

Charges:

Invoice To:
BOA 748336.30000 TO#1
8000 Centre Park Drive Ste 200
Austin, TX 78754-5140
Attn: Ellen Felfe

	Client ID	APPL ID	Sampled	Analyses Requested
1.	AOC65-WC13	AY80649S	05/16/13 16:37	$60LP(As,Ba,Cd,Cr,Pb,Se,Ag), $HGT
2.	AOC65-WC14	AY80650S	05/16/13 16:45	$TCLPV

APPL Sample Receipt Form

ARF# **70770**

Sample	Container Type	Count	pH
AY80649	20 4oz Jar	1	NA
AY80650	20 4oz Jar	1	NA

Sample	Container Type	Count	pH

Camp Stanley Storage Activity Chain Of Custody

COC ID:	051613APPFA	Relinquish_Date:	5/16/2013	Cooler ID:	A		
Project Location:	CSSA	Relinquished_By:	JDB	LabCode:	APPF	Sampler(s):	Julie Bough
Job Number:	748350.01100	Relinquish_Time:	6:00 PM	Carrier:	FedEx		
Creation Date:	5/16/2013	Collection Team:	JB-BM	Airbill Carrier:	876436445509		
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	3 Day TAT		

LOCID: **AOC65-WC13** LOGDATE: 5/16/2013 MATRIX: SO TBLOT:
SBD: 0 LOGTIME: 16:37 SACODE: N SMCODE: CS ABLOT:
SED: 0 FLDSAMPID AOC65-WC13_051613_N1637 EBLOT:
Remarks: Containers: 1

Analysis Required:

SW6010B	TCLP - Silver (Ag)	SW6010B	TCLP - Arsenic (As)
SW6010B	TCLP - Barium (Ba)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Lead (Pb)
SW6010B	TCLP - Selenium (Se)	SW7470A	TCLP - Mercury (Hg)

LOCID: **AOC65-WC14** LOGDATE: 5/16/2013 MATRIX: SO TBLOT:
SBD: 0 LOGTIME: 16:45 SACODE: N SMCODE: G ABLOT:
SED: 0 FLDSAMPID AOC65-WC14_051613_N1645 EBLOT:
Remarks: Containers: 1

Analysis Required:

SW8260B TCLP - VOC ~~(Full List)~~

TC 5/17/13

Relinquished by: _____ Date 5-16-13 Time 1800
Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____
Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____
Recieved by: _____ Date _____ Time _____

Camp Stanley Storage Activity Chain Of Custody

3.0°C
70770

COC ID:	051613APPFA	Relinquish_Date:	5/16/2013	Cooler ID:	A
Project Location:	CSSA	Relinquished_By:	JDB	LabCode:	APPF
Job Number:	748350.01100	Relinquish_Time:	6:00 PM	Carrier:	FedEx
Creation Date:	5/16/2013	Collection Team:	JB-BM	Airbill Carrier:	876436445509
Task Manager	Ken Rice	Sample Data Type	Screening	TAT:	3 Day TAT

Sampler(s): Julie Bough WD Martin

LOCID: **AOC65-WC13** LOGDATE: **5/16/2013** MATRIX: **SO** TBLOT:
SBD: **0** LOGTIME: **16:37** SACODE: **N** SMCODE: **CS** ABLOT:
SED: **0** FLDSAMPID **AOC65-WC13_051613_N1637** EBLOT:
Remarks:

Containers: 1

Analysis Required:

SW6010B	TCLP - Silver (Ag)	SW6010B	TCLP - Arsenic (As)
SW6010B	TCLP - Barium (Ba)	SW6010B	TCLP - Cadmium (Cd)
SW6010B	TCLP - Chromium (Cr)	SW6010B	TCLP - Lead (Pb)
SW6010B	TCLP - Selenium (Se)	SW7470A	TCLP - Mercury (Hg)

LOCID: **AOC65-WC14** LOGDATE: **5/16/2013** MATRIX: **SO** TBLOT:
SBD: **0** LOGTIME: **16:45** SACODE: **N** SMCODE: **G** ABLOT:
SED: **0** FLDSAMPID **AOC65-WC14_051613_N1645** EBLOT:
Remarks:

Containers: 1

Analysis Required:

SW8260B	TCLP - VOC (Full List)

Relinquished by: _____ Date 5-16-13 Time 1800
Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____
Recieved by: _____ Date _____ Time _____

Relinquished by: _____ Date _____ Time _____
Recieved by: _____ Date 5/17/13 Time 1130

COOLER RECEIPT FORM

1) Project: 748350.01100 CSSA Date Received: 5/17/13

2) Coolers: Number of Coolers: 1

3) YES NO Were coolers and samples screened for radioactivity?

4) YES NO Were custody seals on outside of cooler? How many? 2 Date on seal? 5/16/13

5) Name on seal? See Label

6) YES NO NA Were custody seals unbroken and intact at the time of arrival?

7) YES NO Did the cooler come with a shipping slip (air bill, etc.)? Carrier name: Fed Ex

8) Shipping slip numbers: 1) 8764 3644 5509 2) 3)

9) YES NO NA Was the shipping slip scanned into the database?

10) YES NO NA If cooler belongs to APPL, has it been logged into the ice chest database?

11) Describe type of packing in cooler (bubble wrap, popcorn, type of ice, etc.): bubble bag, Ziploc in wet ice

12) YES NO NA For hand delivered samples was sufficient ice present to start the cooling process?

13) YES NO Was a temperature blank included in the cooler?

14) Serial number of certified NIST thermometer used: A39267 Correction factor: 0

15) Cooler temp(s): 1) 3.0°C 2) 3) 4) 5) 6) 7) 8)

Chain of custody:

16) YES NO Was a chain of custody received?

17) YES NO Were the custody papers signed in the appropriate places?

18) YES NO Was the project identifiable from custody papers?

19) YES NO Did the chain of custody include date and time of sampling?

20) YES NO Is location where sample was taken listed on the chain of custody?

Sample Labels:

21) YES NO Were container labels in good condition?

22) YES NO Was the client ID on the label?

23) YES NO Was the date of sampling on the label?

24) YES NO Was the time of sampling on the label?

25) YES NO Did all container labels agree with custody papers?

Sample Containers:

26) YES NO Were all containers sealed in separate bags?

27) YES NO Did all containers arrive unbroken?

28) YES NO Was there any leakage from samples?

29) YES NO Were any of the lids cracked or broken?

30) YES NO Were correct containers used for the tests indicated?

31) YES NO Was a sufficient amount of sample sent for tests indicated?

32) YES NO NA Were bubbles present in volatile samples? If yes, the following were received with air bubbles:

Larger than a pea:

Smaller than a pea:

Preservation & Hold time:

33) YES NO NA Was a sufficient amount of holding time remaining to analyze the samples?

34) YES NO NA Do the sample containers contain the same preservative as what is stated on the COC?

35) YES NO NA Was the pH taken of all non-VOA preserved samples and written on the sample container?

36) YES NO NA Was the pH of acid preserved non-VOA samples < 2 & sodium hydroxide preserved samples > 12?

37) YES NO NA Unpreserved VOA Vials received?

38) YES NO NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?

Lab notified if pH was not adequate:

Deficiencies:

Signature of personnel receiving samples: Yang Li Second reviewer:

Signature of project manager notified: Date and Time of notification:

Name of client notified: Date and Time of notification:

Information given to client:

by whom (Initials):

CUSTODY SEAL
APPL, Inc.
(559) 275-2175
Initials JM
Date 5-16-13

EPA METHOD 8260B

TCLP
Volatile Organic Compounds

APPL, INC.

EPA METHOD 8260B

TCLP
Volatile Organic Compounds
QC Summary

APPL, INC.

AFCEE
ORGANIC ANALYSES DATA SHEET 6
BLANK

Analytical Method: EPA EPA 8
Lab Name: APPL, Inc
Concentration Units: ug/L
Initial Calibration ID: T130521

AAB #: 130522AT-177676
Contract #: *G012
Method Blank ID: 130522AT-BLK

Analyte	Method Blank	RL	Q
1,1-DICHLOROETHENE	< RL	10.0	U
1,2-DICHLOROETHANE	< RL	10.0	U
1,4-DICHLOROBENZENE	< RL	10.0	U
2-BUTANONE (MEK)	< RL	10.0	U
BENZENE	< RL	10.0	U
CARBON TETRACHLORIDE	< RL	10.0	U
CHLOROBENZENE	< RL	10.0	U
CHLOROFORM	< RL	10.0	U
TETRACHLOROETHENE	< RL	10.0	U
TRICHLOROETHENE	< RL	10.0	U
VINYL CHLORIDE	< RL	10.0	U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHAN	112	75-125	
SURROGATE: 4-BROMOFLUOROBE	99.8	75-125	
SURROGATE: TOLUENE-D8 (S)	108	75-125	

Comments: ARF: 70770, Sample: AY80650

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 70770

Case No: 70770 Date Analyzed: 05/22/13

Matrix: SOIL Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
130522AT-LCS	Lab Control Spike	75-125	97.6		75-125	105	
130522AT-BLK	Blank	75-125	112		75-125	99.8	
AY80650	AOC65-WC14	75-125	105		75-125	101	

Comments: Batch: #TCLPV-130522AT

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 70770

Case No: 70770 Date Analyzed: 05/22/13

Matrix: SOIL Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: TOLUENE-D8 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
130522AT-LCS	Lab Control Spike	75-125	97.4				
130522AT-BLK	Blank	75-125	108				
AY80650	AOC65-WC14	75-125	104				

Comments: Batch: #TCLPV-130522AT

AFCEE
ORGANIC ANALYSES DATA SHEET 7
LABORATORY CONTROL SAMPLE

Analytical Method: EPA EPA 8260B
AAB #: 130522AT-177676
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 130522AT LCS
Initial Calibration ID: T130521
Concentration Units: ug/L

Analyte	Expected	Found	% R	Control Limits	Q
1,1-DICHLOROETHENE	10.00	9.10	91.0	75-125	
1,2-DICHLOROETHANE	10.00	10.49	105	75-125	
1,4-DICHLOROBENZENE	10.00	9.82	98.2	75-125	
2-BUTANONE (MEK)	10.00	11.11	111	75-125	
BENZENE	10.00	10.00	100	75-125	
CARBON TETRACHLORIDE	10.00	10.74	107	75-125	
CHLOROBENZENE	10.00	10.08	101	75-125	
CHLOROFORM	10.00	8.91	89.1	75-125	
TETRACHLOROETHENE	10.00	8.72	87.2	75-125	
TRICHLOROETHENE	10.00	10.05	101	75-125	
VINYL CHLORIDE	10.00	11.66	117	75-125	

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	97.6	75-125	
SURROGATE: 4-BROMOFLUOROBENZ	105	75-125	
SURROGATE: TOLUENE-D8 (S)	97.4	75-125	

Comments: ARF: 70770, QC Sample ID: AY80650

EPA 8260B/TC

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 70770

Case No: 70770 Date Analyzed: 05/22/13

Matrix: SOIL Instrument: Thor

Blank ID: 130522AT-BLK Time Analyzed: 1210

APPL ID.	Client Sample No.	File ID.	Date Analyzed
130522AT-LCS	Lab Control Spike	0522T06	05/22/13 1115
130522AT-BLK	Blank	0522T08	05/22/13 1210
AY80650	AOC65-WC14	0522T12	05/22/13 1400

Comments: Batch: #TCLPV-130522AT

Printed: 05/23/13 8:35:38 AM

Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 70770
Matrix: Water
ID: 5ng- BFB STD 05-20-13

SDG No: 70770
Date Analyzed: 05/22/13
Instrument: Thor
Time Analyzed: 8:37

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Vol Std 05-22	0522T02.D	05/22/13 9:24
2	Lab Control Spike	130522A LCS-1WT (TCL	0522T06.D	05/22/13 11:15
3	Blank	130522A BLK-1WT (TCL	0522T08.D	05/22/13 12:10
4	AOC65-WC14	AY80650 (TCLP)	0522T12.D	05/22/13 14:00
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	19.7
75	30 - 60% of mass 95	48.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.6
173	0 - 2% of mass 174	0.6
174	50 - 100% of mass 95	87.1
175	5 - 9% of mass 174	7.1
176	95 - 101% of mass 174	97.6
177	5 - 9% of mass 176	6.7

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: *G012

Lab Code: _____ SDG No.: 70770

Lab File ID (Standard): 0521T08.D Date Analyzed: 05/21/13

Instrument ID: Thor Time Analyzed: 12:03

GC Column: _____ ID: Heated Purge: (Y/N) _____

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	527040	6.60	435584	9.76	197760	12.08
	UPPER LIMIT	1054080	7.10	871168	10.26	395520	12.58
	LOWER LIMIT	263520	6.10	217792	9.26	98880	11.58
	SAMPLE NO.						
01	10ug/L Vol Std 05-22-13	519552	6.60	436672	9.76	201792	12.08
02	130522A LCS-1WT (TC	498112	6.60	420992	9.76	205952	12.08
03	130522A BLK-1WT (TC	423040	6.61	362048	9.77	193280	12.08
04	AY80650 (TCLP)	463808	6.60	380160	9.77	190272	12.08
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

EPA METHOD 8260B

TCLP
Volatile Organic Compounds
Sample Data

APPL, INC.

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA EPA 8 Preparatory Method: AAB #: 130522AT-177676
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC14 Lab Sample ID: AY80650 Matrix: Soil
% Solids: NA Initial Calibration ID: T130521
Date Received: 17-May-13 Date Prepared: 22-May-13 Date Analyzed: 22-May-13
Concentration Units: ug/L

Analyte	MDL	RL	Concentration	Dilution	Confirm	Qualifier
1,1-DICHLOROETHENE	0.30	10.0	0.30	1		U
1,2-DICHLOROETHANE	0.14	10.0	0.14	1		U
1,4-DICHLOROBENZENE	0.19	10.0	0.19	1		U
2-BUTANONE (MEK)	0.60	10.0	0.60	1		U
BENZENE	0.16	10.0	0.16	1		U
CARBON TETRACHLORIDE	0.10	10.0	0.10	1		U
CHLOROBENZENE	0.21	10.0	0.21	1		U
CHLOROFORM	0.16	10.0	0.16	1		U
TETRACHLOROETHENE	0.15	10.0	0.15	1		U
TRICHLOROETHENE	0.16	10.0	0.16	1		U
VINYL CHLORIDE	0.23	10.0	0.23	1		U

Surrogate	Recovery	Control Limits	Qualifier
SURROGATE: 1,2-DICHLOROETHANE-	105	75-125	
SURROGATE: 4-BROMOFLUOROBENZ	101	75-125	
SURROGATE: TOLUENE-D8 (S)	104	75-125	

Comments:

ARF: 70770

AFCEE FORM O-2

EPA METHOD 8260B

TCLP
Volatile Organic Compounds
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 05/21/13
Matrix: Instrument: Thor
Initials:

		Compound	0521T04.D 0.3	0521T05.D 0.5	0521T06.D 1	0521T07.D 5	0521T08.D 10	0521T09 D 20	0521T10.D 40	0521T11.D 100			Avg	%RSD		r^2
1	I	Fluorobenzene (IS)	ISTD													
2	TMC	Dichlorodifluoromethane		0.5226	0.4837	0.4441	0.3986	0.4363	0.4341	0.4142			0.45	9.5	TMC	
3	TM	Freon 114		0.4222	0.4083	0.3265	0.3158	0.3371	0.3376	0.3058			0.35	13	TM	
4	TMC**	Chloromethane	0.6390	0.7193	0.5862	0.6096	0.5119	0.5352	0.5239	0.4864			0.58	13	TMC**	
5	TMC*	Vinyl chloride		0.6234	0.5725	0.5882	0.4884	0.5215	0.5185	0.4864			0.54	9.7	TMC*	
6	TMCQ	Bromomethane	0.5048	0.4649	0.4510	0.4041	0.3170	0.3022					0.41	20	TMCQ	0.997
7	TMCQ	Chloroethane		0.5676	0.4163	0.3810	0.3045	0.3038	0.2876				0.38	28	TMCQ	0.999
8	TM	Dichlorofluoromethane	0.9245	1.046	1.123	1.098	0.8705	0.8686	0.8309	0.7700			0.94	14	TM	
9	TMC	Trichlorofluoromethane	0.6653	0.8029	0.8145	0.7596	0.6572	0.6209	0.6074	0.5791			0.69	13	TMC	
10	TM	Acrolein		0.0592	0.0629	0.0691	0.0621	0.0715	0.0804	0.0884			0.07	15	TM	
11	TMCL	Acetone		0.8468	0.5803	0.2080	0.1460	0.1282	0.1146	0.1076			0.30	96	TMCL	1.000
12	TMC	Freon-113	0.3798	0.4043	0.4625	0.4281	0.3654	0.3603	0.3562	0.3337			0.39	11	TMC	
13	TMC*	1,1-DCE	0.8167	0.8278	1.008	0.9679	0.7201	0.6801	0.6383				0.81	17	TMC*	
14	TM	t-Butanol	0.0363	0.0423	0.0449	0.0410	0.0375	0.0353	0.0360	0.0370			0.04	9.0	TM	
15	TMCL	Methyl Acetate		1.170	0.9673	0.4665	0.3170	0.3316	0.3166	0.2982			0.55	65	TMCL	0.999
16	TM	Iodomethane		0.3222	0.3216	0.4552	0.3897	0.4288	0.4342	0.4290			0.40	14	TM	
17	TM	Acrylonitrile		0.1545	0.1405	0.1462	0.1161	0.1112					0.13	14	TM	
18	TMCL	Methylene chloride		0.7725	0.7198	0.6765	0.4484	0.4598	0.4277	0.3843			0.56	29	TMCL	0.997
19	TMC	Carbon disulfide	0.9453	1.111	1.093	1.241	0.9350	1.004	0.9618	0.8921			1.0	11	TMC	
20	TMC	Methyl t-butyl ether (MtBE)	1.081	1.181	1.214	1.192	1.042	1.080	1.092	1.056			1.1	6.1	TMC	
21	TMC	Trans-1,2-DCE	0.4991	0.4959	0.5100	0.5504	0.4198	0.4143	0.3961	0.3654			0.46	14	TMC	
22	TML	Diisopropyl Ether		0.9291	0.9936	1.034	1.183	1.285	1.390	1.394			1.2	16	TML	1.000
23	TMC**	1,1-DCA	0.9441	0.9409	1.049	1.073	0.8180	0.8120	0.7841	0.7218			0.89	14	TMC**	
24	TML	Vinyl Acetate	0.0255	0.0655	1.032	1.278	1.150	1.160	1.277	1.096			0.89	59	TML	0.996
25	TM	Ethyl tert Butyl Ether	0.9445	0.8745	0.8020	0.8263	0.8966	0.8899	0.9646	1.037			0.90	8.4	TM	
26	TMCL	MEK (2-Butanone)		0.3753	0.1643	0.1909	0.1741	0.1685	0.1621	0.1597			0.20	39	TMCL	1.000
27	TMC	Cis-1,2-DCE	0.6795	0.6780	0.6904	0.6871	0.5630	0.5028	0.4821				0.61	15	TMC	
28	TM	2,2-Dichloropropane	0.3297	0.3075	0.2978	0.3088	0.2661	0.2521	0.2499	0.2378			0.28	12	TM	
29	TMC*	Chloroform		1.181	1.307	1.125	0.9133	0.8208	0.7794				1.0	21	TMC*	
30	TML	Bromochloromethane		0.2624	0.3281	0.3207	0.2570	0.2337	0.2194	0.2014			0.26	19	TML	0.998
31	S	Dibromofluoromethane(S)	0.5726	0.5809	0.6257	0.6027	0.5402	0.4966	0.4949	0.4585			0.55	11	S	
32	TMC	1,1,1-TCA	0.7127	0.7098	0.8132	0.7917	0.6853	0.6534	0.6578	0.6121			0.70	9.8	TMC	
33	TMC	Cyclohexane	0.4644	0.4752	0.4700	0.4832	0.3818	0.3557	0.3625	0.3390			0.42	15	TMC	
34	TM	1,1-Dichloropropene	0.5329	0.5275	0.6337	0.6828	0.5629	0.5302	0.5169	0.4863			0.56	12	TM	
35	TM	2,2,4-Trimethylpentane	1.066	1.248	1.225	1.223	1.125	1.111	1.142	1.115			1.2	5.7	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: _____
Case No: _____ Initial Cal. Date: 05/21/13
Matrix: _____ Instrument: Thor

Initials: _____

		Compound	0.3	0.5	1	5	10	20	40	100			Avg	%RSD		r^2
36	S	1,2-DCA-D4(S)	0.6592	0.6291	0.6915	0.6958	0.5935	0.5375	0.5281	0.4994			0.60	13	S	
37	TMC	Carbon Tetrachloride	0.4905	0.6075	0.6480	0.6786	0.5918	0.5582	0.5579	0.5287			0.58	11	TMC	
38	TM	Tert Amyl Methyl Ether	0.6650	0.6380	0.5583	0.6283	0.6934	0.6953	0.7534	0.8466			0.68	13	TM	
39	TMCL	1,2-DCA		0.7899	0.8610	0.8597	0.7099	0.6275	0.5934	0.5499			0.71	18	TMCL	0.999
40	TMC	Benzene	2.199	2.086	2.013	2.277	1.896	1.706	1.661	1.541			1.9	14	TMC	
41	TMCL	TCE		0.7428	0.7056	0.7268	0.5615	0.5032	0.4696				0.62	20	TMCL	0.995
42	TMQ	2-Pentanone		0.1693	0.1757	0.1901	0.2335	0.2396	0.2683	0.2813			0.22	20	TMQ	0.998
43	TMC*	1,2-Dichloropropane	0.4804	0.4100	0.4365	0.5205	0.5046	0.4828	0.4838	0.4538			0.47	7.7	TMC*	
44	TMC	Bromodichloromethane	0.6614	0.6371	0.7410	0.7719	0.6629	0.6158	0.5955	0.5529			0.65	11	TMC	
45	TMC	Methyl Cyclohexane	0.5684	0.6832	0.6620	0.6887	0.6267	0.5709	0.5886	0.5656			0.62	8.5	TMC	
46	TM	Dibromomethane	0.3183	0.2783	0.3341	0.3578	0.2946	0.2722	0.2608	0.2401			0.29	13	TM	
47	TMCL	MIBK (methyl isobutyl ketone)		0.2234	0.2454	0.1837	0.2349	0.2148	0.2602	0.3143			0.24	17	TMCL	0.993
48	TM	1-Bromo-2-chloroethane	0.6589	0.6009	0.6906	0.7810	0.6559	0.5825	0.5724	0.5300			0.63	13	TM	
49	TMC	Cis-1,3-Dichloropropene	0.4569	0.4683	0.4530	0.4595	0.5522	0.5518	0.6070	0.6297			0.52	14	TMC	
50	TMC*	Toluene	2.059	2.091	2.288	2.312	2.020	1.825	1.804	1.674			2.0	11	TMC*	
51	TMC	Trans-1,3-Dichloropropene	0.3741	0.3405	0.3453	0.3389	0.3844	0.3989	0.4565	0.5025			0.39	15	TMC	
52	TMC	1,1,2-TCA	0.2927	0.3060	0.3691	0.4039	0.3401	0.3190	0.3086	0.2850			0.33	12	TMC	
53	TMCL	2-Hexanone	0.2854	0.2662	0.1662	0.1222	0.1202	0.1107	0.1258				0.17	43	TMCL	0.996
54	I	Chlorobenzene-D5 (IS)	ISTD													
55	S	Toluene-D8(S)	2.183	2.318	2.263	2.325	2.185	2.137	2.103	2.069			2.2	4.4	S	
56	TMC	1,2-EDB	0.2797	0.2664	0.3562	0.3958	0.4106	0.3985	0.3696	0.3575			0.35	15	TMC	
57	TMC	Tetrachloroethene	1.062	0.9369	1.085	1.104	0.8925	0.8630	0.7779				0.96	13	TMC	
58	TMQ	1-Chlorohexane	0.4930	0.4478	0.3019	0.1791	0.2118	0.2333	0.3159	0.4425			0.33	36	TMQ	1.000
59	TML	1,1,1,2-Tetrachloroethane	0.3659	0.3240	0.2858	0.3826	0.4209	0.4540	0.4884				0.39	18	TML	0.998
60	TMC	m&p-Xylene	0.7873	0.7639	0.7004	0.7566	0.8493	0.8300	0.8477	0.8615			0.80	7.1	TMC	
61	TMC	o-Xylene	0.7271	0.6797	0.6786	0.7656	0.8281	0.8127	0.8231	0.8351			0.77	8.6	TMC	
62	TMC	Styrene	0.9562	1.179	0.9533	1.103	1.277	1.278	1.350	1.392			1.2	14	TMC	
63	S	4-Bromofluorobenzene(S)	0.7245	0.6813	0.5949	0.6271	0.7078	0.7045	0.7281	0.7446			0.69	7.6	S	
64	TM	1,3-Dichloropropane	0.6676	0.5822	0.6911	0.8062	0.8035	0.7978	0.7751	0.7511			0.73	11	TM	
65	TMC	Dibromochloromethane	0.3881	0.3502	0.4519	0.5168	0.5236	0.5380	0.5297	0.5220			0.48	15	TMC	
66	TMC**	Chlorobenzene	1.701	1.686	1.637	1.710	1.587	1.530	1.464	1.409			1.6	7.1	TMC**	
67	TMC*	Ethylbenzene	2.328	2.217	2.203	2.317	2.332	2.319	2.318	2.336			2.3	2.3	TMC*	
68	TMC**L	Bromoform		0.1559	0.1511	0.2379	0.2707	0.3087	0.3205				0.24	31	TMC**L	0.999
69	I	1,4-Dichlorobenzene-D (IS)	ISTD													
70	TMC	Isopropylbenzene	3.798	3.577	3.374	3.960	3.996	3.842	3.885	3.780			3.8	5.5	TMC	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 05/21/13
Matrix: Instrument: Thor
Initials:

		Compound	0.3	0.5	1	5	10	20	40	100			Avg	%RSD		r^2
71	TMC**L	1,1,2,2-Tetrachloroethane	0.7076	0.6900	0.8039	1.265	1.101	1.076	1.110	1.023			0.97	22	TMC**L	0.999
72	TM	1,2,3-Trichloropropane		0.2526	0.2893	0.3895	0.3449	0.3462	0.3320	0.3040			0.32	14	TM	
73	TML	t-1,4-Dichloro-2-Butene		0.1210	0.1175	0.1208	0.0974	0.0837	0.0834	0.0988			0.10	16	TML	0.995
74	TM	Bromobenzene	1.231	1.107	1.184	1.466	1.314	1.310	1.291	1.214			1.3	8.5	TM	
75	TM	n-Propylbenzene	4.223	3.869	3.655	4.053	4.170	3.890	4.022	3.978			4.0	4.5	TM	
76	TM	4-Ethyltoluene	2.353	2.307	2.168	2.558	2.489	2.317	2.341	2.314			2.4	5.1	TM	
77	TM	2-Chlorotoluene	3.165	3.206	2.986	3.533	3.397	3.362	3.363	3.231			3.3	5.1	TM	
78	TM	1,3,5-Trimethylbenzene	2.382	2.300	2.349	3.051	2.713	2.487	2.246	2.189			2.5	12	TM	
79	TM	4-Chlorotoluene	1.942	1.935	1.697	2.128	2.133	2.044	2.088	2.091			2.0	7.3	TM	
80	TM	Tert-Butylbenzene	2.946	3.346	3.217	2.798	3.245	2.556	2.879	2.699			3.0	9.6	TM	
81	TM	1,2,4-Trimethylbenzene	4.108	3.777	3.956	5.002	4.215	3.807	3.406	3.080			3.9	15	TM	
82	TM	Sec-Butylbenzene	4.114	3.789	3.503	3.327	3.296	2.909	2.816	2.708			3.3	15	TM	
83	TM	p-Isopropyltoluene		3.539	3.349	3.341	3.135	2.714	2.478				3.1	13	TM	
84	TML	Benzyl Chloride		0.7946	0.7838	0.6418	0.4972	0.3935	0.3590	0.4474			0.56	32	TML	0.991
85	TMC	1,3-DCB	1.998	1.807	1.764	2.014	2.039	1.933	1.948	1.908			1.9	5.1	TMC	
86	TMC	1,4-DCB	2.222	1.971	1.965	1.864	1.988	1.862	1.867	1.834			1.9	6.5	TMC	
87	TM	n-Butylbenzene		3.169	3.698	3.984	3.476	2.890					3.4	12	TM	
88	TMC	1,2-DCB	1.803	1.853	1.734	1.792	1.908	1.803	1.797	1.767			1.8	2.9	TMC	
89	TML	Hexachloroethane		0.3497	0.2837	0.2548	0.3443	0.3554	0.4151	0.5146			0.36	24	TML	0.993
90	TMC	1,2-Dibromo-3-chloropropane	0.1470	0.1187	0.1212	0.1163	0.1122	0.1200	0.1202	0.1119			0.12	9.2	TMC	
91	TMCL	1,2,4-Trichlorobenzene		0.9815	1.035	1.492	1.514	1.602	1.617	1.541			1.4	19	TMCL	1.000
92	TML	Hexachlorobutadiene		0.6313	0.8135	0.6290	0.5767	0.5044	0.4716				0.60	20	TML	0.997
93	TML	Naphthalene		1.245	1.697	2.598	2.788	3.191	3.415	3.153			2.6	32	TML	0.999
94	TML	1,2,3-Trichlorobenzene		0.7987	1.037	1.412	1.412	1.516	1.558				1.3	23	TML	1.000
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 05/21/13
Instrument: Thor
Initial Cal. Date: 05/21/13
Data File: 0521T17.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMC	Dichlorodifluoromethane	0.4477	0.4346	2.9	TMC	
3	TM	Freon 114	0.3505	0.3594	2.6	TM	
4	TMC**	Chloromethane	0.5764	0.5930	2.9	TMC**	
5	TMC*	Vinyl chloride	0.5427	0.5670	4.5	TMC*	
6	TMCQ	Bromomethane	0.4073	0.3673	9.8	TMCQ	11
7	TMCQ	Chloroethane	0.3768	0.3454	8.3	TMCQ	9.5
8	TM	Dichlorofluoromethane	0.9414	0.9634	2.3	TM	
9	TMC	Trichlorofluoromethane	0.6884	0.6555	4.8	TMC	
10	TM	Acrolein	0.0705	0.0634	10	TM	
11	TMCL	Acetone	0.3045	0.1623	47	TMCL	13
12	TMC	Freon-113	0.3863	0.3792	1.8	TMC	
13	TMC*	1,1-DCE	0.8084	0.7561	6.5	TMC*	
14	TM	t-Butanol	0.0388	0.0391	0.84	TM	
15	TMCL	Methyl Acetate	0.5524	0.3837	31	TMCL	9.2
16	TM	Iodomethane	0.3972	0.4222	6.3	TM	
17	TM	Acrylonitrile	0.1337	0.1199	10	TM	
18	TMCL	Methylene chloride	0.5555	0.5120	7.8	TMCL	9.7
19	TMC	Carbon disulfide	1.023	1.086	6.1	TMC	
20	TMC	Methyl t-butyl ether (MtBE)	1.117	1.147	2.7	TMC	
21	TMC	Trans-1,2-DCE	0.4564	0.4654	2.0	TMC	
22	TML	Diisopropyl Ether	1.173	1.330	13	TML	3.8
23	TMC**	1,1-DCA	0.8929	0.9036	1.2	TMC**	
24	TML	Vinyl Acetate	0.8855	1.336	51	TML	13
25	TM	Ethyl tert Butyl Ether	0.9044	0.8948	1.1	TM	
26	TMCL	MEK (2-Butanone)	0.1993	0.1769	11	TMCL	3.7
27	TMC	Cis-1,2-DCE	0.6118	0.5592	8.6	TMC	
28	TM	2,2-Dichloropropane	0.2812	0.2536	9.8	TM	
29	TMC*	Chloroform	1.021	0.9174	10	TMC*	
30	TML	Bromochloromethane	0.2604	0.2613	0.37	TML	9.2
31	S	Dibromofluoromethane(S)	0.5465	0.4952	9.4	S	
32	TMC	1,1,1-TCA	0.7045	0.6966	1.1	TMC	
33	TMC	Cyclohexane	0.4165	0.3847	7.6	TMC	
34	TM	1,1-Dichloropropene	0.5591	0.5690	1.8	TM	
35	TM	2,2,4-Trimethylpentane	1.157	1.096	5.3	TM	
36	S	1,2-DCA-D4(S)	0.6043	0.5398	11	S	
37	TMC	Carbon Tetrachloride	0.5826	0.5943	2.0	TMC	
38	TM	Tert Amyl Methyl Ether	0.6848	0.6916	0.99	TM	
39	TMCL	1,2-DCA	0.7130	0.6770	5.1	TMCL	3.6
40	TMC	Benzene	1.922	1.863	3.1	TMC	
		Average			8.3		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 05/21/13
Instrument: Thor
Cal. Date: 05/21/13
Data File: 0521T17.D

		Compound	MEAN	CCRF	%D	%Drift	
41	TMCL	TCE	0.6182	0.5289	14	TMCL	0.48
42	TMQ	2-Pentanone	0.2226	0.2506	13	TMQ	8.3
43	TMC*	1,2-Dichloropropane	0.4716	0.5312	13	TMC*	
44	TMC	Bromodichloromethane	0.6548	0.6724	2.7	TMC	
45	TMC	Methyl Cyclohexane	0.6193	0.6042	2.4	TMC	
46	TM	Dibromomethane	0.2945	0.2962	0.56	TM	
47	TMCL	MIBK (methyl isobutyl ketone)	0.2395	0.2291	4.4	TMCL	0.74
48	TM	1-Bromo-2-chloroethane	0.6340	0.6313	0.42	TM	
49	TMC	Cis-1,3-Dichloropropene	0.5223	0.5364	2.7	TMC	
50	TMC*	Toluene	2.009	1.986	1.2	TMC*	
51	TMC	Trans-1,3-Dichloropropene	0.3927	0.3845	2.1	TMC	
52	TMC	1,1,2-TCA	0.3280	0.3472	5.8	TMC	
53	TMCL	2-Hexanone	0.1710	0.1321	23	TMCL	7.4
54	I	Chlorobenzene-D5 (IS)	ISTD			I	
55	S	Toluene-D8(S)	2.198	2.074	5.6	S	
56	TMC	1,2-EDB	0.3543	0.4042	14	TMC	
57	TMC	Tetrachloroethene	0.9602	0.8878	7.5	TMC	
58	TMQ	1-Chlorohexane	0.3282	0.2502	24	TMQ	7.0
59	TML	1,1,1,2-Tetrachloroethane	0.3888	0.4761	22	TML	4.0
60	TMC	m&p-Xylene	0.7996	0.8645	8.1	TMC	
61	TMC	o-Xylene	0.7687	0.8235	7.1	TMC	
62	TMC	Styrene	1.186	1.284	8.3	TMC	
63	S	4-Bromofluorobenzene(S)	0.6891	0.6994	1.5	S	
64	TM	1,3-Dichloropropane	0.7343	0.8123	11	TM	
65	TMC	Dibromochloromethane	0.4775	0.5527	16	TMC	
66	TMC**	Chlorobenzene	1.590	1.606	0.99	TMC**	
67	TMC*	Ethylbenzene	2.296	2.392	4.2	TMC*	
68	TMC**	Bromoform	0.2408	0.2867	19	TMC**L	2.8
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TMC	Isopropylbenzene	3.776	3.875	2.6	TMC	
71	TMC**	1,1,2,2-Tetrachloroethane	0.9719	1.113	14	TMC**L	1.9
72	TM	1,2,3-Trichloropropane	0.3226	0.3488	8.1	TM	
73	TML	t-1,4-Dichloro-2-Butene	0.1032	0.0903	13	TML	0.79
74	TM	Bromobenzene	1.265	1.292	2.2	TM	
75	TM	n-Propylbenzene	3.983	4.035	1.3	TM	
76	TM	4-Ethyltoluene	2.356	2.523	7.1	TM	
77	TM	2-Chlorotoluene	3.281	3.366	2.6	TM	
78	TM	1,3,5-Trimethylbenzene	2.465	2.610	5.9	TM	
79	TM	4-Chlorotoluene	2.007	2.127	5.9	TM	
80	TM	Tert-Butylbenzene	2.961	3.238	9.4	TM	
		Average			8.1		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 05/21/13
Instrument: Thor
Cal. Date: 05/21/13
Data File: 0521T17.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,2,4-Trimethylbenzene	3.919	4.396	12	TM	
82	TM	Sec-Butylbenzene	3.308	3.215	2.8	TM	
83	TM	p-Isopropyltoluene	3.093	3.201	3.5	TM	
84	TML	Benzyl Chloride	0.5596	0.4513	19	TML	5.6
85	TMC	1,3-DCB	1.926	1.970	2.3	TMC	
86	TMC	1,4-DCB	1.946	1.973	1.3	TMC	
87	TM	n-Butylbenzene	3.443	3.711	7.8	TM	
88	TMC	1,2-DCB	1.807	1.880	4.0	TMC	
89	TML	Hexachloroethane	0.3597	0.3542	1.5	TML	1.4
90	TMC	1,2-Dibromo-3-chloropropane	0.1209	0.1213	0.30	TMC	
91	TMCL	1,2,4-Trichlorobenzene	1.398	1.558	12	TMCL	0.75
92	TML	Hexachlorobutadiene	0.6044	0.5952	1.5	TML	16
93	TML	Naphthalene	2.584	2.970	15	TML	4.8
94	TML	1,2,3-Trichlorobenzene	1.289	1.440	12	TML	3.1
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.8		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 05/22/13
Matrix: Instrument: Thor
Initial Cal. Date: 05/21/13
Data File: 0522T02.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMC	Dichlorodifluoromethane	0.4477	0.5280	18	TMC	
3	TM	Freon 114	0.3505	0.3796	8.3	TM	
4	TMC**	Chloromethane	0.5764	0.6687	16	TMC**	
5	TMC*	Vinyl chloride	0.5427	0.6283	16	TMC*	
6	TMCQ	Bromomethane	0.4073	0.3790	7.0	TMCQ	16
7	TMCQ	Chloroethane	0.3768	0.3638	3.4	TMCQ	16
8	TM	Dichlorofluoromethane	0.9414	1.027	9.1	TM	
9	TMC	Trichlorofluoromethane	0.6884	0.7452	8.2	TMC	
10	TM	Acrolein	0.0705	0.0641	9.2	TM	
11	TMCL	Acetone	0.3045	0.1616	47	TMCL	12
12	TMC	Freon-113	0.3863	0.4131	6.9	TMC	
13	TMC*	1,1-DCE	0.8084	0.8112	0.35	TMC*	
14	TM	t-Butanol	0.0388	0.0313	19	TM	
15	TMCL	Methyl Acetate	0.5524	0.3405	38	TMCL	5.5
16	TM	Iodomethane	0.3972	0.4284	7.9	TM	
17	TM	Acrylonitrile	0.1337	0.1165	13	TM	
18	TMCL	Methylene chloride	0.5555	0.5126	7.7	TMCL	9.9
19	TMC	Carbon disulfide	1.023	1.161	13	TMC	
20	TMC	Methyl t-butyl ether (MtBE)	1.117	1.099	1.7	TMC	
21	TMC	Trans-1,2-DCE	0.4564	0.4813	5.5	TMC	
22	TML	Diisopropyl Ether	1.173	1.258	7.3	TML	1.3
23	TMC**	1,1-DCA	0.8929	0.9718	8.8	TMC**	
24	TML	Vinyl Acetate	0.8855	1.353	53	TML	15
25	TM	Ethyl tert Butyl Ether	0.9044	0.9370	3.6	TM	
26	TMCL	MEK (2-Butanone)	0.1993	0.1476	26	TMCL	15
27	TMC	Cis-1,2-DCE	0.6118	0.5885	3.8	TMC	
28	TM	2,2-Dichloropropane	0.2812	0.2967	5.5	TM	
29	TMC*	Chloroform	1.021	0.9537	6.6	TMC*	
30	TML	Bromochloromethane	0.2604	0.2709	4.0	TML	14
31	S	Dibromofluoromethane(S)	0.5465	0.5177	5.3	S	
32	TMC	1,1,1-TCA	0.7045	0.7351	4.3	TMC	
33	TMC	Cyclohexane	0.4165	0.4073	2.2	TMC	
34	TM	1,1-Dichloropropene	0.5591	0.6153	10	TM	
35	TM	2,2,4-Trimethylpentane	1.157	1.386	20	TM	
36	S	1,2-DCA-D4(S)	0.6043	0.5619	7.0	S	
37	TMC	Carbon Tetrachloride	0.5826	0.6421	10	TMC	
38	TM	Tert Amyl Methyl Ether	0.6848	0.7144	4.3	TM	
39	TMCL	1,2-DCA	0.7130	0.7116	0.21	TMCL	9.9
40	TMC	Benzene	1.922	1.994	3.7	TMC	
		Average			11.3		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 05/22/13
Instrument: Thor
Cal. Date: 05/21/13
Data File: 0522T02.D

		Compound	MEAN	CCRF	%D	%Drift		
41	TMCL	TCE	0.6182	0.5851	5.4	TMCL	13	
42	TMQ	2-Pentanone	0.2226	0.1914	14	TMQ	10	
43	TMC*	1,2-Dichloropropane	0.4716	0.5241	11	TMC*		
44	TMC	Bromodichloromethane	0.6548	0.6880	5.1	TMC		
45	TMC	Methyl Cyclohexane	0.6193	0.6614	6.8	TMC		
46	TM	Dibromomethane	0.2945	0.3047	3.5	TM		
47	TMCL	MIBK (methyl isobutyl ketone)	0.2395	0.1679	30	TMCL	20	
48	TM	1-Bromo-2-chloroethane	0.6340	0.6216	2.0	TM		
49	TMC	Cis-1,3-Dichloropropene	0.5223	0.5498	5.3	TMC		
50	TMC*	Toluene	2.009	2.091	4.1	TMC*		
51	TMC	Trans-1,3-Dichloropropene	0.3927	0.3955	0.73	TMC		
52	TMC	1,1,2-TCA	0.3280	0.3375	2.9	TMC		
53	TMCL	2-Hexanone	0.1710	0.0904	47	TMCL	27	*nt
54	I	Chlorobenzene-D5 (IS)	ISTD			I		
55	S	Toluene-D8(S)	2.198	2.052	6.6	S		
56	TMC	1,2-EDB	0.3543	0.3778	6.6	TMC		
57	TMC	Tetrachloroethene	0.9602	0.9184	4.3	TMC		
58	TMQ	1-Chlorohexane	0.3282	0.2066	37	TMQ	9.7	
59	TML	1,1,1,2-Tetrachloroethane	0.3888	0.4486	15	TML	1.6	
60	TMC	m&p-Xylene	0.7996	0.8560	7.1	TMC		
61	TMC	o-Xylene	0.7687	0.8207	6.8	TMC		
62	TMC	Styrene	1.186	1.249	5.3	TMC		
63	S	4-Bromofluorobenzene(S)	0.6891	0.6794	1.4	S		
64	TM	1,3-Dichloropropane	0.7343	0.7774	5.9	TM		
65	TMC	Dibromochloromethane	0.4775	0.5084	6.5	TMC		
66	TMC**	Chlorobenzene	1.590	1.619	1.8	TMC**		
67	TMC*	Ethylbenzene	2.296	2.401	4.6	TMC*		
68	TMC**	Bromoform	0.2408	0.2601	8.0	TMC**L	11	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
70	TMC	Isopropylbenzene	3.776	3.920	3.8	TMC		
71	TMC**	1,1,2,2-Tetrachloroethane	0.9719	0.9931	2.2	TMC**L	9.7	
72	TM	1,2,3-Trichloropropane	0.3226	0.3166	1.9	TM		
73	TML	t-1,4-Dichloro-2-Butene	0.1032	0.0775	25	TML	12	
74	TM	Bromobenzene	1.265	1.277	1.0	TM		
75	TM	n-Propylbenzene	3.983	3.948	0.86	TM		
76	TM	4-Ethyltoluene	2.356	2.381	1.0	TM		
77	TM	2-Chlorotoluene	3.281	3.390	3.3	TM		
78	TM	1,3,5-Trimethylbenzene	2.465	2.667	8.2	TM		
79	TM	4-Chlorotoluene	2.007	2.027	0.96	TM		
80	TM	Tert-Butylbenzene	2.961	3.160	6.7	TM		
		Average			8.1			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 05/22/13
Instrument: Thor
Cal. Date: 05/21/13
Data File: 0522T02.D

		Compound	MEAN	CCRF	%D	%Drift		
81	TM	1,2,4-Trimethylbenzene	3.919	4.056	3.5	TM		
82	TM	Sec-Butylbenzene	3.308	3.152	4.7	TM		
83	TM	p-Isopropyltoluene	3.093	2.966	4.1	TM		
84	TML	Benzyl Chloride	0.5596	0.5209	6.9	TML	22	*nt
85	TMC	1,3-DCB	1.926	1.984	3.0	TMC		
86	TMC	1,4-DCB	1.946	1.900	2.4	TMC		
87	TM	n-Butylbenzene	3.443	3.246	5.7	TM		
88	TMC	1,2-DCB	1.807	1.829	1.2	TMC		
89	TML	Hexachloroethane	0.3597	0.3583	0.37	TML	0.60	
90	TMC	1,2-Dibromo-3-chloropropane	0.1209	0.0952	21	TMC		*nt
91	TMCL	1,2,4-Trichlorobenzene	1.398	1.444	3.3	TMCL	8.1	
92	TML	Hexachlorobutadiene	0.6044	0.5405	11	TML	3.9	
93	TML	Naphthalene	2.584	2.214	14	TML	28	*nt
94	TML	1,2,3-Trichlorobenzene	1.289	1.270	1.5	TML	14	
95								
96								
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			5.9			

EPA METHOD 8260B

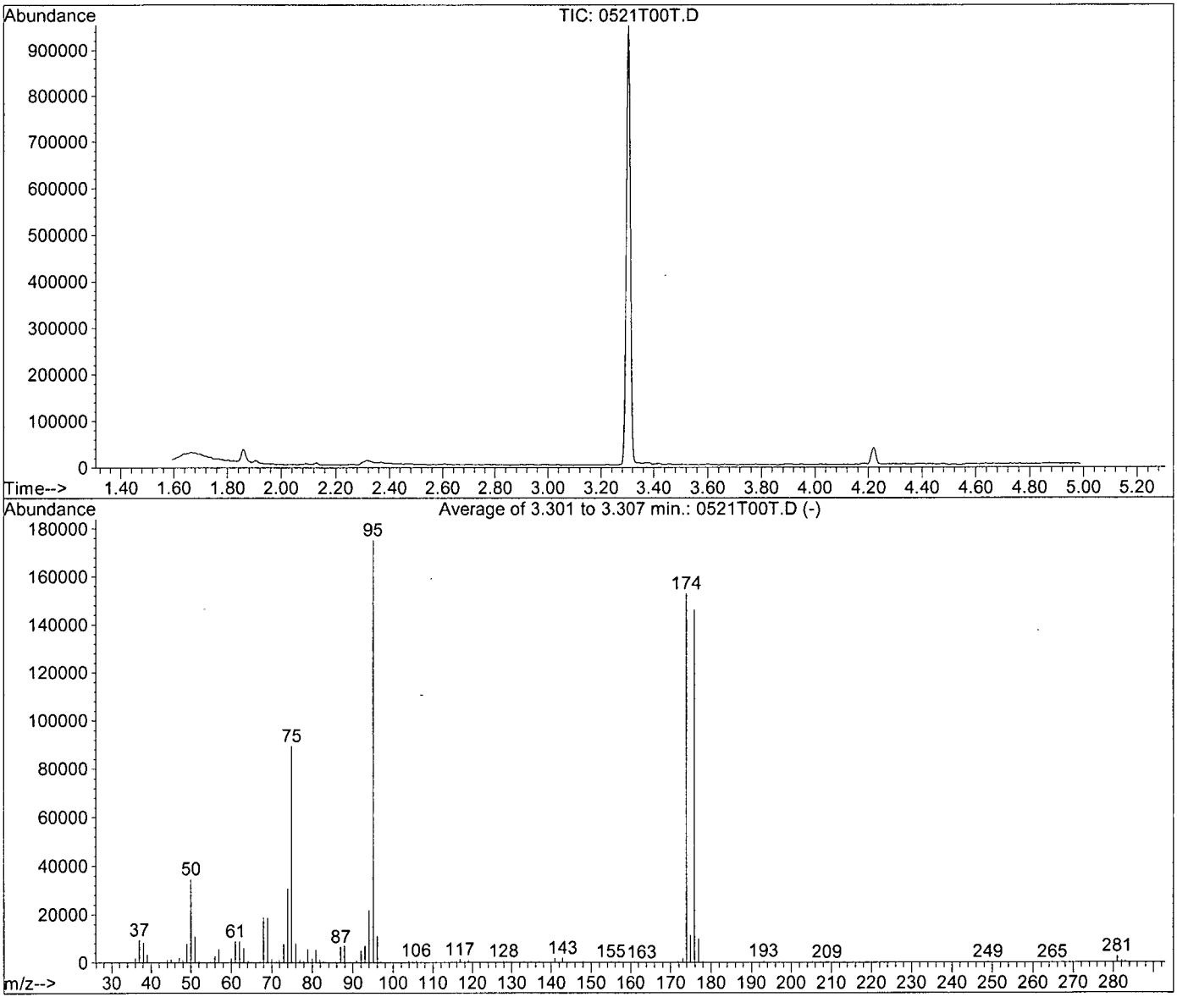
TCLP
Volatile Organic Compounds
Raw Data

APPL, INC.

Data File : M:\THOR\DATA\T130521\0521T00T.D
Acq On : 21 May 13 8:26
Sample : 5ng- BFB STD 05-20-13
Misc : 2ul

Vial: 1
Operator: DG, HW, SV, RS
Inst : Thor
Multiplr: 1.00

Method : M:\THOR\DATA\T130521\TALLW.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 532, 533, 534; Background Corrected with Scan 522

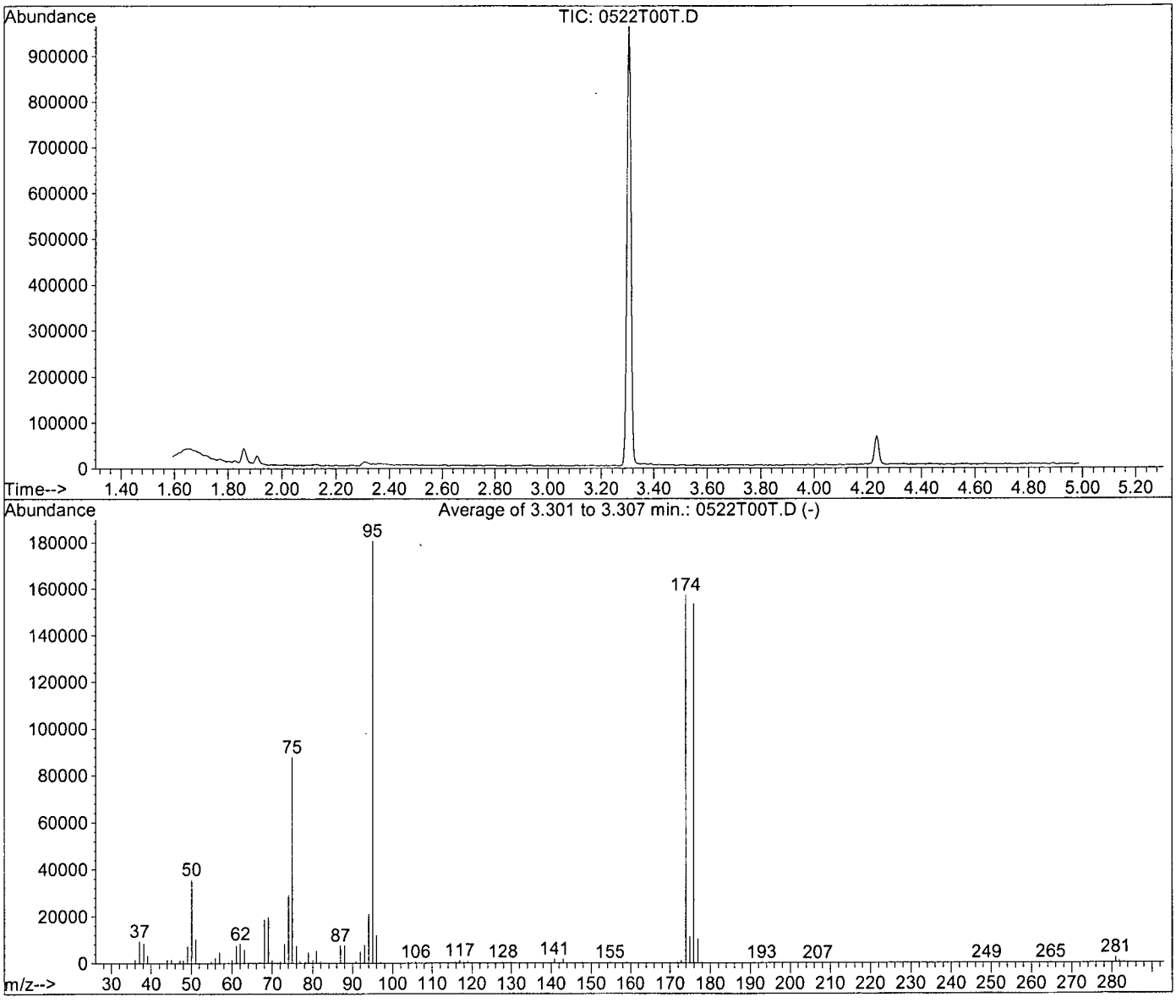
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.7	34520	PASS
75	95	30	60	51.1	89429	PASS
95	95	100	100	100.0	175147	PASS
96	95	5	9	6.3	11111	PASS
173	174	0.00	2	1.0	1586	PASS
174	95	50	100	87.2	152789	PASS
175	174	5	9	7.4	11321	PASS
176	174	95	101	95.6	146005	PASS
177	176	5	9	6.8	9872	PASS

0521T00T.D TALLW.M Thu May 23 08:41:11 2013

Data File : M:\THOR\DATA\T130521\0522T00T.D
Acq On : 22 May 13 8:37
Sample : 5ng- BFB STD 05-20-13
Misc : 2ul

Vial: 1
Operator: DG, HW, SV, RS
Inst : Thor
Multiplr: 1.00

Method : M:\THOR\DATA\T130521\TALLW.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 532, 533, 534; Background Corrected with Scan 522

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.7	35645	PASS
75	95	30	60	48.6	87888	PASS
95	95	100	100	100.0	180693	PASS
96	95	5	9	6.6	11988	PASS
173	174	0.00	2	0.6	1017	PASS
174	95	50	100	87.1	157397	PASS
175	174	5	9	7.1	11223	PASS
176	174	95	101	97.6	153557	PASS
177	176	5	9	6.7	10221	PASS

Analyst Initials:	SV	
Date:	05/21/13	
Tumbler Start Time:	11:00	
Tumbler End Time:	05/22/13	5:00
Temperature of Room (23 +/- 2C):	23	
Thermometer ID:	1007	
RPM of tumbler (30 +/- 2rpm):	30	
Pressure check performed (Date):	05/21/13	
Pressure check performed (Time start):	9:13	
Pressure check performed (Time stop):	10:13	
Prep date of Fluid #1:	05/21/13	

Sample ID	Filamentous material present? (e.g.,Paper, Cloth, etc.)	Sufficient sample to perform % moisture? (e.g.100g)	% Moisture	% Solids	Sample aliquot (g) (25 / %Solids)*100	Sample + beaker (g)	Beaker after sample transfer (g)	Adjusted weight of sample if > 1% adhered to beaker	Weight of TCLP fluid #1 added (g)
Blank 1	NA	NA	NA	NA	NA	NA	NA	NA	500g
AY 80650S01	NA	NA	0	100	25.00	56.758	31.750	25.0080	500.16

Injection Log

Directory: M:\THOR\DATA\T130521\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0521T00T.D	1	5ng- BFB STD 05-20-13	2ul	21 May 13 8:26
2	4	0521T04.D	1	0.3ug/L Vol Std 05-21-13	10mL w/5uL IS: 05-07-13	21 May 13 10:12
3	5	0521T05.D	1	0.5ug/L Vol Std 05-21-13	10mL w/5uL IS: 05-07-13	21 May 13 10:40
4	6	0521T06.D	1	1.0ug/L Vol Std 05-21-13	10mL w/5uL IS: 05-07-13	21 May 13 11:08
5	7	0521T07.D	1	5.0ug/L Vol Std 05-21-13	10mL w/5uL IS: 05-07-13	21 May 13 11:35
6	8	0521T08.D	1	10ug/L Vol Std 05-21-13	10mL w/5uL IS: 05-07-13	21 May 13 12:03
7	9	0521T09.D	1	20ug/L Vol Std 05-21-13	10mL w/5uL IS: 05-07-13	21 May 13 12:31
8	10	0521T10.D	1	40ug/L Vol Std 05-21-13	10mL w/5uL IS: 05-07-13	21 May 13 12:58
9	11	0521T11.D	1	100ug/L Vol Std 05-21-13	10mL w/5uL IS: 05-07-13	21 May 13 13:26
10	17	0521T17.D	1	130521A LCS-1WT (SS)	10mL w/5uL IS&S: 05-07-13	21 May 13 16:12
11	1	0522T00T.D	1	5ng- BFB STD 05-20-13	2ul	22 May 13 8:37
12	2	0522T02.D	1	10ug/L Vol Std 05-22-13	10mL w/5uL IS&S: 05-07-13	22 May 13 9:24
13	6	0522T06.D	1	130522A LCS-1WT (TCLP)	10mL w/5uL IS&S: 05-07-13	22 May 13 11:15
14	8	0522T08.D	1	130522A BLK-1WT (TCLP)	10mL w/5uL IS&S: 05-07-13	22 May 13 12:10
15	12	0522T12.D	1	AY80650 (TCLP)	10mL w/5uL IS&S: 05-07-13	22 May 13 14:00

METALS

METALS
QC Summary

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
Concentration Units: mg/L
Initial Calibration ID: 130522A

AAB #: 130521A-177684
Contract #: *G012
Method Blank ID: 130521A-BLK -3010T-

① DRA 5/23/13

Analyte	Method Blank	RL	Q
ARSENIC (AS)	< RL	0.03	U
BARIUM (BA)	< RL	0.005	U
CADMIUM (CD)	< RL	0.007	U
CHROMIUM (CR)	< RL	0.01	U
LEAD (PB)	< RL	0.025	U
SELENIUM (SE)	< RL	0.03	U
SILVER (AG)	< RL	0.010	U

Comments: ARF: 70770, Sample: AY80649

AFCEE
INORGANIC ANALYSES DATA SHEET 5
BLANK

Analytical Method: EPA 7470A
Lab Name: APPL, Inc
Concentration Units: mg/L
Initial Calibration ID: 130521C

AAB #: 130521A-177626
Contract #: *G012
Method Blank ID: 130521A-BLK#2

① DLA 5/23/13

Analyte	Method Blank	RL	Q
MERCURY (HG)	< RL	0.002	U

Comments: ARF: 70770, Sample: AY80649

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 6010B
Lab Name: APPL, Inc
LCS ID: 130521A_LCS ① DRK 5/23/13
Concentration Units: mg/L -6010B-

AAB #: 130521A-177684
Contract #: *G012
Initial Calibration ID: 130522A

Analyte	Expected	Found	% R	Control Limits	Q
ARSENIC (AS)	0.250	0.262	105	75-125	
BARIUM (BA)	0.2500	0.2506	100	75-125	
CADMIUM (CD)	0.0500	0.0546	109	75-125	
CHROMIUM (CR)	0.250	0.269	108	75-125	
LEAD (PB)	0.2500	0.2666	107	75-125	
SELENIUM (SE)	0.250	0.270	108	75-125	
SILVER (AG)	0.1000	0.1034	103	75-125	

Comments: ARF: 70770, Sample: AY80649

AFCEE
INORGANIC ANALYSES DATA SHEET 6
LABORATORY CONTROL SAMPLE

Analytical Method: EPA 7470A
AAB #: 130521A-177626
Lab Name: APPL, Inc
Contract #: *G012
LCS ID: 130521A LCS#2
Initial Calibration ID: 130521C
Concentration Units: mg/L

Analyte	Expected	Found	% R	Control Limits	Q
MERCURY (HG)	0.0040	0.0041	103	85-115	

Comments: ARF: 70770, Sample: AY80649

METALS
Sample Data

APPL, INC.

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

DRA 5/23/13

Analytical Method: EPA 6010B Preparatory Method: EPA 1311/3010A AAB #: 130521A-177684
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC13 Lab Sample ID: AY80649 Matrix: Soil
% Solids: NA Initial Calibration ID: 130522A
Date Received: 17-May-13 Date Prepared: 21-May-13 Date Analyzed: 22-May-13
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
ARSENIC (AS)	0.002	0.03	0.007	1	F
BARIUM (BA)	0.0003	0.005	0.1728	1	
CADMIUM (CD)	0.0003	0.007	0.0003	1	U
CHROMIUM (CR)	0.001	0.01	0.001	1	U
LEAD (PB)	0.0012	0.025	0.0012	1	U
SELENIUM (SE)	0.002	0.03	0.002	1	U
SILVER (AG)	0.0002	0.010	0.0110	1	

Comments: ARF: 70770

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: EPA 7470A Preparatory Method: EPA 1311/7470A AAB #: 130521A-177626
Lab Name: APPL, Inc Contract #: *G012
Field Sample ID: AOC65-WC13 Lab Sample ID: AY80649 Matrix: Soil
% Solids: NA Initial Calibration ID: 130521C
Date Received: 17-May-13 Date Prepared: 21-May-13 Date Analyzed: 21-May-13
Concentration Units: mg/L

Analyte	MDL	RL	Concentration	Dilution	Qualifier
MERCURY (HG)	0.0001	0.002	0.0001	1	U

Comments: ARF: 70770

METALS
Calibration Data

APPL, INC.

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 70770 SDG: 70770

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 05/22/13 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 13:05	%R(1)	True CCV1	Found 13:33	%R(1)	True CCV2	Found 14:28	%R(1)	
Silver (Ag)	500	520.4	104	500	500	100	375	376.6	100	P
Arsenic (As)	1000	1074	107	1000	993.8	99.4	750	754	101	P
Barium (Ba)	1000	1002	100	1000	995.2	99.5	750	751.3	100	P
Cadmium (Cd)	1000	1081	108	1000	1014	101	750	765.7	102	P
Chromium (Cr)	1000	1055	106	1000	1006	101	750	759.5	101	P
Lead (Pb)	1000	1046	105	1000	1003	100	750	768.9	103	P
Selenium (Se)	1000	1070	107	1000	1005	101	750	765.5	102	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 70770 SDG: 70770

Preparation Blank Matrix (soil/water): water

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

Analysis Date: 05/22/13

Analyte	Initial Calibration Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
	13:13		13:42		14:36				13:46		
Silver (Ag)	1.63	J	1.12	J	.63	J			.0013	J	P
Arsenic (As)	30.00	U	2.66	J	30.00	U			.0049	J	P
Barium (Ba)	5.00	U	5.00	U	5.00	U			.0050	U	P
Cadmium (Cd)	7.00	U	7.00	U	7.00	U			.0070	U	P
Chromium (Cr)	10.00	U	10.00	U	10.00	U			.0100	U	P
Lead (Pb)	25.00	U	1.81	J	25.00	U			.0250	U	P
Selenium (Se)	30.00	U	30.00	U	30.00	U			.0123	J	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name:	A.P.P.L. INC.	Contract:	Parsons
ARF No.:	70770	SDG:	70770
ICP ID Number:	Phoebe	ICS Source:	Environmental Express

Analysis Date: 05/22/13 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 13:26	Sol AB 13:29	%R(1)
Silver (Ag)		1000	0.294	1053	105
Aluminum (Al)	200000	200000	195500	197800	98.9
Arsenic (As)		500	0.893	474.3	94.9
Barium (Ba)		500	0.419	476.7	95.3
Calcium (Ca)	200000	200000	196800	197700	98.8
Cadmium (Cd)		1000	ND	990.1	99.0
Chromium (Cr)		500	1.821	494.2	98.8
Iron (Fe)	200000	200000	199000	196500	98.3
Magnesium (Mg)	200000	200000	201200	202300	101
Lead (Pb)		1000	1.168	985.8	98.6
Selenium (Se)		500	1.048	506.1	101

(1) Control Limits: Metals 80-120

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No: 70770 SDG: 70770
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/21/13 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 16:48	%R(1)	True CCV1	Found 16:51	%R(1)	True CCV1	Found 17:09	%R(1)	
Mercury (Hg)	4	4.19863	105	5	4.94817	99.0	5	4.93724	98.7	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 70770 SDG: 70770

Preparation Blank Matrix (soil/water): water

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

Analysis Date: 05/21/13

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)								Preparation Blank		M
		C	1	C	2	C	3	C		C			
	16:50		16:54		17:12						16:56		
Mercury (Hg)	.07	J	.08	J	.06	J					.0020	U	P

METALS
Raw Data

APPL, INC.

Metals Digestion Worksheet

Method Name 3010A Digestion (TCLP) **Prep Method** M3010TCLP T **Set** 130521A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT# 1043879-32199
Spiked ID 2	LCSW LOT# 1043889-32201
Spiked ID 3	
Spiked ID 4	
Spiked By	NM Date: 05/21/13 9:30:00 AM
Witnessed By	LO Date: 05/21/13 9:30:00 AM

Starting Temp:	95 c
Ending Temp:	95 c
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	Yes
End Date/Time	05/21/13 14:00

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	130521A Blk				50mL	50mL	05/21/13 9:30	equip: Modblock2 Tumble Start Time 5-20-13 @ 15:15 Fluid # 1
2	130521A BLK 2				50mL	50mL	05/21/13 9:30	equip: Modblock2 Tumble Start Time 5-20-13 @ 15:15 Fluid # 2
3	130521A LCS		500uL	1+2	50mL	50mL	05/21/13 9:30	equip: Modblock2 Tumble End Time 5-21-13 @ 10:00 Fluid # 1
4	130521A LCS 2		500uL	1+2	50mL	50mL	05/21/13 9:30	equip: Modblock2 Tumble End Time 5-21-13 @ 10:00 Fluid # 2
5	AY79916	AY79916S01			50mL	50mL	05/21/13 9:30	equip: Modblock2 Fluid # 1
6	AY79916 DUP	AY79916S01			50mL	50mL	05/21/13 9:30	equip: Modblock2 Fluid # 1
7	AY79916 MS	AY79916S01	500uL	1+2	50mL	50mL	05/21/13 9:30	equip: Modblock2 Fluid # 1
8	AY80579	AY80579S01			50mL	50mL	05/21/13 9:30	equip: Modblock2 Fluid # 1
9	AY80649	AY80649S01			50mL	50mL	05/21/13 9:30	equip: Modblock2 Fluid # 2

Solvent and Lot#
HNO3 J.T.B L12065 0337
1:1 HCL 2-27-13

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	DRA
Date	5/22/13
Time	529
Moved to	Metals

Technician's Initials	
Scanned By	nm
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	05/21/13 10:44:23 AM

Reviewed By: DRA **Date:** 5/22/13

_M7470TCL

Mercury Digestion Worksheet

Method Name 7470 Mercury Digestion (TCLP) **Prep Method** M7470TCLP **Set** 130521A **Units** mL

Spikes			
Spiked ID 1	Hg WORKING STANDARD prep 05-21-13		
Spiked ID 2	Hg WORKING ICV prep 05-21-13		
Spiked ID 3			
Spiked ID 4			
Spiked By	LO	Date:	05/21/13 11:00:00 AM
Witnessed By	NM	Date:	05/21/13 11:00:00 AM

Starting Temp:	96 C
Ending Temp:	96 C
Temp Type:	Modblock3 Tumble Start: 5/20/13 @ 15:15 Fluid #1
End Date/Time	05/21/13 1:00:00 PM

Mercury Calibration

Sample	Spike Amount	Spike ID	Final Volume
0 ppb		1	72.25 ml
0.2 ppb	0.2 ml	1	72.25 ml
0.5 ppb	0.5 ml	1	72.25 ml
1 ppb	1 ml	1	72.25 ml
2 ppb	2 ml	1	72.25 ml
5 ppb	5 ml	1	72.25 ml
5 ppb	5 ml	1	72.25 ml
10 ppb	10 ml	1	72.25 ml
ICV	4 ml	2	72.25 ml

Start Date/Time of Calibration 05/21/13 11:00

Sufficient Vol for Matrix QC:	YES

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	130521A Blk				50mL	72.25mL	05/21/13 11:00	equip: Modblock3 Tumble Start: 5/20/13 @ 15:15 Fluid #1
2	130521A Blk#2				50mL	72.25mL	05/21/13 11:00	equip: Modblock3 Tumble Start: 5/20/13 @ 15:15 Fluid #2
3	130521A LCS		4mL	1	50mL	72.25mL	05/21/13 11:00	equip: Modblock3 Tumble Finish: 5/21/13 @ 10:00 Fluid #1
4	130521A LCS#2		4mL	1	50mL	72.25mL	05/21/13 11:00	equip: Modblock3 Tumble Finish: 5/21/13 @ 10:00 Fluid #2
5	AY79916	AY79916S01			50mL	72.25mL	05/21/13 11:00	equip: Modblock3 Fluid #1
6	AY79916 DUP	AY79916S01			50mL	72.25mL	05/21/13 11:00	equip: Modblock3 Fluid #1
7	AY79916 MS	AY79916S01	4mL	1	50mL	72.25mL	05/21/13 11:00	equip: Modblock3 Fluid #1
8	AY80579	AY80579S01			50mL	72.25mL	05/21/13 11:00	equip: Modblock3 Fluid #1
9	AY80649	AY80649S01			50mL	72.25mL	05/21/13 11:00	equip: Modblock3 Fluid #2

Solvent and Lot#
NO3 J.T.B L12065 0337
2SO4 J.T.B 0013768 0314
MnO4 05-20-13
2S2O8 05-20-13
ecolorizer 05-20-13

Sample COC Transfer	
Sample prep employee Initials	LO
Analyst's initials	DRA
Date	5/22/13
Time	820
Moved to	Metals

Technician's Initials	
Scanned By	NM
Sample Preparation	LO
Digestion	LO
Bring up to volume	NM
Modified	05/21/13 9:32:06 AM

Reviewed By: DRA **Date:** 5/22/13

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	22 May 2013	12:51	CalBlk 130522RJS I:PB O:R		130522A6010	1.
2	22 May 2013	12:55	STD 1 130522RJS I:PB O:RJ		130522A6010	1.
3	22 May 2013	12:59	STD 2 130522RJS I:PB O:RJ		130522A6010	1.
4	22 May 2013	13:02	STD 3 130522RJS I:PB O:RJ		130522A6010	1.
5	22 May 2013	13:05	ICV 130522RJS I:PB O:RJS		130522A6010	1.
6	22 May 2013	13:13	ICB 130522RJS I:PB O:RJS		130522A6010	1.
8	22 May 2013	13:26	ICSA 130522RJS I:PB O:RJS		130522A6010	1.
9	22 May 2013	13:29	ICSAB 130522RJS I:PB O:RJ		130522A6010	1.
10	22 May 2013	13:33	CCV1 130522RJS I:PB O:RJS		130522A6010	1.
12	22 May 2013	13:42	CCB 130522RJS I:PB O:RJS		130522A6010	1.
13	22 May 2013	13:46	130521A-3010T-BLK 2		130522A6010	1.
14	22 May 2013	13:50	130521A-3010T-LCS 2		130522A6010	1.
15	22 May 2013	13:54	AY80649S01		130522A6010	1.
23	22 May 2013	14:28	CCV2 130522RJS I:PB O:RJS		130522A6010	1.
25	22 May 2013	14:36	CCB 130522RJS I:PB O:RJS		130522A6010	1.

7470A Injection Log

Directory: K:\CVAA\FAAS_Run_Logs\UploadRun\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	21 May 2013	16:35	Calib Blank 0521C-		130521-7470	1.
2	21 May 2013	16:36	0.2 05-21-13 LO		130521-7470	1.
3	21 May 2013	16:37	0.5		130521-7470	1.
4	21 May 2013	16:40	1		130521-7470	1.
5	21 May 2013	16:42	2		130521-7470	1.
6	21 May 2013	16:44	5		130521-7470	1.
7	21 May 2013	16:46	10		130521-7470	1.
8	21 May 2013	16:48	ICV 130521		130521-7470	1.
9	21 May 2013	16:50	ICB 130521		130521-7470	1.
10	21 May 2013	16:51	CCV 130521		130521-7470	1.
11	21 May 2013	16:54	CCB 130521		130521-7470	1.
13	21 May 2013	16:56	130521A BLK#2		130521-7470	1.
15	21 May 2013	16:59	130521A LCS#2		130521-7470	1.
20	21 May 2013	17:08	AY80649S01		130521-7470	1.
21	21 May 2013	17:09	CCV 130521		130521-7470	1.
22	21 May 2013	17:12	CCB 130521		130521-7470	1.

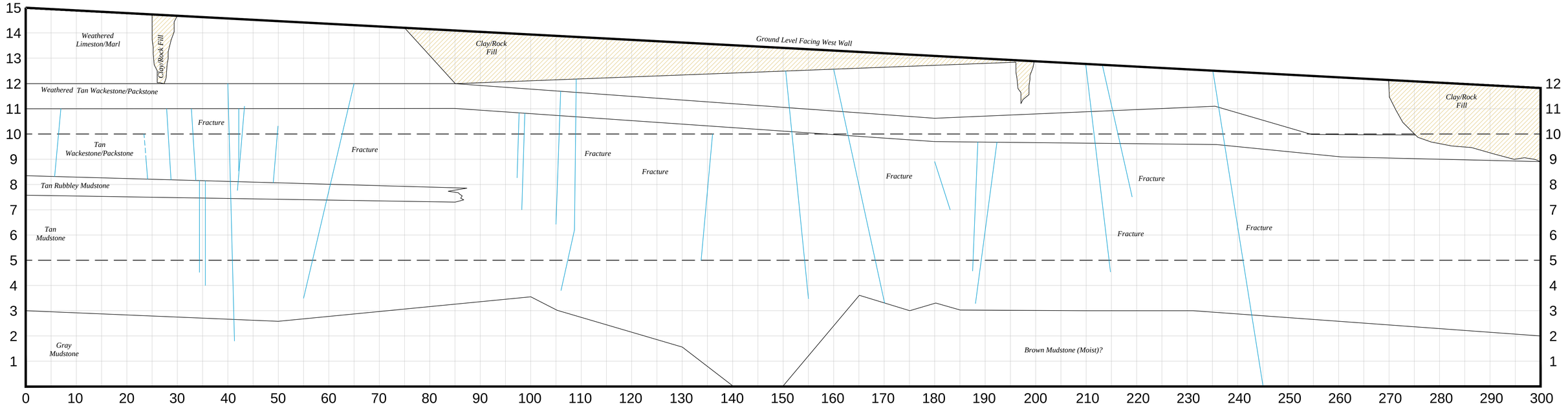
Appendix B

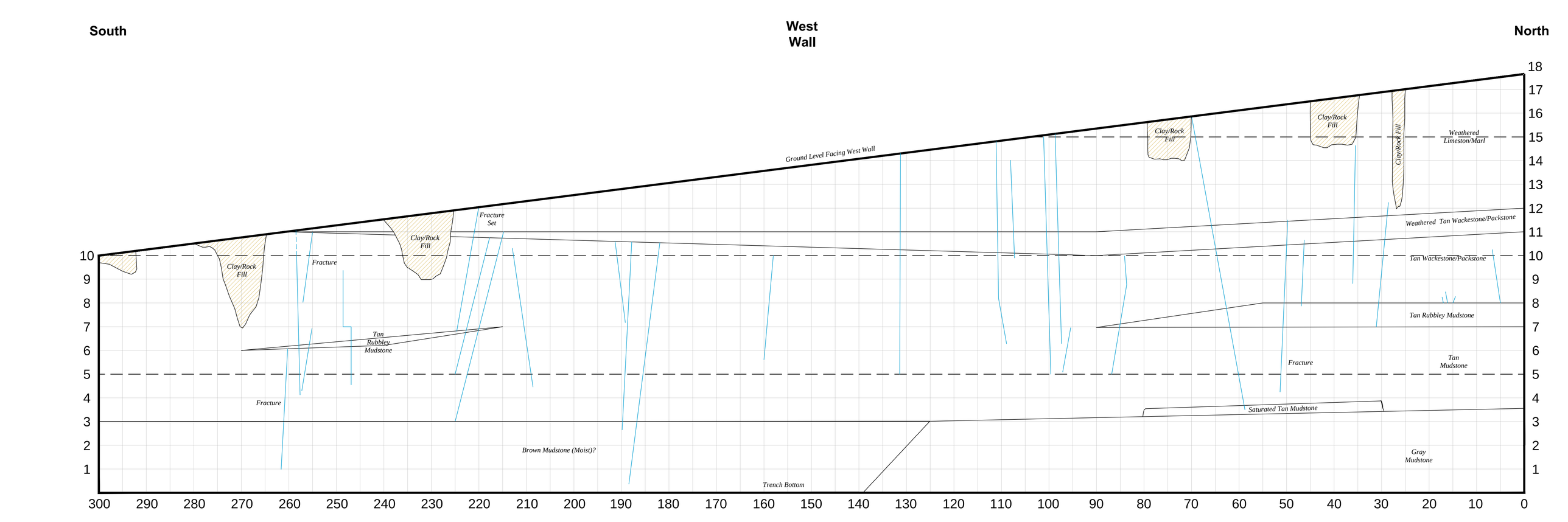
Trench Wall Profiles

North

East Wall

South




South
West Wall
North
Ground Level Facing West Wall
Clay/Rock Fill
Clay/Rock Fill
Fracture Set
Clay/Rock Fill
Clay/Rock Fill
Clay/Rock Fill
Weathered Limeston/Marl
Weathered Tan Wackestone/Packstone
Tan Wackestone/Packstone
Fracture
Tan Rubbley Mudstone
Tan Rubbley Mudstone
Fracture
Tan Mudstone
Fracture
Saturated Tan Mudstone
Brown Mudstone (Moist)?
Gray Mudstone
Trench Bottom
18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0

Appendix C

Klozur Bench-Scale Test Results

FMC ENVIRONMENTAL SOLUTIONS

SOIL & GROUNDWATER REMEDIATION

Klozur® Persulfate Demand Test

Client: Parsons
8000 Centre Park Drive, Suite 200
Austin, TX 78754
Adrien Lindley

Performing Lab: FMC Corporation
Tonawanda, NY

Date May 25,2012

I. Background

Klozur® activated persulfate is a strong oxidant capable of mineralizing a wide range of contaminants, including chlorinated solvents, petroleum hydrocarbons, polyaromatic hydrocarbons, gasoline additives, pesticides, and many others. Activation of the persulfate anion generates the sulfate radical, the primary species that drives the rapid destruction of the contaminants of concern. Activation can be accomplished by several methods[1]: heat, transition metals, addition of hydrogen peroxide, or utilizing high pH. Choice of the activation method will depend on the contaminant of concern and site characteristics.

A chemical oxidant is not specific as to what it will oxidize. As a result, activated persulfate will not only mineralize the contaminant of concern, but a portion of the oxidant will be used in oxidizing soil organics, reduced metals, and organic species that are not of concern. In addition, activated persulfate will undergo auto-decomposition, which will be a function of temperature, concentration and activation method. The demand upon the activated persulfate from all of these components is captured in a coarse screening test termed, "Klozur Demand Test". It is dependent upon the site characteristics, such as the organic content of the soil, the mineral loading, and soil type and collectively must be considered for estimating the magnitude of oxidant dosing during field application.

The Klozur® Persulfate KDT test measures the loss of persulfate in the presence of soil, groundwater and activator over a period of 48 and 96 hours. The resulting KDT values can then be used as a guide to develop appropriate persulfate dosing for subsequent treatability testing and field applications.

[1] FMC is the owner of licensee under various patent applications relating to the use of activation chemistries

II. Sample Handling for Parsons site CSSA

Client Sample Identification

- Soil ID: AOC65-KDT-01, AOC65-KDT-02, AOC65-KDT-03, AOC65-KDT-04, AOC65-KDT-05, AOC65-KDT-06; GW ID: AOC65-KDT-RW

Handling Procedures

- The samples were received on 05/04/2012.
- During the collection of the preliminary data, the soils were used as per customer requests on the chain of custody and put into its original container after its use.
- The groundwater samples were well mixed, used and put into their original containers after their use.
- On 05/14/2012, multiple experimental samples were prepared according to the amounts shown in the results table below.
- The experimental samples were stored at room temperature and each sample was vigorously shaken once per day.
- About 850 grams of each soil sample is left with us and about 5.0 liters of the groundwater sample is left. The unused soil and groundwater samples will be disposed of responsibly after about one week.

III. Results

Sample ID	Run #	Trial Activator	Soil Wt. (g)	Water Vol. (mL)	Klozur Dosage (g/Kg Soil) t=0 hrs.	Slurry pH	t=48hr	t=96 hr
AOC65-KDT-01 & AOC65-KDT-RW	1	NaOH	10	30	15	11.26-11.13	0.42	0.57
	2	NaOH	10	30	15	11.26-11.13	0.43	0.59
	Soil Buffering Demand = **0.37 gallons 25% NaOH/ 2000 lb of Soil** **Acid Generation Demand** = **0.13 gallons 25% NaOH/ lb of Klozur persulfate**							

Sample ID	Run #	Trial Activator	Soil Wt. (g)	Water Vol. (mL)	Klozur Dosage (g/Kg Soil) t=0 hrs.	Slurry pH	t=48hr	t=96 hr
AOC65-KDT-02 & AOC65-KDT-RW	1	NaOH	10	30	15	11.37-11.00	0.35	0.54
	2	NaOH	10	30	15	11.37-11.00	0.38	0.55
	Soil Buffering Demand = **0.47 gallons 25% NaOH/ 2000 lb of Soil** **Acid Generation Demand** = **0.13 gallons 25% NaOH/ lb of Klozur persulfate**							

Sample ID	Run #	Trial Activator	Soil Wt. (g)	Water Vol. (mL)	Klozur Dosage (g/Kg Soil) t=0 hrs.	Slurry pH	t=48hr	t=96 hr
AOC65-KDT-03 & AOC65-KDT-RW	1	NaOH	10	30	15	11.23-11.21	0.46	0.53
	2	NaOH	10	30	15	11.23-11.21	0.47	0.55
	Soil Buffering Demand = **0.47 gallons 25% NaOH/ 2000 lb of Soil** **Acid Generation Demand** = **0.13 gallons 25% NaOH/ lb of Klozur persulfate**							

Sample ID	Run #	Trial Activator	Soil Wt. (g)	Water Vol. (mL)	Klozur Dosage (g/Kg Soil) t=0 hrs.	Slurry pH	t=48hr	t=96 hr
AOC65-KDT-04 & AOC65-KDT-RW	1	NaOH	10	30	15	11.18-11.10	0.33	0.39
	2	NaOH	10	30	15	11.18-11.10	0.35	0.42
	Soil Buffering Demand = **0.42 gallons 25% NaOH/ 2000 lb of Soil** **Acid Generation Demand** = **0.13 gallons 25% NaOH/ lb of Klozur persulfate**							

Sample ID	Run #	Trial Activator	Soil Wt. (g)	Water Vol. (mL)	Klozur Dosage (g/Kg Soil) t=0 hrs.	Slurry pH	t=48hr	t=96 hr
AOC65-KDT-05 & AOC65-KDT-RW	1	NaOH	10	30	15	11.16-10.81	1.00	1.11
	2	NaOH	10	30	15	11.16-10.81	1.02	1.11
	Soil Buffering Demand = **1.04 gallons 25% NaOH/ 2000 lb of Soil** **Acid Generation Demand** = **0.13 gallons 25% NaOH/ lb of Klozur persulfate**							

Sample ID	Run #	Trial Activator	Soil Wt. (g)	Water Vol. (mL)	Klozur Dosage (g/Kg Soil) t=0 hrs.	Slurry pH	t=48hr	t=96 hr
AOC65-KDT-06 & AOC65-KDT-RW	1	NaOH	10	30	15	11.30-11.28	0.37	0.49
	2	NaOH	10	30	15	11.30-11.28	0.39	0.51
	Soil Buffering Demand = **0.42 gallons 25% NaOH/ 2000 lb of Soil** **Acid Generation Demand** = **0.13 gallons 25% NaOH/ lb of Klozur persulfate**							

IV. Conclusions

The Klozur® Persulfate demand with NaOH activation for the Soil Sample: AOC65-KDT-01 & Groundwater Sample: AOC65-KDT-RW ranges from approximately 0.42 – 0.59 g persulfate / kg soil, which is considered low as compared to persulfate SOD for most soils.

Based on these values, an average of 0.50 g / kg should be used as a site-wide SOD for further refinement of the Klozur persulfate total demand.

The Klozur® Persulfate demand with NaOH activation for the Soil Sample: AOC65-KDT-02 & Groundwater Sample: AOC65-KDT-RW ranges from approximately 0.35 – 0.55 g persulfate / kg soil, which is considered low as compared to persulfate SOD for most soils.

Based on these values, an average of 0.46 g / kg should be used as a site-wide SOD for further refinement of the Klozur persulfate total demand.

The Klozur® Persulfate demand with NaOH activation for the Soil Sample: AOC65-KDT-03 & Groundwater Sample: AOC65-KDT-RW ranges from approximately 0.46 – 0.55 g persulfate / kg soil, which is considered low as compared to persulfate SOD for most soils.

Based on these values, an average of 0.50 g / kg should be used as a site-wide SOD for further refinement of the Klozur persulfate total demand.

The Klozur® Persulfate demand with NaOH activation for the Soil Sample: AOC65-KDT-04 & Groundwater Sample: AOC65-KDT-RW ranges from approximately 0.33 – 0.42 g persulfate / kg soil, which is considered low as compared to persulfate SOD for most soils.

Based on these values, an average of 0.37 g / kg should be used as a site-wide SOD for further refinement of the Klozur persulfate total demand.

The Klozur® Persulfate demand with NaOH activation for the Soil Sample: AOC65-KDT-05 & Groundwater Sample: AOC65-KDT-RW ranges from approximately 1.00 – 1.11 g persulfate / kg soil, which is considered average as compared to persulfate SOD for most soils.

Based on these values, an average of 1.06 g / kg should be used as a site-wide SOD for further refinement of the Klozur persulfate total demand.

The Klozur® Persulfate demand with NaOH activation for the Soil Sample: AOC65-KDT-06 & Groundwater Sample: AOC65-KDT-RW ranges from approximately 0.37 – 0.51 g persulfate / kg soil, which is considered low as compared to persulfate SOD for most soils.

Based on these values, an average of 0.44 g / kg should be used as a site-wide SOD for further refinement of the Klozur persulfate total demand.

V. Authorizing Signatures

This report contains the results as determined by FMC laboratory protocol and are accurately represented herein.

Jennifer Lindsey
FMC Customer Representative

Note: 1. FMC recommends performing suitable treatability testing and field pilot demonstration to determine the effectiveness of Klozur® activated persulfate on the contaminants of concern. KDT testing provides only an indication of the minimum amount of oxidant required to overcome the demands of soil, groundwater and other secondary species that contribute to the usage of the oxidant. The KDT results do not imply a guarantee of efficacy of the activated persulfate in actual field situations. 2. ANY SUCH QUANTITY OR WARRANTY IS EXPRESSLY DISCLAIMED.

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Material Safety Data Sheets (MSDS)

MATERIAL SAFETY DATA SHEET

Klozür™

MSDS Ref. No.: 7775-27-1-12
Date Approved: 02/22/2005
Revision No.: 1

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the Canada's Workplace Hazardous Materials Information System (WHMIS) and, the EC Directive, 2001/58/EC.

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	Klozür™
SYNONYMS:	Sodium Persulfate, Sodium Peroxydisulfate; Disodium Peroxydisulfate
GENERAL USE:	In situ and ex situ chemical oxidation of contaminants and compounds of concern for environmental remediation applications.

MANUFACTURER

FMC CORPORATION
Active Oxidants Division
1735 Market Street
Philadelphia, PA 19103
(215) 299-6000 (General Information)

EMERGENCY TELEPHONE NUMBERS

(800) 424-9300 (CHEMTREC - U.S.)
(303) 595-9048 (Medical - Call Collect)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

- White, odorless, crystals
- Oxidizer.
- Decomposes in storage under conditions of moisture (water/water vapor) and/or excessive heat causing release of oxides of sulfur and oxygen that supports combustion. Decomposition could form a high temperature melt. See Section 10 ("Stability and Reactivity").

POTENTIAL HEALTH EFFECTS: Airborne persulfate dust may be irritating to eyes, nose, lungs, throat and skin upon contact. Exposure to high levels of persulfate dust may cause difficulty in breathing in sensitive persons.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Sodium Persulfate	7775-27-1	>99	231-892-1	Not classified as hazardous

4. FIRST AID MEASURES

EYES: Flush with plenty of water. Get medical attention if irritation occurs and persists.

SKIN: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

INGESTION: Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

NOTES TO MEDICAL DOCTOR: This product has low oral toxicity and is not irritating to the eyes and skin. Flooding of exposed areas with water is suggested, but gastric lavage or emesis induction for ingestions must consider possible aggravation of esophageal injury and the expected absence of system effects. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Deluge with water.

FIRE / EXPLOSION HAZARDS: Product is non-combustible. On decomposition releases oxygen which may intensify fire. Presence of water accelerates decomposition.

FIRE FIGHTING PROCEDURES: Do not use carbon dioxide or other gas filled fire extinguishers; they will have no effect on decomposing persulfates. Wear full protective clothing and self-contained breathing apparatus.

FLAMMABLE LIMITS: Non-combustible

SENSITIVITY TO IMPACT: No data available

SENSITIVITY TO STATIC DISCHARGE: Not available

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Spilled material should be collected and put in approved DOT container and isolated for disposal. Isolated material should be monitored for signs of decomposition (fuming/smoking). If spilled material is wet, dissolve with large quantity of water and dispose as a hazardous waste. All disposals should be carried out according to regulatory agencies procedures.

7. HANDLING AND STORAGE

HANDLING: Use adequate ventilation when transferring product from bags or drums. Wear respiratory protection if ventilation is inadequate or not available. Use eye and skin protection. Use clean plastic or stainless steel scoops only.

STORAGE: Store (unopened) in a cool, clean, dry place away from point sources of heat, e.g. radiant heaters or steam pipes. Use first in, first out storage system. Avoid contamination of opened product. In case of fire or decomposition (fuming/smoking) deluge with plenty of water to control decomposition. For storage, refer to NFPA Bulletin 430 on storage of liquid and solid oxidizing materials.

COMMENTS: VENTILATION: Provide mechanical general and/or local exhaust ventilation to prevent release of dust into work environment. Spills should be collected into suitable containers to prevent dispersion into the air.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

Chemical Name	ACGIH	OSHA	Supplier
Sodium Persulfate	0.1 mg/m^3 (TWA)		

ENGINEERING CONTROLS: Provide mechanical local general room ventilation to prevent release of dust into the work environment. Remove contaminated clothing immediately and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Use cup type chemical goggles. Full face shield may be used.

RESPIRATORY: Use approved dust respirator when airborne dust is expected.

PROTECTIVE CLOTHING: Normal work clothes. Rubber or neoprene footwear.

GLOVES: Rubber or neoprene gloves. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR:	None
APPEARANCE:	White crystals
AUTOIGNITION TEMPERATURE:	Not applicable. No evidence of combustion up to 800°C. Decomposition will occur upon heating.
BOILING POINT:	Not applicable
COEFFICIENT OF OIL / WATER:	Not applicable
DENSITY / WEIGHT PER VOLUME:	Not available
EVAPORATION RATE:	Not applicable (Butyl Acetate = 1)
FLASH POINT:	Non-combustible
MELTING POINT:	Decomposes
ODOR THRESHOLD:	Not applicable
OXIDIZING PROPERTIES:	Oxidizer
PERCENT VOLATILE:	Not applicable
pH:	typically 5.0 - 7.0 @ 25 °C (1% solution)
SOLUBILITY IN WATER:	73 % @ 25 °C (by wt.)
SPECIFIC GRAVITY:	2.6 (H_2O=1)
VAPOR DENSITY:	Not applicable (Air = 1)
VAPOR PRESSURE:	Not applicable

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Heat, moisture and contamination.
STABILITY:	Stable (becomes unstable in presence of heat, moisture and/or contamination).
POLYMERIZATION:	Will not occur
INCOMPATIBLE MATERIALS:	Acids, alkalis, halides (fluorides, chlorides, bromides and iodides), combustible materials, most metals and heavy metals, oxidizable materials, other oxidizers, reducing agents, cleaners, and organic or carbon containing compounds. Contact

with incompatible materials can result in a material decomposition or other uncontrolled reactions.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxygen that supports combustion and oxides of sulfur.

COMMENTS: PRECAUTIONARY STATEMENT: Pumping and transport of Klozür persulfate requires appropriate precautions and design considerations for pressure and thermal relief.

Decomposing persulfates will evolve large volumes of gas and/or vapor, can accelerate exponentially with heat generation, and create significant and hazardous pressures if contained and not properly controlled or mitigated.

Use with alcohols in the presence of water has been demonstrated to generate conditions that require rigorous adherence to process safety methods and standards to prevent escalation to an uncontrolled reaction.

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11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Non-irritating (rabbit) [FMC Study Number: ICG/T-79.029]

SKIN EFFECTS: Non-irritating (rabbit) [FMC Study Number: ICG/T-79.029]

DERMAL LD_{50}: > 10 g/kg [FMC Study Number: ICG/T-79.029]

ORAL LD_{50}: 895 mg/kg (rat) [FMC Study Number: ICG/T-79.029]

INHALATION LC_{50}: 5.1 mg/l (rat) [FMC I95-2017]

SENSITIZATION: May be sensitizing to allergic persons. [FMC Study Number: ICG/T-79.029]

TARGET ORGANS: Eyes, skin, respiratory passages

ACUTE EFFECTS FROM OVEREXPOSURE: Dust may be harmful and irritating. May be harmful if swallowed.

CHRONIC EFFECTS FROM OVEREXPOSURE: Sensitive persons may develop dermatitis and asthma [Respiration 38:144, 1979]. Groups of male and female rats were fed 0, 300 or 3000 ppm sodium persulfate in the diet for 13 weeks, followed by 5000 ppm for 5 weeks. Microscopic examination of tissues revealed some injury to the gastrointestinal tract at the high dose (3000 ppm) only. This effect is not unexpected for an oxidizer at high concentrations. [Ref. FMC I90-1151, Toxicologist 1:149, 1981].

CARCINOGENICITY:

NTP:	Not listed
IARC:	Not listed
OSHA:	Not listed
OTHER:	ACGIH: Not listed

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

Bluegill sunfish, 96-hour LC_{50} = 771 mg/L [FMC Study I92-1250]
Rainbow trout, 96-hour LC_{50} = 163 mg/L [FMC Study I92-1251]
Daphnia, 48-hour LC_{50} = 133 mg/L [FMC Study I92-1252]
Grass shrimp, 96-hour LC_{50} = 519 mg/L [FMC Study I92-1253]

CHEMICAL FATE INFORMATION: Biodegradability does not apply to inorganic substances.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose as a hazardous waste in accordance with local, state and federal regulatory agencies.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

PROPER SHIPPING NAME:	Sodium Persulfate
PRIMARY HAZARD CLASS / DIVISION:	5.1 (Oxidizer)
UN/NA NUMBER:	UN 1505
PACKING GROUP:	III
LABEL(S):	5.1 (Oxidizer)
PLACARD(S):	5.1 (Oxidizer)
MARKING(S):	Sodium Persulfate, UN 1505
ADDITIONAL INFORMATION:	Hazardous Substance/RQ: Not applicable

49 STCC Number: 4918733

This material is shipped in 225 lb. fiber drums, 55 lb. poly bags and 1000 - 2200 lb. IBC's (supersacks).

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

PROPER SHIPPING NAME: Sodium Persulfate

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) / INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

PROPER SHIPPING NAME: Sodium Persulfate

OTHER INFORMATION:

Protect from physical damage. Do not store near acids, moisture or heat.

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15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):
Not applicable

SECTION 311 HAZARD CATEGORIES (40 CFR 370):
Fire Hazard, Immediate (Acute) Health Hazard

SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):
The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.:
None

SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):
Not listed

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):
Unlisted, RQ = 100 lbs., Ignitability

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA INVENTORY STATUS (40 CFR 710):

Listed

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)
RCRA IDENTIFICATION OF HAZARDOUS WASTE (40 CFR 261):
Waste Number: D001

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):

Product Identification Number: 1505
Hazard Classification / Division: Class C (Oxidizer), Class D, Div. 2, Subdiv. B. (Toxic)
Ingredient Disclosure List: Listed

INTERNATIONAL LISTINGS

Sodium persulfate:
Australia (AICS): Listed
China: Listed
Japan (ENCS): (1)-1131
Korea: KE-12369
Philippines (PICCS): Listed

HAZARD, RISK AND SAFETY PHRASE DESCRIPTIONS:

EC Symbols: (Not classified as hazardous)

EC Risk Phrases: (Not classified as hazardous)

EC Safety Phrases: (Not classified as hazardous)

16. OTHER INFORMATION

HMIS

Health	1
Flammability	0
Physical Hazard	1
Personal Protection (PPE)	J

Protection = J (Safety goggles, gloves, apron & combination dust & vapor respirator)

HMIS = Hazardous Materials Identification System

Degree of Hazard Code:
4 = Severe

3 = Serious
2 = Moderate
1 = Slight
0 = Minimal

NFPA

Health	1
Flammability	0
Reactivity	1
Special	OX

SPECIAL = OX (Oxidizer)

NFPA = National Fire Protection Association

Degree of Hazard Code:
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

REVISION SUMMARY:
New MSDS

Klozür and FMC Logo - FMC Trademarks

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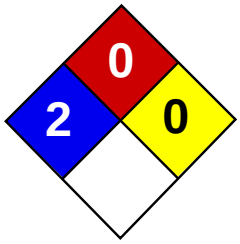

Material Safety Data Sheet
Sodium Hydroxide, 25% MSDS

Section 1: Chemical Product and Company Identification

Product Name: Sodium Hydroxide, 25%

Catalog Codes: SLS4210

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Sodium hydroxide; Water

CI#: Not applicable.

Synonym:

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sodium hydroxide	1310-73-2	25
Water	7732-18-5	75

Toxicological Data on Ingredients: Sodium hydroxide LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion. Hazardous in case of inhalation. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:
Non-corrosive for skin. Non-irritant for skin. Non-sensitizer for skin. Non-permeator by skin. Non-irritating to the eyes. Non-hazardous in case of ingestion. Non-hazardous in case of inhalation. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe

skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Finish by rinsing thoroughly with running water to avoid a possible infection. Cold water may be used.

Skin Contact:
If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical got on the victim's exposed skin, such as the hands : Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.

Large Spill:
Corrosive liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep container dry. Do not breathe gas/fumes/ vapour/spray. Never add water to this product In case of insufficient ventilation, wear suitable respiratory equipment If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes Keep away from incompatibles such as acids.

Storage:
Alkalis may be stored in heavy duty gauge steel containers. Corrosive materials should be stored in a separate safety storage cabinet or room.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection:
Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
Sodium hydroxide CEIL: 2 (mg/m3) from ACGIH [1995] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Odorless.

Taste: Alkaline. Bitter. (Strong.)

Molecular Weight: Not applicable.

Color: Clear Colorless.

pH (1% soln/water): Basic.

Boiling Point: The lowest known value is 100°C (212°F) (Water).

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: Weighted average: 1.15 (Water = 1)

Vapor Pressure: The highest known value is 17.535 mm of Hg (@ 20°C) (Water).

Vapor Density: The highest known value is 0.62 (Air = 1) (Water).

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Easily soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Extremely reactive or incompatible with acids.

Corrosivity:
Highly corrosive in presence of aluminum. Slightly corrosive to corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
LD50: Not available. LC50: Not available.

Chronic Effects on Humans: The substance is toxic to lungs, mucous membranes.

Other Toxic Effects on Humans:
Very hazardous in case of skin contact (corrosive, irritant), of ingestion. Hazardous in case of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: CLASS 8: Corrosive liquid.

Identification: : Sodium hydroxide, solution (Sodium hydroxide) : UN1824 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
Pennsylvania RTK: Sodium hydroxide Massachusetts RTK: Sodium hydroxide TSCA 8(b) inventory: Sodium hydroxide; Water

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):
CLASS D-2A: Material causing other toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.

DSCL (EEC): R35- Causes severe burns.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection:

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 12:05 PM

Last Updated: 11/01/2010 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume

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Appendix D

Drilling Forms

Camp Stanley Available Well Information Table

Well	Boring Log	Well Construction Field Forms	Geophysics	State Well Report	Plugging & Abandonment	Date Plugged or Installed
TSW-01	X		X	X		6/7/12
TSW-02	X		X	X		6/7/12
TSW-03	X		X	X		6/11/12
TSW-04	X		X	X		6/11/12
TSW-05	X		X	X		6/11/12
TSW-06	X		X	X		6/12/12
TSW-07	X		X	X		6/11/12
IIW-01	X	X		X		7/25/13
IIW-02	X	X		X		5/15/13
IIW-03	X	X		X		5/13/13
IIW-04	X	X		X		5/13/13
VEW-01					X	9/19/12
VEW-02					X	9/19/12
VEW-03					X	9/19/12
VEW-04					X	9/19/12
VEW-05					X	9/19/12
VEW-06					X	9/19/12
VEW-07					X	9/19/12
VEW-08					X	9/19/12
VEW-09					X	9/19/12
VEW-10					X	9/19/12
VEW-11					X	9/19/12
VEW-12					X	9/19/12
VMP-03					X	4/25/12
VMP-4A					X	2/10/12
VMP-06					X	2/13/12

Treatability Study Wells (TSW)

- TSW-01
- TSW-02
- TSW-03
- TSW-04
- TSW-05
- TSW-06
- TSW-07

BOREHOLE LOG

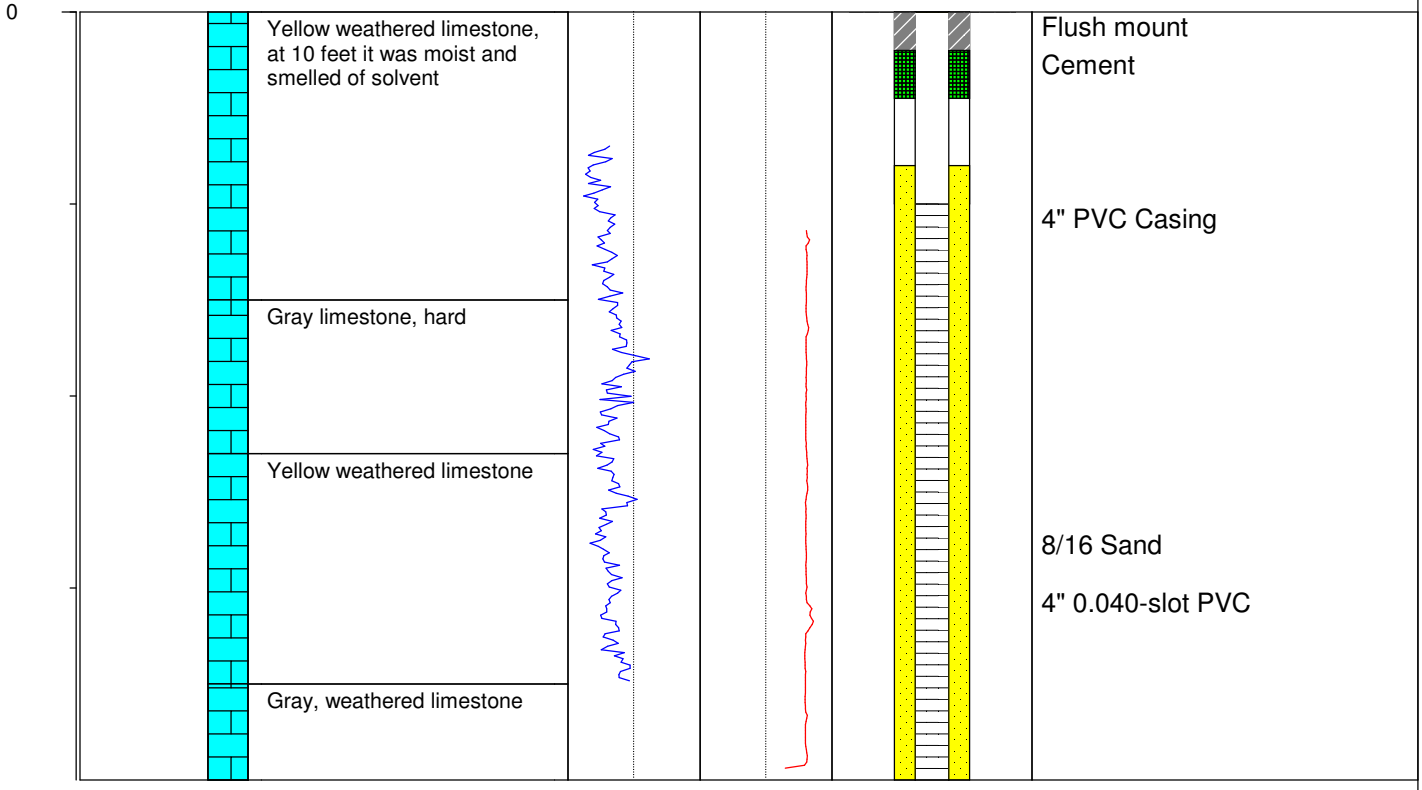
BOREHOLE NO.: **TSW-01**

TOTAL DEPTH: **40 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Lee Gebbert**
JOB NUMBER:	**748350.02000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**N/A**
DATES DRILLED:	**June 5, 2012**	BORING DIAMETER	**8 in.**

NOTES: TSW-01 is located west of Building 90

Depth (ft. bgs)	TOTCO Test (degrees)	Lithology	Description Logged from Cuttings	Gamma	Caliper (Inches) 0 I-------I 10	Well Construction	Construction Material



BOREHOLE LOG

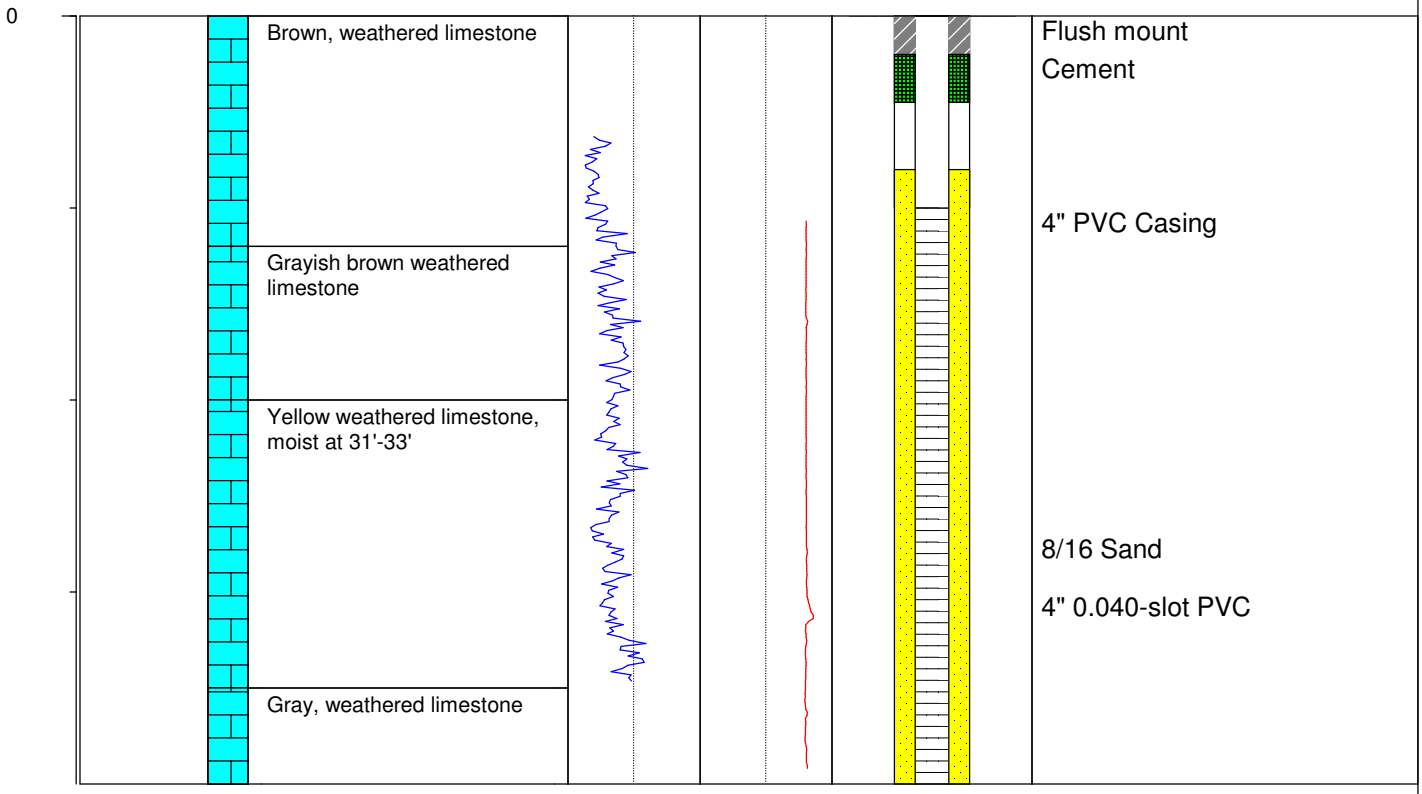
BOREHOLE NO.: **TSW-02**

TOTAL DEPTH: **40 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Lee Gebbert**
JOB NUMBER:	**748350.02000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**N/A**
DATES DRILLED:	**June 5, 2012**	BORING DIAMETER	**8 in.**

NOTES: TSW-02 is located west of Building 90

Depth (ft. bgs)	TOTCO Test (degrees)	Lithology	Description Logged from Cuttings	Gamma	Caliper (Inches) 0 I-------I 10	Well Construction	Construction Material



BOREHOLE LOG

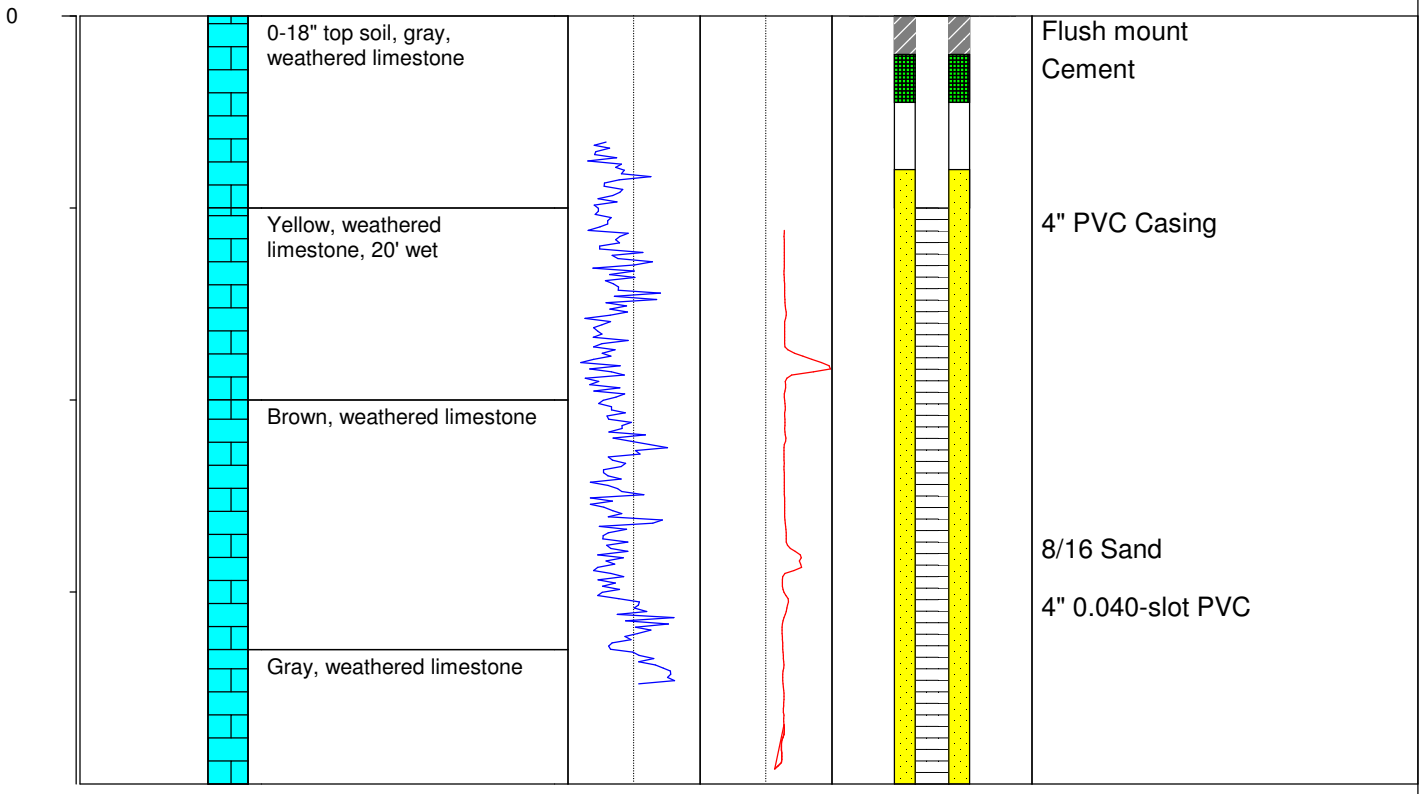
BOREHOLE NO.: **TSW-03**

TOTAL DEPTH: **40 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Lee Gebbert**
JOB NUMBER:	**748350.02000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**N/A**
DATES DRILLED:	**June 5, 2012**	BORING DIAMETER	**8 in.**

NOTES: TSW-03 is located west of Building 90

Depth (ft. bgs)	TOTCO Test (degrees)	Lithology	Description Logged from Cuttings	Gamma	Caliper (Inches) 0 I-------I 13	Well Construction	Construction Material



BOREHOLE LOG

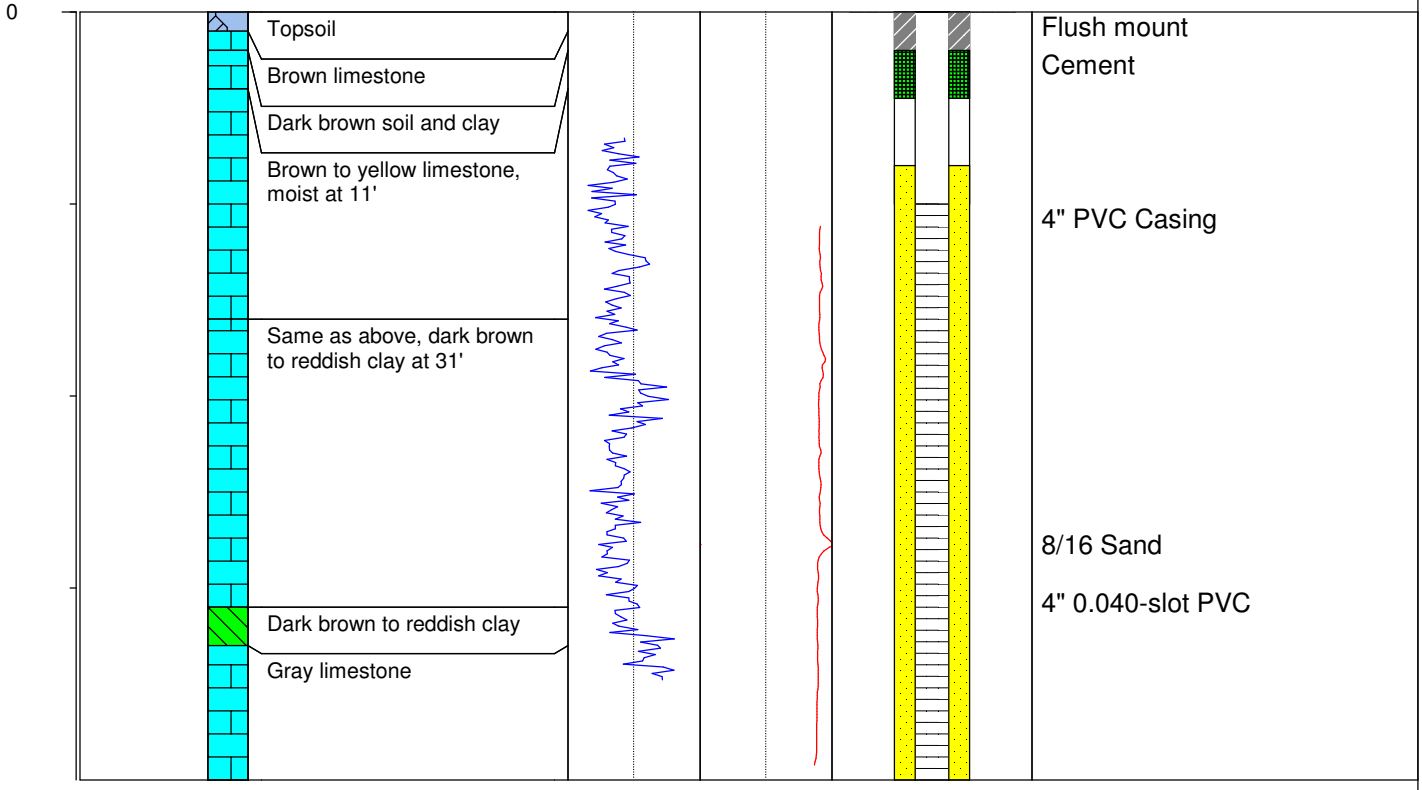
BOREHOLE NO.: **TSW-04**

TOTAL DEPTH: **40 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Lee Gebbert**
JOB NUMBER:	**748350.02000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**N/A**
DATES DRILLED:	**June 6, 2012**	BORING DIAMETER	**8 in.**

NOTES: TSW-04 is located west of Building 90

Depth (ft. bgs)	TOTCO Test (degrees)	Lithology	Description Logged from Cuttings	Gamma	Caliper (Inches) 0 I-------I 9	Well Construction	Construction Material



BOREHOLE LOG

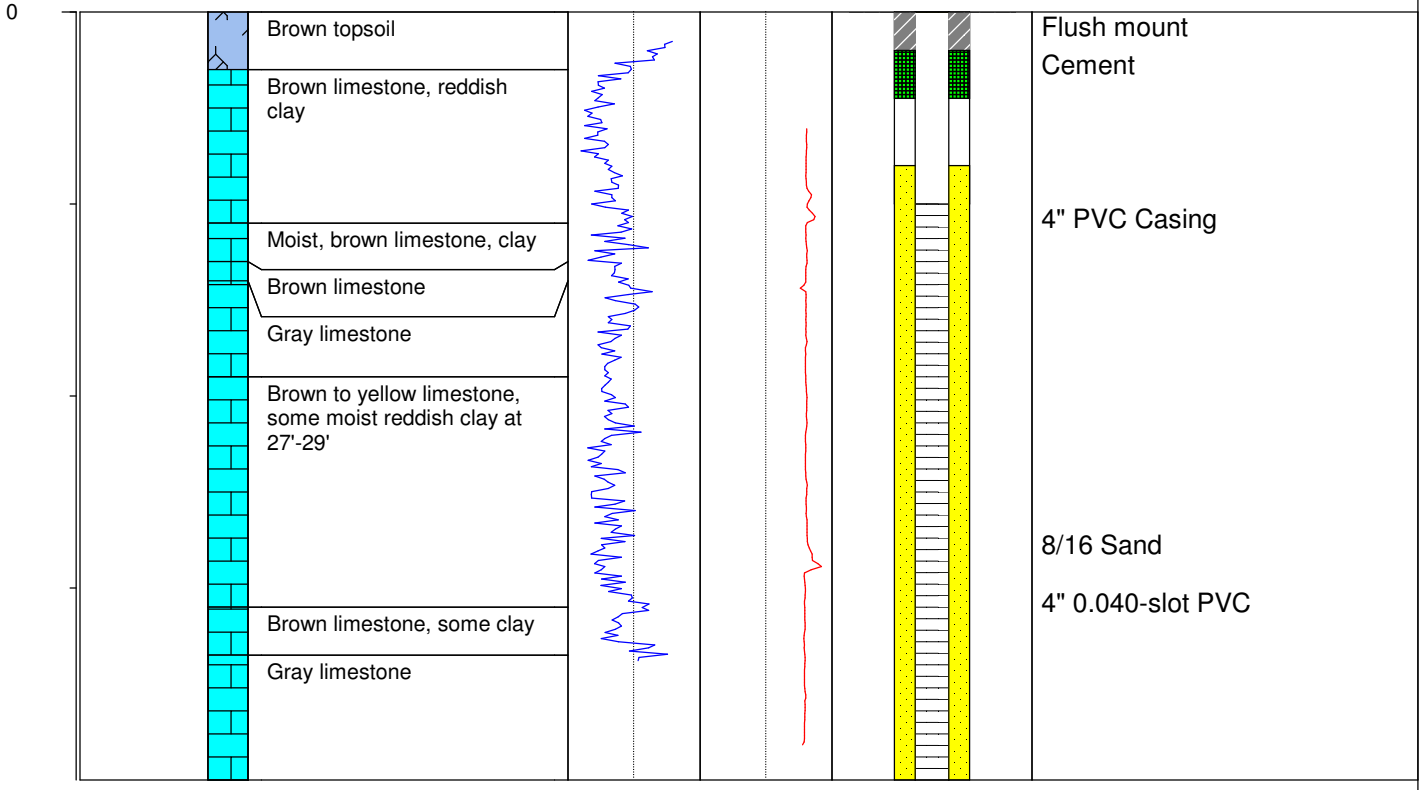
BOREHOLE NO.: **TSW-05**

TOTAL DEPTH: **40 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Lee Gebbert**
JOB NUMBER:	**748350.02000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**N/A**
DATES DRILLED:	**June 5, 2012**	BORING DIAMETER	**8 in.**

NOTES: TSW-05 is located east of Building 90

Depth (ft. bgs)	TOTCO Test (degrees)	Lithology	Description Logged from Cuttings	Gamma	Caliper (Inches) 0 I-------I 10	Well Construction	Construction Material



BOREHOLE LOG

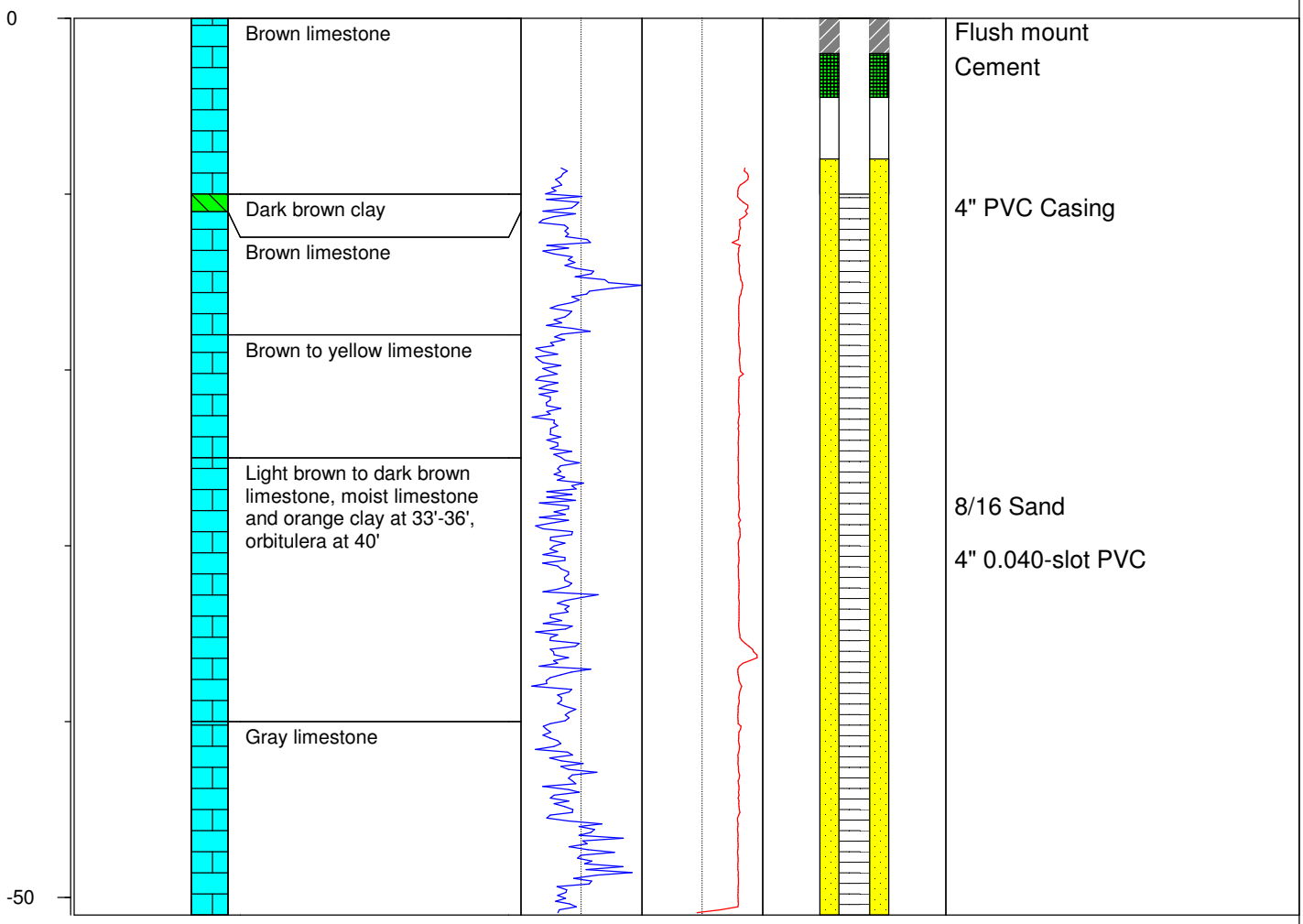
BOREHOLE NO.: **TSW-06**

TOTAL DEPTH: **51 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Lee Gebbert**
JOB NUMBER:	**748350.02000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**N/A**
DATES DRILLED:	**June 6, 2012**	BORING DIAMETER	**8 in.**

NOTES: TSW-06 is located south of Building 90

Depth (ft. bgs)	TOTCO Test (degrees)	Lithology	Description Logged from Cuttings	Gamma	Caliper (Inches) 0 I-------I 10	Well Construction	Construction Material



BOREHOLE LOG

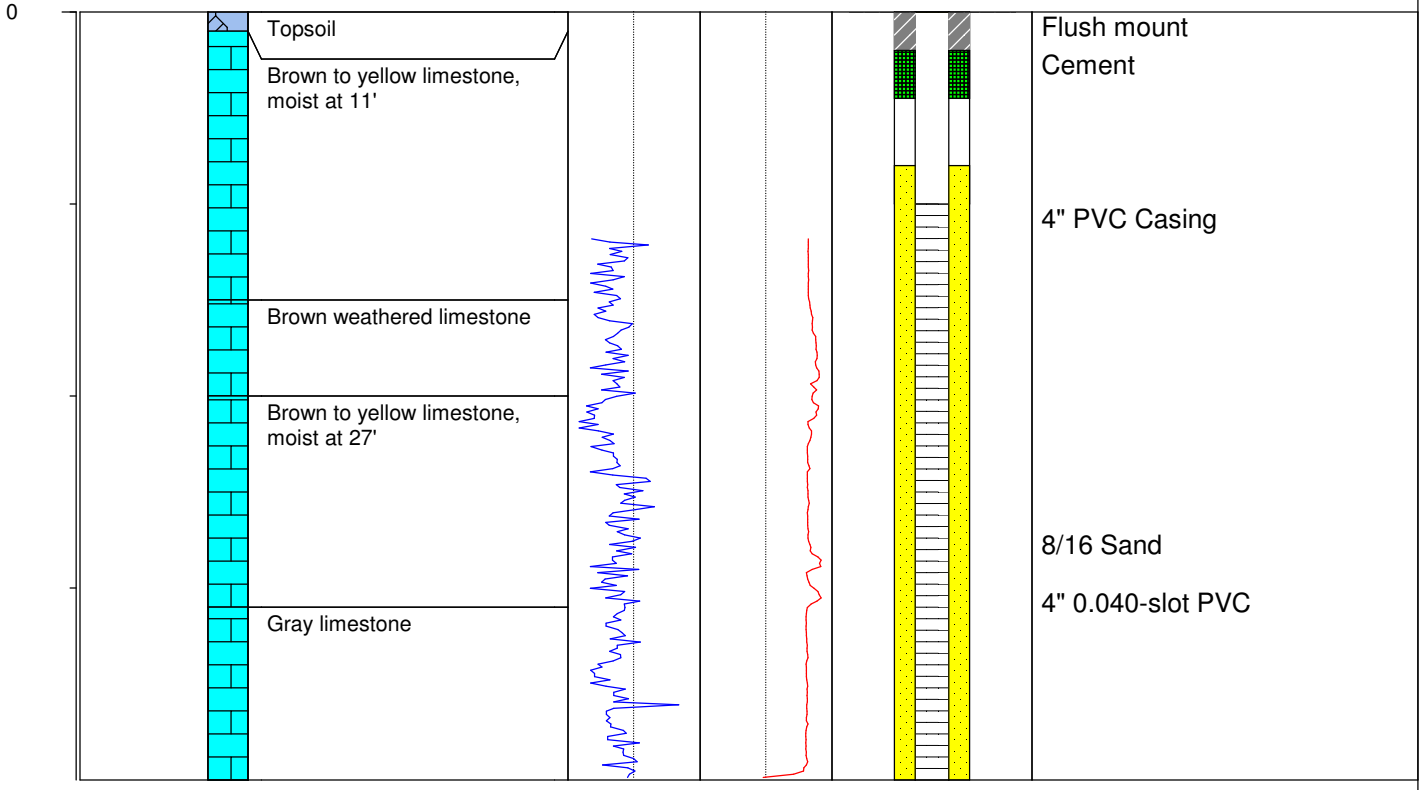
BOREHOLE NO.: **TSW-07**

TOTAL DEPTH: **40 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Lee Gebbert**
JOB NUMBER:	**748350.02000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**N/A**
DATES DRILLED:	**June 6, 2012**	BORING DIAMETER	**8 in.**

NOTES: TSW-07 is located west of Building 90

Depth (ft. bgs)	TOTCO Test (degrees)	Lithology	Description Logged from Cuttings	Gamma	Caliper (Inches) 0 I-------I 10	Well Construction	Construction Material



STATE OF TEXAS WELL REPORT for Tracking #297901

Owner:	**U.S. Government**	Owner Well #:	**TSW-01**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 52" W**
Elevation:	**1220 ft.**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **6/5/2012**
Completed: **6/7/2012**

Diameter of Hole: Diameter: **7-7/8 in From Surface To 40.5 ft**

Drilling Method: **Air Rotary**

Borehole Completion: Gravel Packed From: **8 ft to 40.5 ft**
Gravel Pack Size: **8/16**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 cement (#sacks and material)**
2nd Interval: **From 2 ft to 6 ft with 1 volclay grout (#sacks and material)**
3rd Interval: **From 6 ft to 8 ft with 1 hole plug (#sacks and material)**
Method Used: **Pour and pump from surface**
Cemented By: **Lee Gebbert**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality:
Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

Company Information:
Geoprojects international, inc.
8834
Austin , TX 78736

Driller License Number: **2525**

Licensed Well Driller Signature: **Lee Gebbert**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking number (Tracking #**297901**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL | CASING, BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0	**1.5**	**Topsoil, brown**
1.5	**15**	**Limestone, brown to yellow**
15	**23**	**Limestone, gray**
23	**34.5**	**Limestone, yellow**
34.5	**40.5**	**Limestone, gray**

Dia.	New/Used	Type	Setting From/To
4	**New**	**Sch 40 PVC FJT Casing**	**set from 0 to 10**
4	**New**	**SCh 40 PVC FJT Mill Slot Screen**	**set from 10 to 40 with 0.040-inch slot**

STATE OF TEXAS WELL REPORT for Tracking #297903

Owner:	**U.S. Government**	Owner Well #:	**TSW-02**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 52" W**
Elevation:	**1220 ft.**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **6/5/2012**
Completed: **6/7/2012**

Diameter of Hole: Diameter: **7-7/8 in From Surface To 40.5 ft**

Drilling Method: **Air Rotary**

Borehole Completion: Gravel Packed From: **8 ft to 40.5 ft**
Gravel Pack Size: **8/16**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 cement (#sacks and material)**
2nd Interval: **From 2 ft to 6 ft with 1 volclay grout (#sacks and material)**
3rd Interval: **From 6 ft to 8 ft with 1 hole plug (#sacks and material)**
Method Used: **Pour and pump from surface**
Cemented By: **Lee Gebbert**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality:
Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

Company Information:
Geoprojects international, inc.
8834
Austin , TX 78736

Driller License Number: **2525**

Licensed Well Driller Signature: **Lee Gebbert**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking number (Tracking #**297903**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL | CASING, BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0	**1.5**	**Topsoil, brown**
1.5	**14**	**Limestone, brown to yellow**
14	**16**	**Limestone, gray**
16	**17**	**Limestone, brown to yellow**
17	**21**	**Limestone, gray**
21	**35.5**	**Limestone, yellow**
35.5	**40.5**	**Limestone, gray**

Dia.	New/Used	Type	Setting From/To
4	**New**	**Sch 40 PVC FJT Casing**	**set from 0 to 10**
4	**New**	**SCh 40 PVC FJT Mill Slot Screen**	**set from 10 to 40 with 0.040-inch slot**

STATE OF TEXAS WELL REPORT for Tracking #297906

Owner:	**U.S. Government**	Owner Well #:	**TSW-03**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 52" W**
Elevation:	**1220 ft.**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **6/5/2012**
Completed: **6/11/2012**

Diameter of Hole: Diameter: **7-7/8 in From Surface To 40.5 ft**

Drilling Method: **Air Rotary**

Borehole Completion: Gravel Packed From: **8 ft to 40.5 ft**
Gravel Pack Size: **8/16**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 cement (#sacks and material)**
2nd Interval: **From 2 ft to 6 ft with 1 volclay grout (#sacks and material)**
3rd Interval: **From 6 ft to 8 ft with 1 hole plug (#sacks and material)**
Method Used: **Pour and pump from surface**
Cemented By: **Lee Gebbert**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality:
Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

Company Information:
Geoprojects international, inc.
8834
Austin , TX 78736

Driller License Number: **2525**

Licensed Well Driller Signature: **Lee Gebbert**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking number (Tracking #**297906**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL | CASING, BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0	**1.5**	**Topsoil, brown**
1.5	**33**	**Limestone, brown to yellow, moist from 9 to 20-ft**
33	**40.5**	**Limestone, gray**

Dia.	New/Used	Type	Setting From/To
4	**New**	**Sch 40 PVC FJT Casing**	**set from 0 to 10**
4	**New**	**SCh 40 PVC FJT Mill Slot Screen**	**set from 10 to 40 with 0.040-inch slot**

STATE OF TEXAS WELL REPORT for Tracking #297909

Owner:	**U.S. Government**	Owner Well #:	**TSW-04**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 52" W**
Elevation:	**1220 ft.**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **6/6/2012**
Completed: **6/11/2012**

Diameter of Hole: Diameter: **7-7/8 in From Surface To 40.5 ft**

Drilling Method: **Air Rotary**

Borehole Completion: Gravel Packed From: **8 ft to 40.5 ft**
Gravel Pack Size: **8/16**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 cement (#sacks and material)**
2nd Interval: **From 2 ft to 6 ft with 1 volclay grout (#sacks and material)**
3rd Interval: **From 6 ft to 8 ft with 1 hole plug (#sacks and material)**
Method Used: **Pour and pump from surface**
Cemented By: **Lee Gebbert**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality:
Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

Company Information:
Geoprojects international, inc.
8834
Austin , TX 78736

Driller License Number: **2525**

Licensed Well Driller Signature: **Lee Gebbert**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0	**1**	**Topsoil, brown**
1	**2**	**Limestone, brown**
2	**31**	**Limestone, brown to yellow, moist from 11 to 16**
31	**32**	**Limestone, dark brown and reddish clays**
32	**33**	**Limestone, brown to yellow**
33	**40.5**	**Limestone, gray**

Dia.	New/Used	Type	Setting From/To
4	**New**	**Sch 40 PVC FJT**	**Casing set from 0 to 10**
4	**New**	**SCh 40 PVC FJT Mill Slot**	**Screen set from 10 to 40 with 0.040-inch slot**

STATE OF TEXAS WELL REPORT for Tracking #297912

Owner:	**U.S. Government**	Owner Well #:	**TSW-05**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 50" W**
Elevation:	**1220 ft.**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **6/6/2012**
Completed: **6/11/2012**

Diameter of Hole: Diameter: **7-7/8 in From Surface To 40.5 ft**

Drilling Method: **Air Rotary**

Borehole Completion: Gravel Packed From: **8 ft to 40.5 ft**
Gravel Pack Size: **8/16**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 cement (#sacks and material)**
2nd Interval: **From 2 ft to 6 ft with 1 volclay grout (#sacks and material)**
3rd Interval: **From 6 ft to 8 ft with 1 hole plug (#sacks and material)**
Method Used: **Pour and pump from surface**
Cemented By: **Lee Gebbert**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality:
Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

Company Information:
Geoprojects international, inc.
8834
Austin , TX 78736

Driller License Number: **2525**

Licensed Well Driller Signature: **Lee Gebbert**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL | CASING, BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0	**3**	**Topsoil, brown**
3	**11**	**Limestone, brown, some reddish clay**
11	**13**	**Limestone, brown, some clay, moist**
13	**14**	**Limestone, brown**
14	**19**	**Limestone, gray**
19	**27**	**Limestone, brown to yellow**
27	**29**	**Limestone clays, moist, reddish**
29	**31**	**Limestone, brown to yellow**
31	**33.5**	**limestone, brown**
33.5	**40.5**	**Limestone, gray**

Dia.	New/Used	Type	Setting From/To
4	**New**	**Sch 40 PVC FJT Casing**	**set from 0 to 10**
4	**New**	**SCh 40 PVC FJT Mill Slot Screen**	**set from 10 to 40 with 0.040-inch slot**

STATE OF TEXAS WELL REPORT for Tracking #297916

Owner:	**U.S. Government**	Owner Well #:	**TSW-06**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 53" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
Elevation:	**1217 ft.**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **6/6/2012**
Completed: **6/12/2012**

Diameter of Hole: Diameter: **7-7/8 in From Surface To 51 ft**

Drilling Method: **Air Rotary**

Borehole Completion: Gravel Packed From: **17 ft to 50 ft**
Gravel Pack Size: **8/16**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 cement (#sacks and material)**
2nd Interval: **From 2 ft to 15 ft with 3 volclay grout (#sacks and material)**
3rd Interval: **From 15 ft to 17 ft with 1 hole plug (#sacks and material)**
Method Used: **Pour and pump from surface**
Cemented By: **Lee Gebbert**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality:
Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

Company Information:
Geoprojects international, inc.
8834
Austin , TX 78736

Driller License Number: **2525**

Licensed Well Driller Signature: **Lee Gebbert**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **Back plugged with bentonite hole plug from 50-ft to 51-ft**

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(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL | CASING, BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0	**9**	**Caliche, backfill material**
9	**11**	**Topsoil, brown**
11	**27**	**Limestone, brown to yellow**
27	**33**	**Limestone, brown**
33	**36**	**Limestone, brown with moist reddish clay**
36	**41**	**Limestone, yellowish with clays**
41	**51**	**Limestone, gray**

Dia.	New/Used	Type	Setting From/To
4	**New**	**Sch 40 PVC FJT Casing**	**set from 0 to 19**
4	**New**	**SCh 40 PVC FJT Mill Slot Screen**	**set from 19 to 49 with 0.040-inch slot**

STATE OF TEXAS WELL REPORT for Tracking #297915

Owner:	**U.S. Government**	Owner Well #:	**TSW-07**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 52" W**
Elevation:	**1220 ft.**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **6/6/2012**
Completed: **6/11/2012**

Diameter of Hole: Diameter: **7-7/8 in From Surface To 40.5 ft**

Drilling Method: **Air Rotary**

Borehole Completion: Gravel Packed From: **8 ft to 40.5 ft**
Gravel Pack Size: **8/16**

Annular Seal Data: 1st Interval: **From 0 ft to 2 ft with 1 cement (#sacks and material)**
2nd Interval: **From 2 ft to 6 ft with 1 volclay grout (#sacks and material)**
3rd Interval: **From 6 ft to 8 ft with 1 hole plug (#sacks and material)**
Method Used: **Pour and pump from surface**
Cemented By: **Lee Gebbert**
Distance to Septic Field or other Concentrated Contamination: **No Data**
Distance to Property Line: **No Data**
Method of Verification: **No Data**
Approved by Variance: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **No Data**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality:
Type of Water: **No Data**
Depth of Strata: **No Data**
Chemical Analysis Made: **No**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

Company Information:
Geoprojects international, inc.
8834
Austin , TX 78736

Driller License Number: **2525**

Licensed Well Driller Signature: **Lee Gebbert**

Registered Driller Apprentice Signature: **No Data**

Apprentice Registration Number: **No Data**

Comments: **No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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DESC. & COLOR OF FORMATION MATERIAL

CASING, BLANK PIPE & WELL SCREEN DATA

From (ft)	To (ft)	Description
0	**1.5**	**Topsoil, brown**
1.5	**20**	**Limestone, brown to yellow, moist from 11 to 16**
20	**31.5**	**Limestone, brown, moist at 27**
31.5	**40.5**	**Limestone, gray**

Dia.	New/Used	Type	Setting From/To
4	**New**	**Sch 40 PVC FJT**	**Casing set from 0 to 10**
4	**New**	**SCh 40 PVC FJT**	**Mill Slot Screen set from 10 to 40 with 0.040-inch slot**

ISCO Injection Wells (IIW)

- IIW-01
- IIW-02
- IIW-03
- IIW-04

PARSONS

BOREHOLE LOG

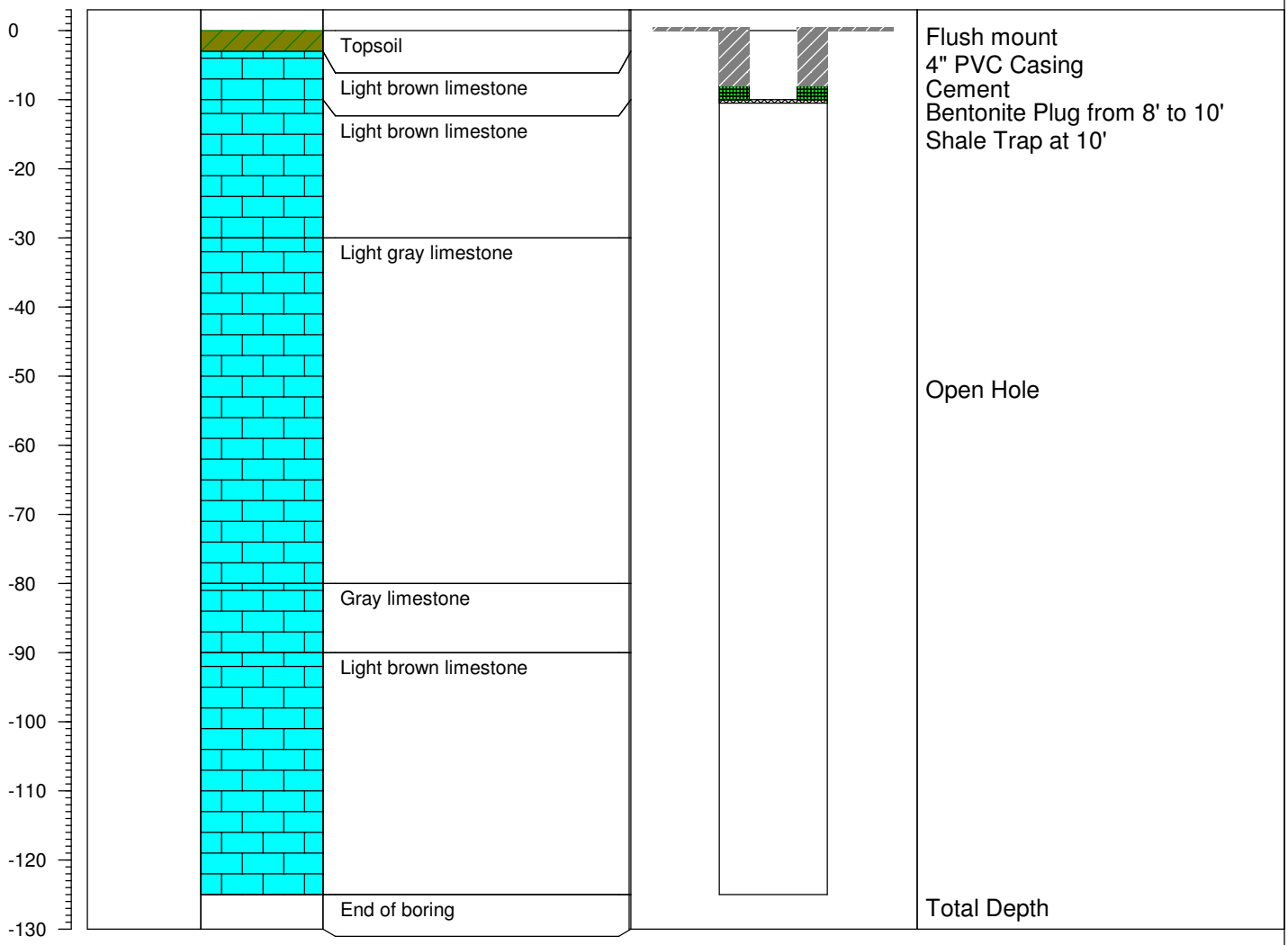
BOREHOLE NO.: **IIW-01**

TOTAL DEPTH: **125 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Evan Schaefer**
JOB NUMBER:	**747781.04000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**Cuttings/Grab Samples**
DATES DRILLED:	**May 16 & July 25, 2013**	BORING DIAMETER	**8 in.**

NOTES: IIW-01 is located along the western fence line

Depth (ft.)	PID (ppm)	Graphic Log	Lithologic Description	Well Construction	Notes/Observations



PARSONS

BOREHOLE LOG

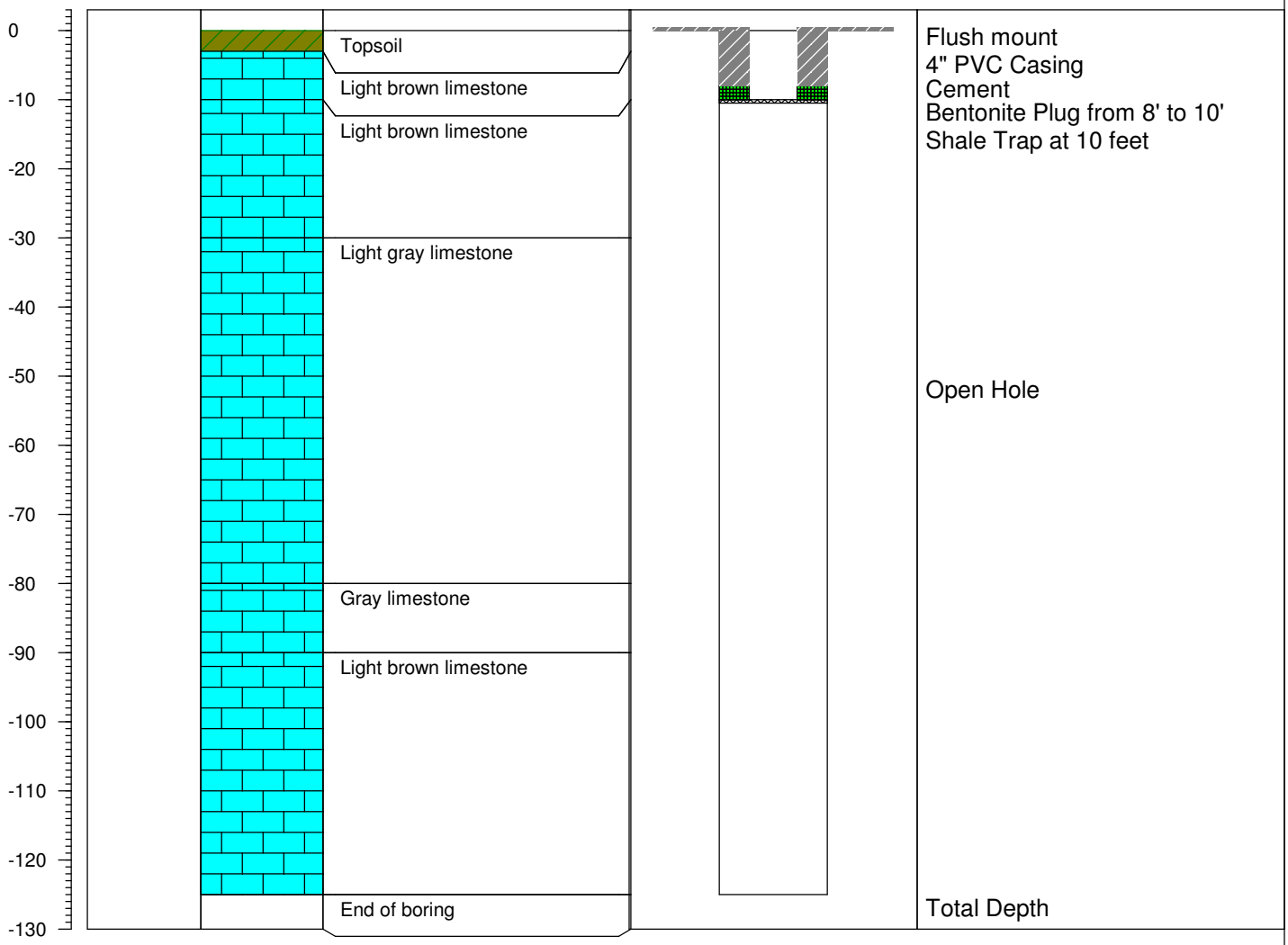
BOREHOLE NO.: **IIW-02**

TOTAL DEPTH: **125 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Evan Schaefer**
JOB NUMBER:	**747781.04000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**Cuttings/Grab Samples**
DATES DRILLED:	**May 15, 2013**	BORING DIAMETER	**8 in.**

NOTES: IIW-02 is located along the western fence line

Depth (ft.)	PID (ppm)	Graphic Log	Lithologic Description	Well Construction	Notes/Observations



PARSONS

BOREHOLE LOG

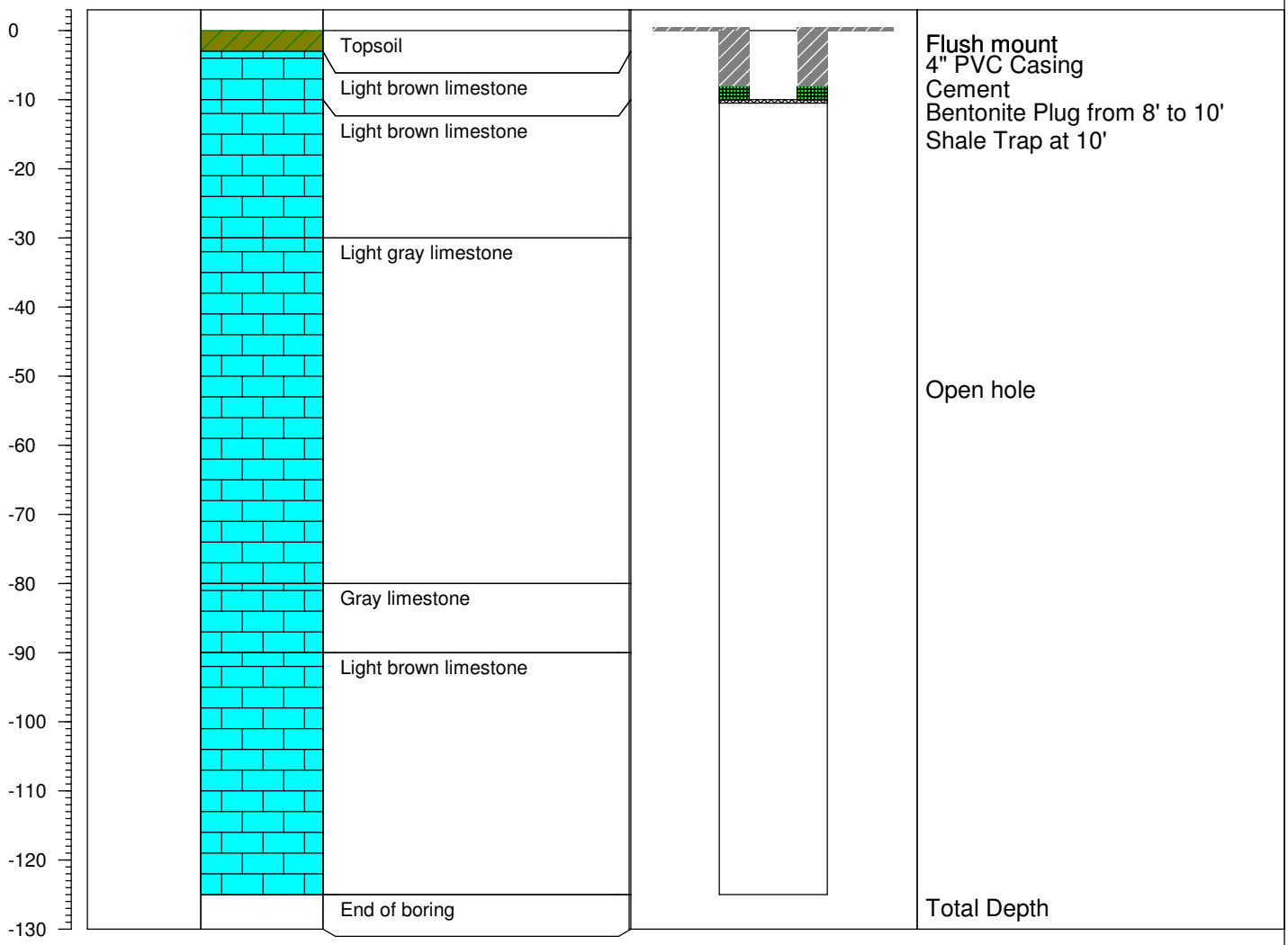
BOREHOLE NO.: **IIW-03**

TOTAL DEPTH: **125 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Evan Schafer**
JOB NUMBER:	**747781.04000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**Cuttings/Grab Samples**
DATES DRILLED:	**May 13, 2013**	BORING DIAMETER	**8 in.**

NOTES: IIW-03 is located along the western fence line

Depth (ft.)	PID (ppm)	Graphic Log	Lithologic Description	Well Construction	Notes/Observations



PARSONS

BOREHOLE LOG

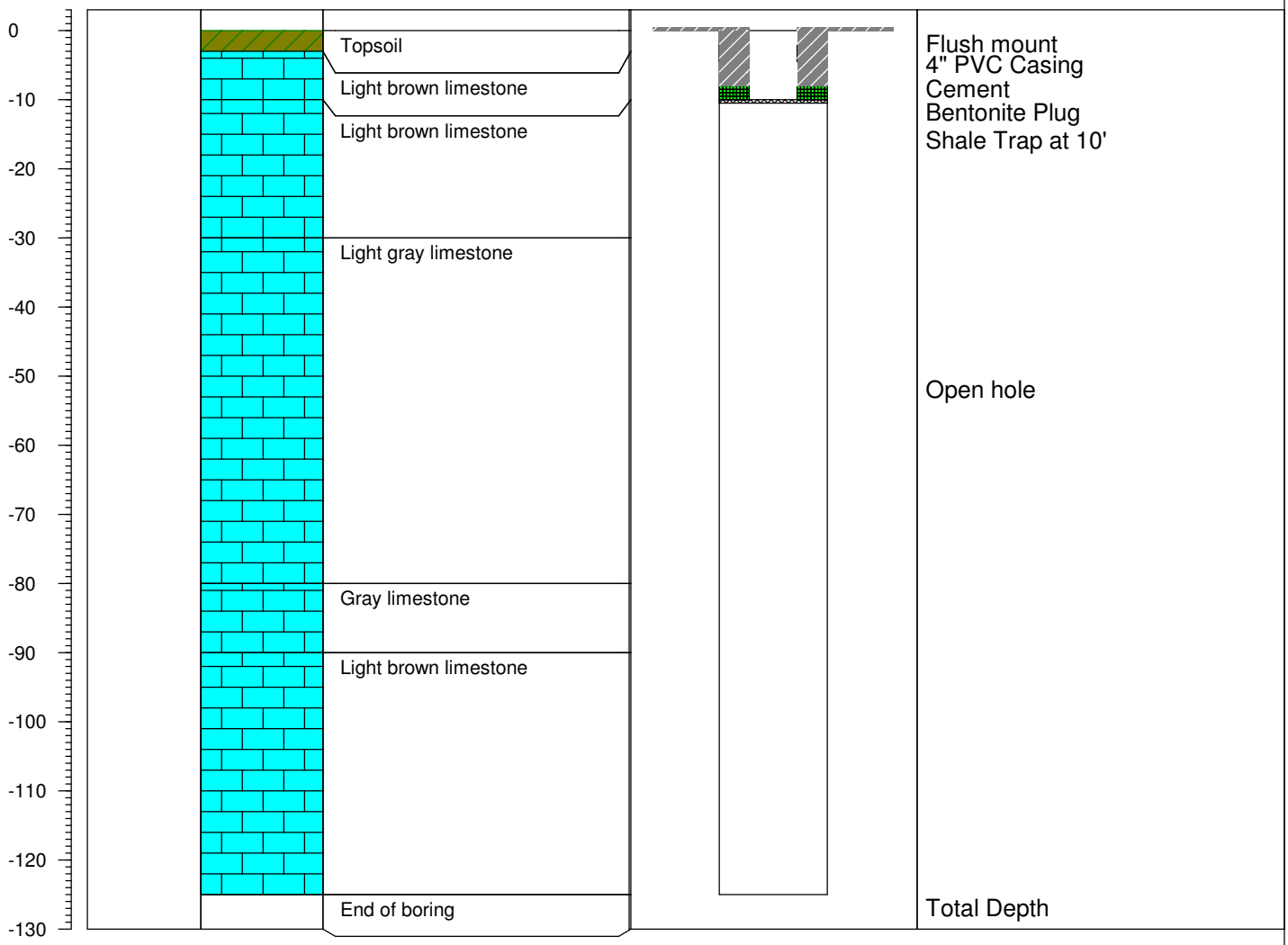
BOREHOLE NO.: **IIW-04**

TOTAL DEPTH: **125 feet**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**CSSA**	DRILLING COMPANY:	**GeoProjects Intl., Inc.**
SITE LOCATION:	**AOC-65**	LEAD DRILLER:	**Evan Schafer**
JOB NUMBER:	**747781.04000**	RIG TYPE:	**Gardner-Denver 1500**
LOGGING GEOLOGIST:	**Julie Bouch**	METHOD OF DRILLING:	**Air-Rotary**
PROJECT MANAGER:	**Scott Pearson**	SAMPLING METHOD:	**Cuttings/Grab Samples**
DATES DRILLED:	**May 13, 2013**	BORING DIAMETER	**8 in.**

NOTES: IIW-04 is located along the western fence line

Depth (ft.)	PID (ppm)	Graphic Log	Lithologic Description	Well Construction	Notes/Observations



STATE OF TEXAS WELL REPORT for Tracking #322498

Owner:	**U.S. Government**	Owner Well #:	**IIW01**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 41' 11" N**
Well County:	**Bexar**	Longitude:	**098° 38' 02" W**
Elevation:	**No Data**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date:	Started: **5/16/2013** Completed: **5/16/2013**
Diameter of Hole:	Diameter: **7.875 in From Surface To 125 ft**
Drilling Method:	**Air Rotary**
Borehole Completion:	**Open Hole**
Annular Seal Data:	1st Interval: **From 0 ft to 10 ft with 3 sxs cement (#sacks and material)** 2nd Interval: **No Data** 3rd Interval: **No Data** Method Used: **Surface Pour** Cemented By: **Geoprojects** Distance to Septic Field or other Concentrated Contamination: **n/a ft** Distance to Property Line: **n/a ft** Method of Verification: **Owner Knowledge** Approved by Variance: **No Data**
Surface Completion:	**Alternative Procedure Used**

Water Level:	Static level: **No Data** Artesian flow: **No Data**
Packers:	**Neoprene packer at 11 feet.**
Plugging Info:	Casing or Cement/Bentonite left in well: **No Data**
Type Of Pump:	**No Data**
Well Tests:	**No Data**

Water Quality:	Type of Water: **No Data** Depth of Strata: **No Data** Chemical Analysis Made: **No Data** Did the driller knowingly penetrate any strata which contained undesirable constituents: **No Data**
Certification Data:	The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for

completion and resubmittal.

Company Information:	**Geoprojects International, Inc.** **8834 Circle Drive** **Austin , TX 78736**
Driller License Number:	**58772**
Licensed Well Driller Signature:	**Evan Schaefer**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking number (Tracking **#322498**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
Surface to 1' Topsoil
1' - 34.5 Yellow, weathered Limestone with clay stringers
34.5' - 51' Grey Limestone with clay stringers
51' - 58' Yellow soft Limestone
58' - 125' Grey Limestone with clay stringers

CASING, BLANK PIPE & WELL SCREEN DATA

Dia. New/Used Type Setting From/To
4-inch I.D., SDR17 PVC casing from surface to 10'

STATE OF TEXAS WELL REPORT for Tracking #322500

Owner:	**U.S. Government**	Owner Well #:	**IIW02**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 41' 13" N**
Well County:	**Bexar**	Longitude:	**098° 38' 08" W**
Elevation:	**No Data**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date:	Started: **5/16/2013** Completed: **5/16/2013**
Diameter of Hole:	Diameter: **7.875 in From Surface To 117 ft**
Drilling Method:	**Air Rotary**
Borehole Completion:	**Open Hole**
Annular Seal Data:	1st Interval: **From 0 ft to 11 ft with 2 sxs cement (#sacks and material)** 2nd Interval: **No Data** 3rd Interval: **No Data** Method Used: **Surface Pour** Cemented By: **Geoprojects** Distance to Septic Field or other Concentrated Contamination: **n/a ft** Distance to Property Line: **n/a ft** Method of Verification: **Owner Knowledge** Approved by Variance: **No Data**
Surface Completion:	**Alternative Procedure Used**

Water Level:	Static level: **No Data** Artesian flow: **No Data**
Packers:	**Neoprene packer at 10 feet.**
Plugging Info:	Casing or Cement/Bentonite left in well: **No Data**
Type Of Pump:	**No Data**
Well Tests:	**No Data**

Water Quality:	Type of Water: **Glen Rose** Depth of Strata: **125 ft.** Chemical Analysis Made: **No** Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**
Certification Data:	The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for

completion and resubmittal.

Company Information:	**Geoprojects International, Inc.** **8834 Circle Drive** **Austin , TX 78736**
Driller License Number:	**58772**
Licensed Well Driller Signature:	**Evan Schaefer**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking number (Tracking **#322500**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
Surface to 1' Topsoil
1' - 36' Yellow, weathered Limestone with clay stringers

36' - 53' Grey Limestone with Shale stringers
51' - 59' Yellow soft Limestone
59' - 125' Grey Limestone with clay stringers

CASING, BLANK PIPE & WELL SCREEN DATA

Dia. New/Used Type Setting From/To
4-inch I.D., SDR17 PVC casing from surface to 11'

STATE OF TEXAS WELL REPORT for Tracking #322503

Owner:	**U.S. Government**	Owner Well #:	**IIW03**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 41' 16" N**
Well County:	**Bexar**	Longitude:	**098° 38' 08" W**
Elevation:	**No Data**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **5/15/2013**
Completed: **5/15/2013**

Diameter of Hole: Diameter: **7.875 in From Surface To 125 ft**

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

Annular Seal Data: 1st Interval: **From 0 ft to 11 ft with 2 sxs cement (#sacks and material)**
2nd Interval: **No Data**
3rd Interval: **No Data**
Method Used: **Surface Pour**
Cemented By: **Geoprojects**
Distance to Septic Field or other Concentrated Contamination: **n/a ft**
Distance to Property Line: **n/a ft**
Method of Verification: **Owner Knowledge**
Approved by Variance: **No Data**

Surface Completion: **Alternative Procedure Used**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **Neoprene packer at 11 feet.**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality: Type of Water: **Glen Rose**
Depth of Strata: **125 ft.**
Chemical Analysis Made: **No**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for

completion and resubmittal.

Company Information:	**Geoprojects International, Inc.** **8834 Circle Drive** **Austin , TX 78736**
Driller License Number:	**58772**
Licensed Well Driller Signature:	**Evan Schaefer**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking number (Tracking **#322503**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
Surface to 3' Topsoil
3' - 34' Yellow, weathered Limestone with clay stringers

34' - 48' Grey Limestone with layered Clay
48' - 60' Yellow hard Limestone
60' - 82' Grey, soft Limestone with Clay stringers
82' - 90' White, soft Limestone
90' - 125' Yellow Limestone with Clay stringers

CASING, BLANK PIPE & WELL SCREEN DATA

Dia. New/Used Type Setting From/To
4-inch I.D., SDR17 PVC casing from surface to 11'

STATE OF TEXAS WELL REPORT for Tracking #322506

Owner:	**U.S. Government**	Owner Well #:	**IIW04**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 56" W**
Elevation:	**No Data**	GPS Brand Used:	**Garmin**
Type of Work:	**New Well**	Proposed Use:	**Monitor**

Drilling Date: Started: **5/14/2013**
Completed: **5/14/2013**

Diameter of Hole: Diameter: **7.875 in From Surface To 125 ft**

Drilling Method: **Air Rotary**

Borehole Completion: **Open Hole**

Annular Seal Data: 1st Interval: **From 0 ft to 11 ft with 2 sxs cement (#sacks and material)**
2nd Interval: **No Data**
3rd Interval: **No Data**
Method Used: **Surface Pour**
Cemented By: **Geoprojects**
Distance to Septic Field or other Concentrated Contamination: **n/a ft**
Distance to Property Line: **n/a ft**
Method of Verification: **Owner Knowledge**
Approved by Variance: **No Data**

Surface Completion: **Alternative Procedure Used**

Water Level: Static level: **No Data**
Artesian flow: **No Data**

Packers: **Neoprene packer at 11 feet.**

Plugging Info: Casing or Cement/Bentonite left in well: **No Data**

Type Of Pump: **No Data**

Well Tests: **No Data**

Water Quality: Type of Water: **Glen Rose**
Depth of Strata: **125 ft.**
Chemical Analysis Made: **No**
Did the driller knowingly penetrate any strata which contained undesirable constituents: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the log(s) being returned for

completion and resubmittal.

Company Information:	**Geoprojects International, Inc.** **8834 Circle Drive** **Austin , TX 78736**
Driller License Number:	**58772**
Licensed Well Driller Signature:	**Evan Schaefer**
Registered Driller Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Comments:	**No Data**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking number (Tracking **#322506**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

DESC. & COLOR OF FORMATION MATERIAL

From (ft) To (ft) Description
Surface to .5' Topsoil
.5' to 1.5' White Limestone
1.5' - 37' Yellow weathered Limestone with Clay stringers
37' - 44' Grey Limestone
44' - 58' Yellow hard Limestone
58' - 83' Grey soft Limestone with clay stringers
83' - 93' White soft Limestone
93' - 125' Yellow Limestone

CASING, BLANK PIPE & WELL SCREEN DATA

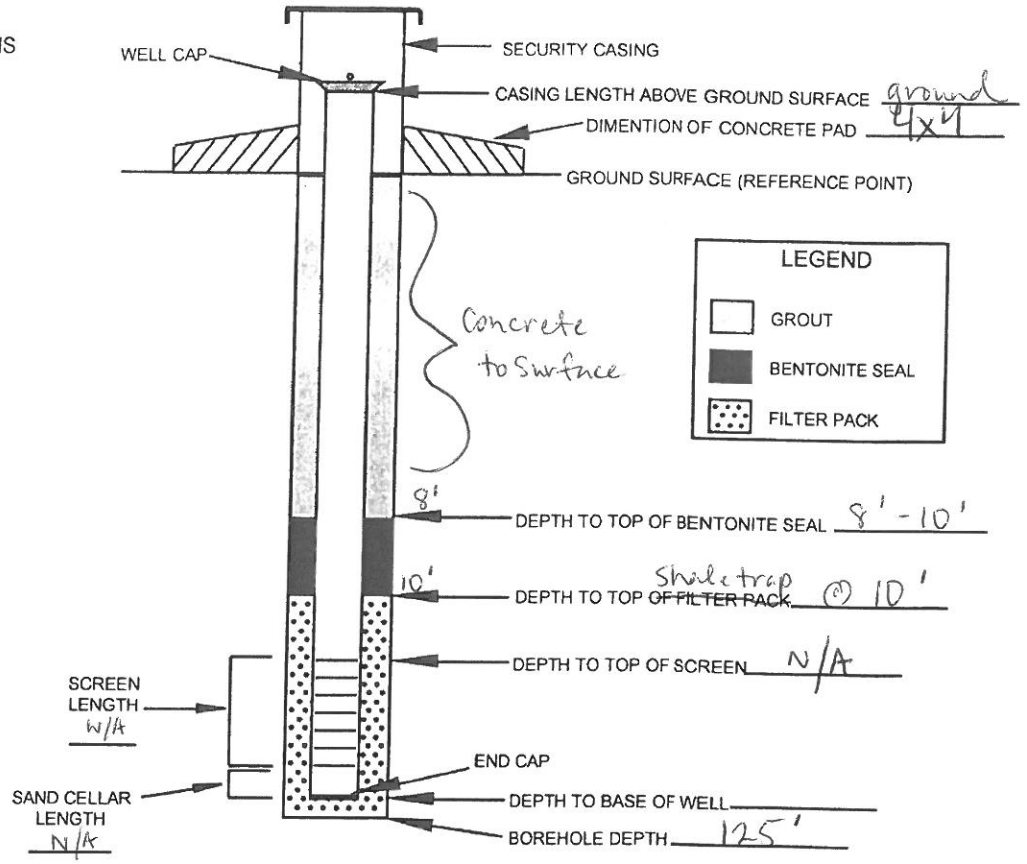
Dia. New/Used Type Setting From/To
4-inch I.D., SDR17 PVC casing from surface to 11'

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: J. Bonch
DRILLING CONTRACTOR: GPI
DRILLING TECHNIQUE: Air Rotary
AUGER SIZE AND TYPE: _____
BOREHOLE IDENTIFICATION: 11W-01
BOREHOLE DIAMETER: 8 ¼
WELL IDENTIFICATION: 11W-01
WELL CONSTRUCTION START DATE: 5.14.13
WELL CONSTRUCTION COMPLETE DATE: 5.14.13
SCREEN MATERIAL: _____
SCREEN DIAMETER: _____
SCREENED INTERVAL(S) (FT): _____
CASING MATERIAL: PVC
CASING DIAMETER: 4"

TYPE OF FILTER PACK: _____
GRADATION: _____
AMOUNT OF FILTER PACK USED: _____
TYPE OF BENTONITE: granular
AMOUNT BENTONITE USED: 2'
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 8' to Surface
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY CASING: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
LOCATION: Northing: _____
Easting: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Evan Schaefer INSTALLATION OBSERVED BY: Julie Bonch

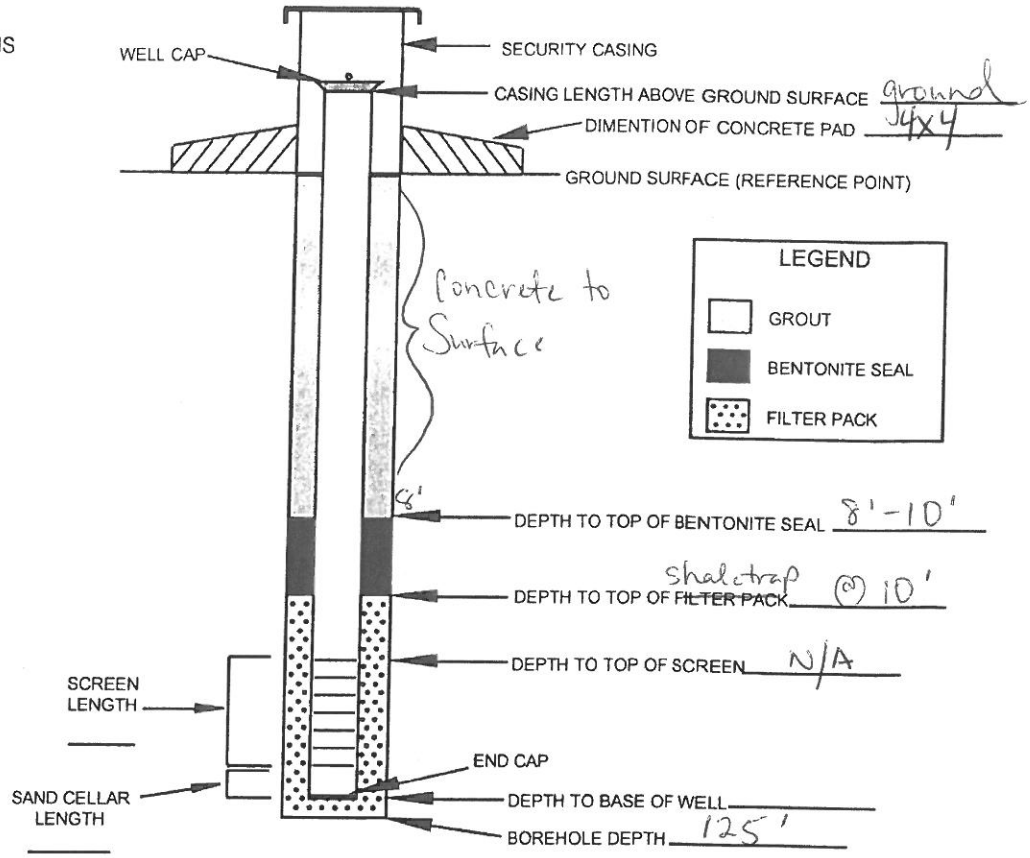
DISCREPANCIES: _____

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: J Bonch
DRILLING CONTRACTOR: GPI
DRILLING TECHNIQUE: Air Rotary
AUGER SIZE AND TYPE: _____
BOREHOLE IDENTIFICATION: 11W-02
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: 11W-02
WELL CONSTRUCTION START DATE: 5.14.13
WELL CONSTRUCTION COMPLETE DATE: 5.14.13
SCREEN MATERIAL: _____
SCREEN DIAMETER: _____
SCREENED INTERVAL(S) (FT): _____
CASING MATERIAL: PVC
CASING DIAMETER: 4"

TYPE OF FILTER PACK: _____
GRADATION: _____
AMOUNT OF FILTER PACK USED: _____
TYPE OF BENTONITE: granular
AMOUNT BENTONITE USED: 2'
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 8' to Surface
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY CASING: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
LOCATION: Northing: _____
Easting: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Evan Schaefer INSTALLATION OBSERVED BY: Julie Bonch

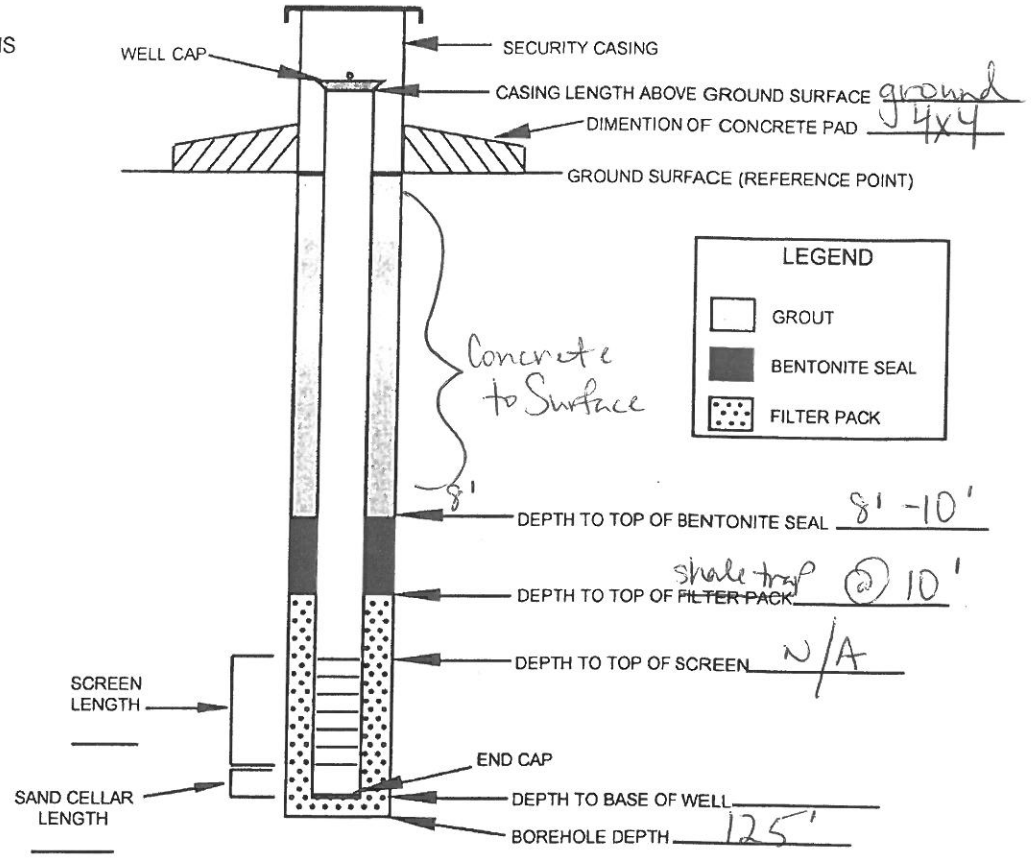
DISCREPANCIES: _____

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: J. Bonch
DRILLING CONTRACTOR: GPI
DRILLING TECHNIQUE: Air Rotary
AUGER SIZE AND TYPE: _____
BOREHOLE IDENTIFICATION: 11W03
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: 11W03
WELL CONSTRUCTION START DATE: 5-14-13
WELL CONSTRUCTION COMPLETE DATE: 5-14-13
SCREEN MATERIAL: _____
SCREEN DIAMETER: _____
SCREENED INTERVAL(S) (FT): _____
CASING MATERIAL: PVC
CASING DIAMETER: 4"

TYPE OF FILTER PACK: _____
GRADATION: _____
AMOUNT OF FILTER PACK USED: _____
TYPE OF BENTONITE: granular
AMOUNT BENTONITE USED: 2'
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 8' to Surface
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY CASING: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
LOCATION: Northing: _____
Easting: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Evan Schaefer INSTALLATION OBSERVED BY: Julie Bonch

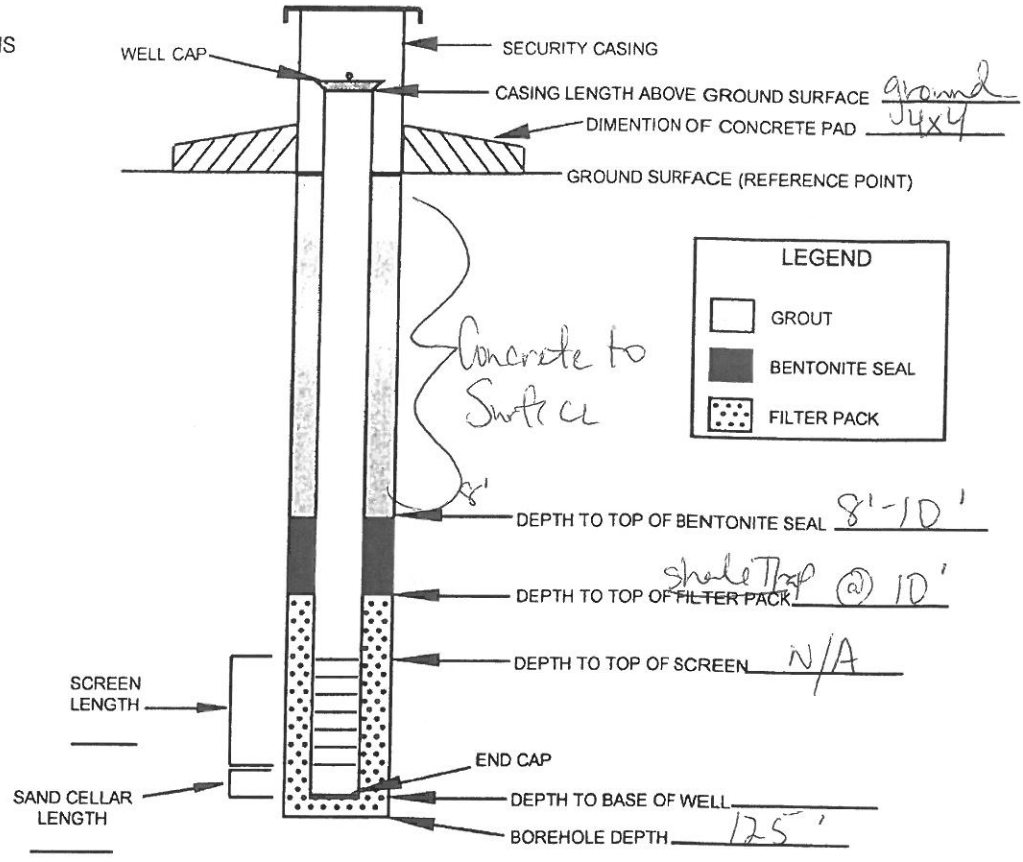
DISCREPANCIES: _____

WELL CONSTRUCTION DETAILS AND ABANDONMENT FORM

FIELD REPRESENTATIVE: J. Bouch
DRILLING CONTRACTOR: GPI
DRILLING TECHNIQUE: Air Rotary
AUGER SIZE AND TYPE: _____
BOREHOLE IDENTIFICATION: 11W04
BOREHOLE DIAMETER: 8"
WELL IDENTIFICATION: 11W04
WELL CONSTRUCTION START DATE: 5-14-13
WELL CONSTRUCTION COMPLETE DATE: 5-14-13
SCREEN MATERIAL: _____
SCREEN DIAMETER: _____
SCREENED INTERVAL(S) (FT): _____
CASING MATERIAL: PVC
CASING DIAMETER: 4"

TYPE OF FILTER PACK: _____
GRADATION: _____
AMOUNT OF FILTER PACK USED: _____
TYPE OF BENTONITE: granular
AMOUNT BENTONITE USED: 2'
TYPE OF CEMENT: Portland
AMOUNT CEMENT USED: 8' to Surface
GROUT MATERIALS USED: _____
DIMENSIONS OF SECURITY CASING: _____
TYPE OF WELL CAP: _____
TYPE OF END CAP: _____
LOCATION: Northing: _____
Easting: _____
COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



NOT TO SCALE

INSTALLED BY: Evan Schaefer INSTALLATION OBSERVED BY: Julie Bouch

DISCREPANCIES: _____

Plugging & Abandonment Forms

Vapor Extraction Wells (VEW)

- VEW-01
- VEW-02
- VEW-03
- VEW-04
- VEW-05
- VEW-06
- VEW-07
- VEW-08
- VEW-09
- VEW-10
- VEW-11
- VEW-12

STATE OF TEXAS PLUGGING REPORT for Tracking #86059

Owner:	**U.S. Government**	Owner Well #:	**VEW01-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 10.6 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 10.6 ft; Sack(s)/type of cement used: .5 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86059**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

STATE OF TEXAS PLUGGING REPORT for Tracking #86060

Owner:	**U.S. Government**	Owner Well #:	**VEW02-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 10.1 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 10.1 ft; Sack(s)/type of cement used: .5 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86060**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

STATE OF TEXAS PLUGGING REPORT for Tracking #86061

Owner:	**U.S. Government**	Owner Well #:	**VEW03-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 9.85 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 9.85 ft; Sack(s)/type of cement used: .5 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86061**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

STATE OF TEXAS PLUGGING REPORT for Tracking #86062

Owner:	**U.S. Government**	Owner Well #:	**VEW04-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 6.63 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 6.63 ft; Sack(s)/type of cement used: .25 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86062**) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #86063

Owner:	**U.S. Government**	Owner Well #:	**VEW05-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 41' 00" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 9.15 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 9.15 ft; Sack(s)/type of cement used: .5 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86063**) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #86064

Owner:	**U.S. Government**	Owner Well #:	**VEW06-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 41' 01" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 5.05 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 5.05 ft; Sack(s)/type of cement used: .25 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86064**) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #86065

Owner:	**U.S. Government**	Owner Well #:	**VEW07-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 41' 01" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 5.15 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 5.15 ft; Sack(s)/type of cement used: .25 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86065**) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #86066

Owner:	**U.S. Government**	Owner Well #:	**VEW08-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 41' 00" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 9.58 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 9.58 ft; Sack(s)/type of cement used: .5 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86066**) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #86067

Owner:	**U.S. Government**	Owner Well #:	**VEW09-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 5.15 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 5.15 ft; Sack(s)/type of cement used: .25 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86067**) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #86068

Owner:	**U.S. Government**	Owner Well #:	**VEW10-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 9.8 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 9.8 ft; Sack(s)/type of cement used: .25 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86068**) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #86069

Owner:	**U.S. Government**	Owner Well #:	**VEW11-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 9.3 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 9.3 ft; Sack(s)/type of cement used: .5 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86069**) on your written request.

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STATE OF TEXAS PLUGGING REPORT for Tracking #86070

Owner:	**U.S. Government**	Owner Well #:	**VEW12-UGR**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**25800 Ralph Fair Road Boerne , TX 78015**	Latitude:	**29° 40' 58" N**
Well County:	**Bexar**	Longitude:	**098° 37' 51" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller:	**No Data**
Driller's License Number of Original Well Driller:	**No Data**
Date Well Drilled:	**No Data**
Well Report Tracking Number:	**No Data**
Diameter of Borehole:	**No Data**
Total Depth of Borehole:	**No Data**

Date Well Plugged:	**9/19/2012**
Person Actually Performing Plugging Operation:	**Lee Gebbert**
License Number of Plugging Operator:	**2525**
Plugging Method:	**Tremmie pipe cement from bottom to top.**
Plugging Variance #:	**No Data**
Casing Left Data:	1st Interval: **1 inches diameter, From -1 ft to 9.73 ft** 2nd Interval: **No Data** 3rd Interval: **No Data**
Cement/Bentonite Plugs Placed in Well:	1st Interval: **From -1 ft to 9.73 ft; Sack(s)/type of cement used: .5 sack Portland** 2nd Interval: **No Data** 3rd Interval: **No Data** 4th Interval: **No Data** 5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc. 8834 Circle Drive Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**

Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking #**86070**) on your written request.

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Vapor Monitoring Point Wells (VMP)

- VMP-03
- VMP-4A
- VMP-06

STATE OF TEXAS PLUGGING REPORT for Tracking #90454

Owner:	**U.S. Government**	Owner Well #:	**AOC65-VMP03**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**Camp Stanley Storage Activity Boerne , TX 78015**	Latitude:	**29° 40' 58" N**
Well County:	**Bexar**	Longitude:	**098° 37' 52" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller: **Jose Landeros**

Driller's License Number of Original Well Driller: **2551**

Date Well Drilled: **5/23/2002**

Well Report Tracking Number: **27761**

Diameter of Borehole: **8 inches**

Total Depth of Borehole: **100' feet**

Date Well Plugged: **4/25/2012**

Person Actually Performing Plugging Operation: **Lee Gebbert**

License Number of Plugging Operator: **2525**

Plugging Method: **Tremmie pipe cement from bottom to top.**

Plugging Variance #: **No Data**

Casing Left Data:
1st Interval: **No Data**
2nd Interval: **No Data**
3rd Interval: **No Data**

Cement/Bentonite Plugs Placed in Well:
1st Interval: **From 0 ft to 100 ft; Sack(s)/type of cement used: 34 sks Portland**
2nd Interval: **No Data**
3rd Interval: **No Data**
4th Interval: **No Data**
5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc.** **8834 Circle Drive** **Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**
Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking **#90454**) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

STATE OF TEXAS PLUGGING REPORT for Tracking #90451

Owner:	**U.S. Government**	Owner Well #:	**AOC65-VMP04A**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**Camp Stanley Storage Activity Boerne , TX 78015**	Latitude:	**29° 40' 59" N**
Well County:	**Bexar**	Longitude:	**098° 37' 52" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller: **Jose Landeros**

Driller's License Number of Original Well Driller: **2551**

Date Well Drilled: **6/25/2002**

Well Report Tracking Number: **27753**

Diameter of Borehole: **8 inches**

Total Depth of Borehole: **100' feet**

Date Well Plugged: **2/10/2012**

Person Actually Performing Plugging Operation: **Lee Gebbert**

License Number of Plugging Operator: **2525**

Plugging Method: **Tremmie pipe cement from bottom to top.**

Plugging Variance #: **No Data**

Casing Left Data:
1st Interval: **No Data**
2nd Interval: **No Data**
3rd Interval: **No Data**

Cement/Bentonite Plugs Placed in Well:
1st Interval: **From 0 ft to 600 ft; Sack(s)/type of cement used: 18 sks Portland**
2nd Interval: **No Data**
3rd Interval: **No Data**
4th Interval: **No Data**
5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc.** **8834 Circle Drive** **Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**
Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking **#90451**) on your written request.

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P.O. Box 12157
Austin, TX 78711
(512) 463-7880

STATE OF TEXAS PLUGGING REPORT for Tracking #90452

Owner:	**U.S. Government**	Owner Well #:	**AOC65-VMP06**
Address:	**25800 Ralph Fair Road Boerne , TX 78015**	Grid #:	**68-19-6**
Well Location:	**Camp Stanley Storage Activity Boerne , TX 78015**	Latitude:	**29° 40' 58" N**
Well County:	**Bexar**	Longitude:	**098° 37' 52" W**
		GPS Brand Used:	**Garmin**

Well Type: **Monitor**

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller: **Jose Landeros**

Driller's License Number of Original Well Driller: **2551**

Date Well Drilled: **7/10/2002**

Well Report Tracking Number: **27761**

Diameter of Borehole: **8 inches**

Total Depth of Borehole: **60' feet**

Date Well Plugged: **2/13/2012**

Person Actually Performing Plugging Operation: **Lee Gebbert**

License Number of Plugging Operator: **2525**

Plugging Method: **Tremmie pipe cement from bottom to top.**

Plugging Variance #: **No Data**

Casing Left Data: 1st Interval: **No Data**
2nd Interval: **No Data**
3rd Interval: **No Data**

Cement/Bentonite Plugs Placed in Well: 1st Interval: **From 0 ft to 57 ft; Sack(s)/type of cement used: 18 sks Portland**
2nd Interval: **No Data**
3rd Interval: **No Data**
4th Interval: **No Data**
5th Interval: **No Data**

Certification Data:	The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.
Company Information:	**Geoprojects International, Inc.** **8834 Circle Drive** **Austin , TX 78736**
Plug Installer License Number:	**2525**
Licensed Plug Installer Signature:	**Lee F. Gebbert**
Registered Plug Installer Apprentice Signature:	**No Data**
Apprentice Registration Number:	**No Data**
Plugging Method Comments:	**No Data**

Please include the plugging report's tracking number (Tracking **#90452**) on your written request.

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Austin, TX 78711
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Appendix E

Analytical Data Tables and Figures

Analytical Data Tables

- **Table 7.1** "Performance Monitoring Well Field Parameters"
- **Table 7.3** "ISCO Treatability Study Regulatory Monitoring Well VOC Analytical Results"
- **Table 7.4** "ISCO Treatability Study Performance Monitoring Well VOC Analytical Results"
- **Table 7.5** "ISCO Treatability Study Regulatory Monitoring Well Metals Analytical Results"
- **Table 7.6** "ISCO Treatability Study Performance Monitoring Well Metals Analytical Results"
- **Table 7.7** "ISCO Treatability Study Regulatory Monitoring Well Anion Results"
- **Table 7.8** "ISCO Treatability Study Performance Monitoring Well Anion Results"
- **Table 7.9** "ISCO Treatablility Study Additional Monitoring Location VOC Analytical Results"
- **Table 7.10** "ISCO Treatability Study Additional Monitoring Location Metals Analytical Results"
- **Table 7.11** "ISCO Treatability Study Additional Monitoring Location Anion Results"

Table 7.1 Performance Monitoring Well Field Parameters

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm[c])	pH	DO (mg/L)	ORP (mV)
VEW-13	7/18/12	39.53	---	---	---	---	---
	8/1/12	39.25	---	---	---	---	---
	8/3/12	39.2	---	---	---	---	---
	8/6/12	39.18	---	---	---	---	---
	8/8/12	39.14	---	---	---	---	---
	8/9/12	38.94	22.7	0.787	6.85	2.32	110.4
	8/14/12	38.97	22.75	0.788	6.82	1.54	174.7
	8/17/12	39.13	22.91	0.012	6.53	6.79	148.9
	8/21/12	39.08	22.65	0.798	6.8	1.47	177
	8/23/12	39.07	22.65	0.77	6.78	1.35	63.9
	1/11/13	31.94	23.17	0.567	6.71	4.24	154.4
	2/27/13	35.07	22.95	0.453	6.69	0.61	135.5
	4/23/13	35.97	22.96	0.706	6.94	3.1	180.3
	5/30/13	32.62	23.01	0.719	6.5	4.67	248
	6/10/13	33.76	23.06	0.538	6.5	2.47	547
	6/19/13	34.32	22.83	0.559	6.6	0.66	186.1
	7/19/13	35.38	22.83	0.664	6.74	2.67	178.5
	8/19/13	35.87	22.77	0.608	6.75	1.38	58.9
	10/21/13	36.21	22.85	0.684	6.69	0.63	58.5
	11/18/13	33.72	22.88	0.671	6.51	0.73	57.1
	2/10/14	34.99	22.48	0.701	6.79	1.55	286.7
	5/14/14	35.79	22.77	0.737	6.76	1.31	245.4
	8/6/14	35.57	22.06	0.638	6.88	0.67	90
VEW-14	7/18/12	60.54	---	---	---	---	---
	8/1/12	60.51	---	---	---	---	---
	8/3/12	60.49	---	---	---	---	---
	8/6/12	60.51	---	---	---	---	---
	8/8/12	60.52	---	---	---	---	---
	8/9/12	60.52	---	---	---	---	---
	8/14/12	60.49	---	---	---	---	---
	8/17/12	60.52	---	---	---	---	---
	8/21/12	60.52	---	---	---	---	---
	8/23/12	60.54	---	---	---	---	---
	1/11/13	60.33	---	---	---	---	---
	2/27/13	60.56	---	---	---	---	---
	4/23/13	60.14	---	---	---	---	---
	5/30/13	60.57	---	---	---	---	---
	6/10/13	60.56	---	---	---	---	---
	6/19/13	60.54	---	---	---	---	---
	7/19/13	60.55	---	---	---	---	---
	8/19/13	60.52	---	---	---	---	---
	10/21/13	60.55	---	---	---	---	---
	11/18/13	60.56	---	---	---	---	---
	2/10/14	60.58	---	---	---	---	---
	5/14/14	60.58	---	---	---	---	---
	8/6/14	60.55	---	---	---	---	---
VEW-15	7/18/12	9.92	19.44	0.447	7.14	6.63	92.7
	8/3/12	---	---	---	---	---	---
	8/6/12	7.45	25.88	0.44	6.94	1.9	166.7
	8/9/12	7.55	25.89	0.46	7.14	2.61	203.7
	8/14/12	7.31	25.81	0.465	7.1	1.87	354.3
	8/17/12	7.69	26.5	0.466	7.14	3.63	241.7
	8/21/12	7.07	25.95	0.467	7.08	2.11	192.9
	8/23/12	7.07	25.91	0.464	7.01	1.64	196.2
	1/11/13	7.9	22.48	0.377	7.26	5.05	318.8
	2/27/13	7.36	21.49	0.316	7.08	4.92	283.4
	4/23/13	7.24	21.84	0.427	7.55	5.48	189.2
	5/30/13	7.07	23.06	0.493	7.05	3.95	223.4
	6/10/13	7.15	22.96	0.368	6.89	1.78	124
	6/19/13	7.2	23.44	0.37	7.03	1.57	267.8
	7/19/13	7.35	24.72	0.461	6.99	1.81	517.5

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	8/19/13	7.46	25.6	0.433	6.97	2.09	-34.2
	9/17/13	7.25	26.56	0.423	6.99	0.41	-0.5
	10/21/13	7.01	26.51	0.493	7.07	0.92	160.5
	11/18/13	7.21	25.46	0.473	7.1	1.79	473
	2/10/14	7.3	20.23	0.402	7.18	5.13	643.2
	5/14/14	7.11	21.55	0.416	7.26	3.93	184
	8/6/14	7.28	20.65	0.437	6.96	1.01	224.3
VEW-16	7/18/12	30.75	18.2	0.59	6.93	1.85	55.7
	8/3/12	---	---	---	---	---	---
	8/6/12	30.2	23.11	0.523	7.01	0.44	-29.9
	8/9/12	29.98	23.22	0.561	6.93	0.5	116.3
	8/14/12	29.98	23.15	0.558	6.87	0.34	257.6
	8/17/12	30	23.38	0.517	6.99	6.26	227.7
	8/21/12	29.99	23.13	0.557	6.91	0.84	60.9
	8/23/12	29.99	23.146	0.549	6.92	0.41	17.2
	1/11/13	29.97	23.78	0.553	6.73	4.16	288.1
	2/27/13	30	23.45	0.451	6.66	4.38	257.8
	4/23/13	29.95	23.1	0.577	7.02	4.84	190.6
	5/30/13	29.92	23.34	0.689	6.61	3.82	228.7
	6/10/13	29.94	23.19	0.476	6.53	2.36	99.2
	6/19/13	29.95	23.33	0.465	6.66	4.08	247.1
	7/19/13	29.94	23.17	0.56	6.69	1.71	461.6
	8/19/13	30.02	23.13	0.509	6.74	1.95	-20.1
	10/21/13	29.93	23.61	0.568	6.82	0.53	-94.2
	11/18/13	29.92	23.15	0.553	6.78	0.91	306.5
	2/10/14	30.02	22.7	0.585	6.77	0.56	497.2
	5/14/14	30.02	23.02	0.574	7.1	0.48	50.1
	8/6/14	29.98	19.37	0.534	6.69	1.17	124.6
VEW-17	7/18/12	50.68	---	---	---	---	---
	8/1/12	51.63	22.65	0.453	7.14	1.41	75.1
	8/3/12	51.56	---	---	---	---	---
	8/6/12	51.69	---	---	---	---	---
	8/8/12	51.7	---	---	---	---	---
	8/9/12	51.67	---	---	---	---	---
	8/14/12	51.65	---	---	---	---	---
	8/17/12	51.52	---	---	---	---	---
	8/21/12	51.63	---	---	---	---	---
	8/23/12	51.72	---	---	---	---	---
	1/11/13	51.34	---	---	---	---	---
	2/27/13	51.88	---	---	---	---	---
	4/23/13	52.12	---	---	---	---	---
	5/30/13	52.03	---	---	---	---	---
	6/10/13	52.45	---	---	---	---	---
	6/19/13	52.07	---	---	---	---	---
	7/19/13	52.08	---	---	---	---	---
	8/19/13	51.72	---	---	---	---	---
	10/21/13	53.03	---	---	---	---	---
	11/18/13	51.68	22.68	0.669	6.59	3.25	327.2
	2/10/14	51.87	22.59	0.756	7.02	3.35	375.6
	5/14/14	51.93	22.57	0.705	6.71	3.52	275.5
	8/6/14	52.1	---	---	---	---	---
VEW-18	7/18/12	53.51	24.37	0.56	7.03	3.91	60.1
	8/3/12	---	---	---	---	---	---
	8/6/12	52.92	23.25	0.561	7.02	3.77	61.9
	8/9/12	52.97	22.75	0.597	6.91	4.01	214.2
	8/14/12	53.13	22.74	0.595	6.85	4.07	208
	8/17/12	53.13	24.21	0.036	6.68	5.81	20.4
	8/21/12	53.19	22.65	0.619	6.82	3.48	159.2
	8/23/12	52.9	22.73	0.593	6.85	4.07	97.9
	1/11/13	45.97	22.58	0.828	6.65	4.22	226.5
	2/27/13	52.94	22.95	0.682	6.73	3.58	247.5
	4/23/13	52.68	18.38	0.815	7.01	5.37	262.3
	5/30/13	32.16	23.01	5.395	6.72	4.89	315
	6/10/13	32.15	23	7.485	6.45	4.41	399.2

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	6/19/13	41.85	23.03	5.31	6.45	3.58	330.7
	7/19/13	51.48	22.81	6.8	6.37	3.72	327.8
	8/19/13	52.49	22.89	5.42	6.39	2.87	397.5
	10/21/13	41.87	22.65	4.891	6.54	3.56	296.1
	11/18/13	48.26	22.61	8.290	6.55	2.82	278.8
	2/10/14	52.12	21.95	3.205	6.53	3.61	303.6
	5/14/14	52.81	22.81	4.520	6.84	1.89	324.4
	8/6/14	51.15	20.52	5.347	6.7	1.92	304.2
VEW-19	7/18/12	15.03	22.25	0.458	7.15	4.81	45.7
	8/1/12	15.7	22.6	0.385	7.18	4.32	39.8
	8/3/12	15.68	22.46	0.495	7.05	3.58	19.1
	8/6/12	16.06	22.38	0.465	7.09	3.45	3
	8/8/12	16.04	22.56	0.49	7.01	3.47	43.8
	8/9/12	16.08	22.58	0.502	6.97	2.54	8.5
	8/14/12	16.05	22.62	0.501	7.01	2.37	-2.7
	8/17/12	16.08	22.84	0.531	7.03	2.27	103.3
	8/21/12	16.1	22.66	0.505	6.93	1.84	-28.9
	8/23/12	16.11	22.69	0.5	6.98	1.68	39.1
	1/11/13	18.37	23.89	0.614	6.97	0.64	86.1
	2/27/13	18.48	23.35	0.407	7.12	2.39	118.8
	4/23/13	20.6	22.27	0.59	7.47	4.9	189.9
	5/30/13	20.95	22.54	0.74	6.84	1.98	242.9
	6/10/13	10.61	22.01	25.48	12.04	11.64	162.5
	6/19/13	12.75	22.4	32.84	11.97	0.75	227.2
	7/19/13	17.8	22.63	30.83	11.08	1.94	296.3
	8/19/13	20.26	22.9	20	8.46	1.35	377.6
	9/17/13	21.44	23.15	21.76	7.06	1.07	403.5
	10/21/13	22.6	23.52	24.03	9.13	0.83	286
	11/18/13	20.25	23.67	18.410	7.1	0.53	106.2
	2/10/14	23.45	23.24	6.724	7.98	0.75	216.7
	5/14/14	25.4	22.09	12.680	8.23	0.97	-215
	8/6/14	23.66	22.26	6.290	8.05	1.87	122.1
VEW-20	7/18/12	24.86	22.48	0.755	7.16	4.86	47
	8/3/12	---	---	---	---	---	---
	8/8/12	25.1	---	---	---	---	---
	8/9/12	25.09	---	---	---	---	---
	8/14/12	25.06	---	---	---	---	---
	8/17/12	25.05	---	---	---	---	---
	8/21/12	25.02	---	---	---	---	---
	8/23/12	25	---	---	---	---	---
	1/11/13	24.05	23.62	0.912	6.98	1.03	175.7
	2/27/13	23.74	22.87	0.62	7	1.17	210
	4/23/13	23.53	22.21	0.867	7.59	4.87	184.9
	5/30/13	23.57	22.46	1.08	7.23	4.8	264
	6/10/13	23.48	22.43	0.754	7.12	4.93	196.5
	6/19/13	23.4	22.57	0.763	7.33	4.88	277.4
	7/19/13	23.16	22.36	0.911	7.26	9.06	262.4
	8/19/13	23.1	22.47	0.833	7.18	3.71	196.8
	10/21/13	22.95	23.02	0.941	7.07	1.15	290.2
	11/18/13	22.85	23.29	0.914	6.96	1.36	158.9
	2/10/14	22.08	23	0.950	7.37	1.63	234.6
	5/14/14	22.39	21.88	0.899	7.46	4.79	413.2
	8/6/14	21.82	21.87	0.804	7.3	3.11	155.7
VEW-21	7/18/12	26.5	---	---	---	---	---
	8/3/12	---	---	---	---	---	---
	8/8/12	26.14	---	---	---	---	---
	8/9/12	26.15	---	---	---	---	---
	8/14/12	26.11	---	---	---	---	---
	8/17/12	25.98	---	---	---	---	---
	8/21/12	26.08	---	---	---	---	---
	8/23/12	26.07	---	---	---	---	---
	1/11/13	13.1	23.4	0.535	7.06	4.96	183.1
	2/27/13	14.16	22.7	0.464	7.11	3.49	210.1
	4/23/13	14.58	22.02	0.682	7.31	3.16	191.8

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	5/30/13	13.22	22.12	0.798	6.85	3.29	257.4
	6/10/13	13.54	22.14	0.551	6.87	3.14	204.9
	6/19/13	13.71	22.08	0.552	6.89	3.04	252.1
	7/19/13	14.03	22.44	0.663	6.96	3.43	272.5
	8/19/13	14.34	22.94	0.6	6.92	2.07	191.8
	10/21/13	14.67	22.99	0.701	6.99	0.44	69.1
	11/18/13	13.77	23.36	0.673	6.77	0.44	156.4
	2/10/14	14.38	22.64	0.670	7.33	3.09	227.1
	5/14/14	14.67	21.85	0.633	7.26	3.43	476.4
	8/6/14	14.32	22	0.573	7.13	0.91	95.3
VEW-22	7/18/12	49.75	---	---	---	---	---
	8/3/12	---	---	---	---	---	---
	8/8/12	50.49	---	---	---	---	---
	8/14/12	50.48	---	---	---	---	---
	8/21/12	50.48	---	---	---	---	---
	8/23/12	50.53	---	---	---	---	---
	1/11/13	50.29	---	---	---	---	---
	4/23/13	---	---	---	---	---	---
	5/30/13	49.84	---	---	---	---	---
	6/10/13	50.38	---	---	---	---	---
	6/19/13	50.55	---	---	---	---	---
	8/19/13	50.5	---	---	---	---	---
	10/21/13	50.5	---	---	---	---	---
	11/18/13	50.49	---	---	---	---	---
	2/10/14	50.5	---	---	---	---	---
VEW-23	7/18/12	19.95	---	---	---	---	---
	8/3/12	---	---	---	---	---	---
	8/8/12	19.93	---	---	---	---	---
	8/9/12	19.9	---	---	---	---	---
	8/14/12	19.95	---	---	---	---	---
	8/17/12	19.85	---	---	---	---	---
	8/21/12	19.93	---	---	---	---	---
	8/23/12	19.99	---	---	---	---	---
	1/11/13	19.33	---	---	---	---	---
	2/27/13	19.4	---	---	---	---	---
	4/23/13	19.49	22.54	1.007	7.26	4.51	184.3
	5/30/13	19.77	22.34	1.243	6.97	5.03	219.4
	6/10/13	19.79	22.25	0.854	6.86	5.33	473
	6/19/13	19.76	22.54	0.865	6.94	4.64	186.4
	7/19/13	19.82	22.53	1.011	7.21	8.34	446.3
	8/19/13	19.88	22.78	0.917	6.97	2.71	178.6
	10/21/13	19.93	23.56	1.024	7.04	0.81	112.6
	11/18/13	19.93	---	---	---	---	---
	2/10/14	19.95	22.55	1.010	7.64	4.42	205.6
	5/14/14	20.09	21.32	0.963	7.28	5.86	231.2
	8/6/14	20.2	22.08	0.912	7.01	1.88	106.2
VEW-24	7/18/12	---	---	---	---	---	---
	8/3/12	---	---	---	---	---	---
	4/23/13	---	---	---	---	---	---
	5/30/13	---	---	---	---	---	---
	11/18/13	50	---	---	---	---	---
	8/6/14	50	---	---	---	---	---
VEW-25	7/18/12	20.28	23.04	0.465	7.13	6.18	82.9
	8/3/12	---	---	---	---	---	---
	8/8/12	20.32	22.78	0.471	6.99	6.51	101.9
	8/9/12	20.28	22.86	0.481	7.02	5.43	212.9
	8/14/12	20.42	22.87	0.482	6.97	5.43	253
	8/17/12	20.5	23.17	0.28	7.09	5.66	178.1
	8/21/12	20.52	22.86	0.48	6.94	5.45	186.8
	8/23/12	50.53	22.94	0.481	6.92	6.13	226.6
	1/11/13	17.78	23.66	0.579	6.87	4.9	163.6
	2/27/13	20.59	22.66	0.001	7.15	7.33	188.5
	4/23/13	20.78	---	---	---	---	---
	5/30/13	16.22	22.14	4.694	8.38	4.34	265.9

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	6/10/13	14.9	22.14	59.49	12.12	0.38	278.6
	6/19/13	19	22.65	38.05	12.01	1.41	198
	7/19/13	20.32	---	---	---	---	---
	8/19/13	20.6	22.84	9.524	7.29	2.07	367.5
	9/17/13	20.52	23.38	9.875	7.24	0.93	394.9
	10/21/13	19.63	23.69	8.362	7.17	2.46	352.7
	11/18/13	20.04	23.78	4.316	7.12	4.29	357.1
	2/10/14	20.52	22.6	3.543	7.28	1.11	348.6
	5/14/14	20.55	32	4.518	6.43	1.3	332.5
	8/6/14	20.33	22.16	2.730	6.99	2.17	164.4
VEW-26	7/18/12	46.7	22.74	0.576	6.9	4.66	63.4
	8/1/12	49.12	22.55	0.468	6.88	1.87	46.2
	8/3/12	49.1	---	---	---	---	---
	8/6/12	49.14	---	---	---	---	---
	8/8/12	48.94	---	---	---	---	---
	8/9/12	48.89	---	---	---	---	---
	8/14/12	48.79	---	---	---	---	---
	8/17/12	48.85	---	---	---	---	---
	8/21/12	48.82	---	---	---	---	---
	8/23/12	48.86	22.61	0.302	6.91	5.23	---
	1/11/13	48.9	22.43	0.811	6.66	3.71	223.4
	2/27/13	48.94	---	---	---	---	---
	4/23/13	50	---	---	---	---	---
	5/30/13	48.74	22.59	1.432	6.65	4.21	237.6
	6/10/13	47.98	22.62	1.136	6.69	5.79	311.2
	6/19/13	47.3	22.59	1.424	6.66	5.57	201.2
	7/19/13	48.78	22.6	1.969	6.76	7.18	283.7
	8/19/13	49.14	---	---	---	---	---
	10/21/13	48.2	22.53	2.76	6.6	3.69	374
	11/18/13	47.81	22.57	3.362	6.44	3.79	418.4
	2/10/14	49.14	22.2	3.804	6.8	3.21	411.3
	5/14/14	49.85	---	---	---	---	---
	8/6/14	48.72	22.53	3.911	6.81	2.85	341.8
VEW-27	7/18/12	16.47	22.33	0.532	7.12	3.79	60.3
	8/1/12	13.92	---	---	---	---	---
	8/3/12	16.77	22.61	0.577	7.09	2.39	28.5
	8/6/12	16.98	22.75	0.549	7.08	1.57	75.8
	8/8/12	16.98	22.67	0.574	6.99	1.74	280.7
	8/9/12	16.94	22.86	0.584	7.09	2.24	192.5
	8/14/12	16.88	23.03	0.59	7.04	2.05	231.7
	8/17/12	16.85	23.26	0.632	7.05	2.39	144.4
	8/21/12	16.82	22.96	0.623	7.04	1.74	172.6
	8/23/12	16.82	23.14	0.617	7.02	1.64	178.5
	1/11/13	15.69	21.16	0.558	6.94	5.43	290.2
	2/27/13	12.24	22.94	0.609	7.22	2.35	377.1
	4/23/13	13.47	22.57	0.898	7.45	3.69	176.4
	5/30/13	8.8	21.99	76.96	12.25	4.32	215.9
	6/19/13	10.54	23.13	51.29	12.07	0.44	272.7
	7/19/13	12.11	23.45	54.17	10	2.83	346.7
	8/19/13	13.04	23.79	45.81	9.36	2.3	401.5
	9/17/13	13.22	24.44	43.74	8.39	1	447.3
	10/21/13	13.43	24.37	55.26	9.64	10.85	393.9
	11/18/13	12.05	24.55	51.110	8.95	10.46	383.5
	2/10/14	13.01	22.72	46.880	7.09	2.15	434.8
	5/14/14	14.48	22.34	44.020	6.91	7.18	352.6
	8/6/14	13.98	22.48	28.730	6.7	1.65	381.1
VEW-28A	7/18/12	114.68	24.3	0.577	7.12	5.53	84.2
	8/3/12	---	---	---	---	---	---
	8/6/12	114.92	23.82	0.55	7.05	5.05	122
	8/9/12	114.94	22.53	0.639	6.97	5.22	275.1
	8/14/12	114.98	22.68	0.628	7	1.26	234.9
	8/17/12	116	22.57	0.627	6.93	4.44	177.3
	8/21/12	115.04	21.95	0.6	6.91	5.12	209.5
	8/23/12	115.04	22.54	0.596	7.02	4.86	106.3

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	1/11/13	115.17	22.75	0.608	6.83	5.39	125.7
	4/23/13	115.55	19.11	0.597	7	5.86	305.2
	5/30/13	115.61	---	---	---	---	---
	8/19/13	115.8	---	---	---	---	---
VEW-28B	7/18/12	147.92	23.02	0.618	7.04	1.03	72.2
	8/3/12	---	---	---	---	---	---
	8/6/12	149.12	24.88	0.597	7.08	1.67	171.7
	8/9/12	149.37	22.72	0.63	7.05	1.72	238.8
	8/14/12	149.56	22.57	0.583	6.89	4.79	216.5
	8/17/12	149.71	22.69	0.676	6.96	1.44	195.3
	8/21/12	149.96	21.87	0.632	6.96	1.58	200.7
	8/23/12	150.21	22.31	0.622	6.99	1.23	83.9
	1/11/13	150.18	21.9	0.67	6.93	1.8	112.9
	4/23/13	151.24	---	---	---	---	---
	5/30/13	151.04	---	---	---	---	---
	8/19/13	150.55	---	---	---	---	---
VEW-29	7/18/12	33.95	18.82	0.766	6.92	1.1	-60.6
	8/1/12	33.95	23.17	0.537	7	3.04	9.7
	8/3/12	33.87	22.89	0.714	6.82	1.94	110.1
	8/6/12	34.02	23.01	0.679	6.91	0.81	-30
	8/9/12	33.91	22.99	0.726	6.86	0.89	19
	8/14/12	33.85	22.96	0.727	6.83	0.29	-32.1
	8/17/12	33.86	22.96	0.72	6.83	0.82	112.2
	8/21/12	33.82	22.96	0.723	6.83	0.53	-17
	8/23/12	33.89	22.96	0.712	6.85	0.23	-98.2
	1/11/13	29.62	23.35	0.436	6.88	3.19	269.8
	4/23/13	32.64	22.99	0.667	7.08	1.82	-61
	5/30/13	32.05	23.26	0.779	6.59	0.85	233.7
	6/10/13	31.9	23.31	0.568	6.63	0.3	-193.9
	6/19/13	31.92	23.15	0.557	6.71	0.28	-210.8
	7/19/13	32.3	23.12	0.645	6.7	1.14	-159.9
	8/19/13	33.05	23.06	0.584	6.7	1.77	-134.8
	10/21/13	32.76	23.08	0.67	6.75	0.41	-190.6
	11/18/13	30.78	23.11	0.689	6.71	0.38	-230.9
	2/10/14	31.92	23.21	0.726	6.73	0.39	-163.4
	5/14/14	33.2	23.09	0.676	6.78	0.22	-271.4
	8/6/14	32.78	20.62	0.613	6.62	0.78	-153
VEW-30	7/18/12	24.34	---	---	---	---	---
	8/1/12	24.36	---	---	---	---	---
	8/3/12	24.34	---	---	---	---	---
	8/6/12	24.37	---	---	---	---	---
	8/9/12	24.38	---	---	---	---	---
	8/14/12	24.39	---	---	---	---	---
	8/17/12	24.39	---	---	---	---	---
	8/21/12	24.36	---	---	---	---	---
	8/23/12	24.39	---	---	---	---	---
	1/11/13	24.36	---	---	---	---	---
	2/27/13	24.35	---	---	---	---	---
	4/23/13	24.35	---	---	---	---	---
	5/30/13	24.35	---	---	---	---	---
	6/10/13	24.32	---	---	---	---	---
	6/19/13	24.35	---	---	6.44	---	---
	7/19/13	24.37	---	---	---	---	---
	8/19/13	24.35	---	---	---	---	---
	10/21/13	24.35	---	---	---	---	---
	11/18/13	24.24	---	---	---	---	---
	2/10/14	24.25	---	---	---	---	---
	5/14/14	24.08	---	---	---	---	---
	8/6/14	24.2	---	---	---	---	---
VEW-31	7/18/12	30.26	21.97	0.649	6.83	1.31	46
	8/1/12	30.14	22.92	0.504	6.86	1.8	47.3
	8/3/12	30.1	22.8	0.622	6.75	5.02	124.5
	8/6/12	30.32	22.78	1.813	6.7	2.77	256
	8/9/12	30.13	22.87	2.945	6.54	3.56	297.1

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	8/14/12	30.21	22.9	3.11	6.29	0.97	309.9
	8/17/12	30.14	22.9	3.165	6.37	2.25	283.4
	8/21/12	30.14	22.86	3.243	6.21	0.41	250
	8/23/12	30.13	22.86	3.213	6.21	0.27	194.3
	1/11/13	30.14	23.06	3.09	6.23	0.56	-142.5
	2/27/13	30.05	23.36	1.336	6.51	2.13	273.3
	4/23/13	30.13	22.48	0.587	7.52	6.42	578.2
	5/30/13	30.12	23.27	1.702	6.67	4.61	254.2
	6/10/13	30.11	23.16	2.019	6.21	1.55	174.5
	6/19/13	31.15	22.98	1.943	6.98	4.43	156.8
	7/19/13	30.15	23.09	2.578	6.32	1.65	81.3
	8/19/13	30.15	23.02	2.304	6.34	2.39	117.5
	10/21/13	30.14	23.09	2.424	6.38	0.5	-36.4
	11/18/13	30.15	23.08	2.270	6.3	0.41	-71
	2/10/14	30.15	23.03	1.951	6.44	0.5	-1
	5/14/14	30.14	23.14	1.770	6.77	0.46	-55.6
	8/6/14	30.15	20.66	1.406	6.54	0.77	-74.7
VEW-32	7/18/12	8.73	23.22	0.338	7.22	5.22	65.8
	8/3/12	---	---	---	---	---	---
	8/6/12	11.07	23.18	0.447	7.2	4.05	11.5
	8/9/12	11.18	23.72	0.412	7.23	3.66	243.8
	8/14/12	11.48	24.3	0.387	7.18	3.25	250.9
	8/17/12	11.91	23.47	0.461	7.16	2.92	181.8
	8/21/12	11.83	23.2	0.444	7.15	2.63	170.5
	8/23/12	11.69	23.27	0.423	7.1	2.65	76.6
	1/11/13	8.35	24.07	0.417	6.96	4.04	69.4
	2/27/13	12.85	23.5	0.381	6.99	3.18	235.2
	4/23/13	11.69	19.61	0.46	7.38	4.33	271.5
	5/30/13	8.78	22.83	0.522	7.03	2.71	250.4
	6/10/13	9.02	22.75	0.366	6.67	2.07	199.2
	6/19/13	9.39	22.94	0.364		1.64	108
	7/19/13	11.45	23.09	0.455	7.05	1.88	99.5
	8/19/13	12.91	23.36	0.417	7.05	1.81	183.6
	9/17/13	12.72	23.93	0.403	7.14	0.65	228.7
	10/21/13	8.79	24.04	0.477	7.07	0.43	28.6
	11/18/13	10.01	24.24	0.467	7.02	0.44	-15.8
	2/10/14	12.65	23.34	0.915	7.26	2.98	149.5
	5/14/14	8.29	22.27	0.419	7.27	4.01	308.3
	8/6/14	10.41	20.52	0.403	7.02	1.14	24.7
VEW-33	7/18/12	24.31	---	---	---	---	---
	8/1/12	24.35	---	---	---	---	---
	8/3/12	24.34	---	---	---	---	---
	8/6/12	24.37	---	---	---	---	---
	8/9/12	24.36	---	---	---	---	---
	8/14/12	24.37	---	---	---	---	---
	8/17/12	24.36	---	---	---	---	---
	8/21/12	24.36	---	---	---	---	---
	8/23/12	24.35	---	---	---	---	---
	1/11/13	24.34	---	---	---	---	---
	2/27/13	24.36	---	---	---	---	---
	4/23/13	24.38	---	---	---	---	---
	5/30/13	24.37	---	---	---	---	---
	6/10/13	24.38	---	---	---	---	---
	6/19/13	24.37	---	---	---	---	---
	7/19/13	24.35	---	---	---	---	---
	8/19/13	24.34	---	---	---	---	---
	10/21/13	24.38	---	---	---	---	---
	11/18/13	24.31	---	---	---	---	---
	2/10/14	24.3	---	---	---	---	---
	5/14/14	24.26	---	---	---	---	---
	8/6/14	24.28	---	---	---	---	---
TSW-01	7/18/12	37.38	22.81	0.714	7.18	5.21	45.1
	8/1/12	35.5	22.83	0.641	7.14	1.63	-32.8
	8/3/12	---	---	---	---	---	---

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	8/6/12	35.42	22.74	0.729	7.11	2.24	24.8
	8/8/12	35.25	22.7	0.78	6.99	1.75	228.2
	8/9/12	35.22	22.71	0.634	7.11	3.92	165.8
	8/14/12	34.76	22.7	0.773	6.95	1.54	183.7
	8/17/12	34.58	22.67	0.747	6.95	2.45	127.9
	8/21/12	34.34	22.67	0.801	6.94	0.43	-71.1
	8/23/12	34.25	22.71	0.782	6.97	0.4	-30.2
	1/11/13	32.4	22.88	0.666	6.73	2.05	98.9
	2/27/13	31.85	22.79	0.454	6.77	1.82	113.4
	4/23/13	32	23.26	0.704	7.01	3.05	271
	5/30/13	31.71	22.96	0.843	6.59	1.82	231
	6/10/13	31.8	22.8	1.067	6.56	1.36	417.8
	6/19/13	31.86	22.97	1.674	6.67	1.98	224.5
	7/19/13	31.87	22.77	2.606	6.53	3.33	369.1
	8/19/13	31.94	22.69	2.425	6.3	1.5	233.8
	9/17/13	32.08	22.85	2.35	6.36	0.69	210.6
	10/21/13	31.75	22.82	2.682	6.39	0.59	65.4
	11/18/13	31.82	22.83	2.480	6.29	0.73	319.4
	2/10/14	32.11	22.86	2.433	6.71	0.41	75.2
	5/14/14	33.97	22.93	2.220	6.66	0.67	-139.8
	8/6/14	31.91	20.54	1.382	6.97	0.9	82.3
TSW-02	7/18/12	39.98	---	---	---	---	---
	8/1/12	39.97	---	---	---	---	---
	8/3/12	---	---	---	---	---	---
	8/6/12	39.96	---	---	---	---	---
	8/8/12	39.96	---	---	---	---	---
	8/9/12	39.96	---	---	---	---	---
	8/14/12	39.98	---	---	---	---	---
	8/17/12	39.88	---	---	---	---	---
	8/21/12	39.95	---	---	---	---	---
	8/23/12	39.97	---	---	---	---	---
	1/11/13	37.79	22.29	0.699	6.77	1.33	226.7
	2/27/13	36.89	22.79	0.611	6.71	1.33	104.5
	4/23/13	36.8	23.57	1.321	6.94	2.56	286.2
	5/30/13	36.6	22.9	1.11	6.69	0.48	173.3
	6/10/13	31.16	22.95	1.778	6.52	4.42	331.4
	6/19/13	31.53	23.07	3.551	6.29	1.16	322.6
	7/19/13	32.75	22.99	2.889	6.35	4.19	308.9
	8/19/13	33.49	22.83	3.376	6.3	1.63	329.1
	10/21/13	34.49	22.76	2.627	6.27	0.5	453.4
	11/18/13	32.04	22.75	2.828	6.07	0.51	370.1
	2/10/14	32.5	22.85	1.133	6.87	0.54	337.8
	5/14/14	33.62	22.93	1.490	6.71	0.89	246.5
	8/6/14	23.85	22.58	0.673	6.82	0.78	142.5
TSW-03	7/18/12	28.85	22.58	0.474	7.25	3.31	81.2
	8/1/12	28.89	22.54	0.37	7.18	5.6	---
	8/3/12	---	---	---	---	---	87.2
	8/6/12	28.68	22.47	4.209	7.02	3.02	257.2
	8/8/12	28.55	22.58	4.513	6.68	2.81	300
	8/9/12	28.58	22.59	4.69	6.43	1.04	279.9
	8/14/12	28.56	22.59	5.32	6.19	0.61	316.5
	8/17/12	28.59	22.62	5.714	6.2	0.53	328.5
	8/21/12	28.6	22.53	5.716	6.09	0.6	294.3
	8/23/12	28.61	22.48	6.118	6.56	4.68	305.9
	1/11/13	28.58	22.74	15.25	6.69	3.2	375.8
	2/27/13	29.18	22.63	11.5	6.81	2	378.6
	4/23/13	28.64	22.9	14.76	6.83	3.24	339.4
	5/30/13	28.56	22.85	18.01	7.04	5.32	298.7
	6/10/13	28.7	22.69	12.44	6.32	0.93	331.1
	6/19/13	28.96	22.8	13.09	6.87	5.04	307.2
	7/19/13	29.13	22.74	16.76	6.99	7.31	399.8
	8/19/13	29.18	22.62	16.33	6.98	4.49	467.5
	9/17/13	29.15	22.76	18.11	6.83	3.08	430.2
	10/21/13	28.82	22.7	26.81	6.95	3.24	443.4

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	11/18/13	28.9	22.7	25.780	6.48	1.3	404.1
	2/10/14	29.25	22.81	24.500	6.88	0.54	379
	5/14/14	24	22.14	23.710	6.61	2.07	322.9
	8/6/14	29.24	22.5	20.390	6.55	1.09	349.2
TSW-04	7/18/12	28.85	22.43	0.677	6.93	1.96	200
	8/1/12	29.9	---	---	---	---	---
	8/3/12	---	---	---	---	---	---
	8/6/12	28.97	22.4	0.596	6.97	0.3	119.6
	8/8/12	28.65	22.39	0.601	6.84	2.12	187.9
	8/9/12	28.66	22.44	0.647	6.86	0.39	169.3
	8/14/12	28.71	22.42	0.645	6.82	0.33	195.7
	8/17/12	28.72	22.37	0.657	6.87	2.35	198.8
	8/21/12	28.75	22.34	0.642	6.85	0.63	144.3
	8/23/12	28.78	22.38	0.629	6.81	2.48	99.8
	1/11/13	28.79	22.4	2.151	6.41	0.49	244.8
	2/27/13	28.92	22.54	8.623	6.49	0.92	361.8
	4/23/13	28.24	22.85	8.108	6.54	1.29	300.5
	5/30/13	28.48	22.64	15.7	6.6	1.77	283.3
	6/10/13	28.26	22.48	11.93	6.47	0.98	285.9
	6/19/13	28.52	22.55	12.01	6.56	3.97	350
	7/19/13	28.83	22.51	19	6.61	4.53	409
	8/19/13	---	22.42	18.13	6.57	2.14	480.2
	9/17/13	28.94	22.54	15.79	6.37	0.9	410.9
	10/21/13	28.42	22.41	25.81	6.63	1.49	454.9
	11/18/13	28.7	22.52	39.000	6.64	1.9	415.4
	2/10/14	28.86	22.35	58.490	6.84	0.92	391.3
	5/14/14	28.9	22.53	38.620	7.07	1.33	368.7
	8/6/14	28.76	22.37	33.270	6.63	1.01	387.5
TSW-05	7/18/12	34.74	22.5	0.748	7.03	5.65	99.2
	8/3/12	---	---	---	---	---	---
	8/6/12	30.04	22.51	0.665	7.04	2.49	116.1
	8/9/12	29.78	22.52	0.732	6.96	0.92	171.8
	8/14/12	29.84	22.51	0.726	6.95	0.73	98.9
	8/17/12	29.82	22.53	0.75	6.9	1.45	163.6
	8/21/12	29.79	22.45	0.676	6.89	1.59	132.2
	8/23/12	29.79	22.49	0.663	6.89	1.2	59.2
	1/11/13	29.75	22.56	0.659	6.73	2.81	231.8
	2/27/13	29.74	22.69	0.525	6.67	0.76	95
	4/23/13	29.79	20.78	0.594	7.03	5.57	249.7
	5/30/13	29.78	22.76	0.812	6.73	0.32	-11.5
	6/10/13	29.76	22.69	0.57	6.71	0.31	19.6
	6/19/13	29.76	22.76	0.519	6.65	0.41	180.8
	7/19/13	29.8	22.69	0.611	6.8	1.8	188.4
	8/19/13	29.81	22.64	0.593	6.91	1.57	-54.5
	9/17/13	29.83	22.56	0.543	6.8	0.48	171
	10/21/13	29.77	22.51	0.644	6.8	0.57	2.4
	11/18/13	29.78	22.51	0.616	6.62	0.76	36.2
	2/10/14	29.81	22.37	0.616	6.72	1.2	279.2
	5/14/14	29.75	22.66	0.609	7.06	0.56	-23.6
	8/6/14	29.78	20.24	0.529	6.69	3.32	170.6
TSW-06	7/18/12	35.9	22.53	0.708	7.08	1.8	31.1
	8/3/12	---	---	---	---	---	---
	8/9/12	36.14	22.45	0.581	7.19	0.17	161.6
	8/14/12	35.87	22.45	0.591	7.26	0.32	62.3
	8/17/12	36.57	22.46	0.569	7	3.16	155.1
	8/21/12	35.87	22.39	0.592	7.12	0.35	125.8
	8/23/12	35.88	22.4	0.614	6.99	0.31	-12.9
	1/11/13	35.8	22.29	0.699	6.77	1.33	226.7
	2/27/13	35.82	---	---	---	---	---
	4/23/13	35.89	19.98	0.673	7.14	4.47	254.2
	5/30/13	35.87	22.85	0.811	6.71	2.37	220.5
	6/10/13	35.85	22.7	0.559	6.59	1.57	195
	6/19/13	35.86	22.62	0.559	6.74	0.5	211.7
	7/19/13	35.3	22.57	0.663	6.77	3.5	184.6

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	8/19/13	35.97	22.55	0.611	6.8	2.32	301.6
	10/21/13	35.85	22.42	0.689	6.71	1.64	88.6
	11/18/13	35.88	22.4	0.672	6.61	0.98	264
	2/10/14	35.89	22.19	0.695	6.68	0.91	298.3
	5/14/14	35.88	22.57	0.683	7.05	0.48	-30.2
	8/6/14	35.89	20.24	0.628	6.72	0.9	19.1
TSW-07	7/18/12	28.1	22.3	0.843	7.15	2.78	169.4
	8/1/12	28.26	22.07	0.618	7.21	3.93	---
	8/3/12	---	---	---	---	---	54.3
	8/6/12	28.46	22.1	0.743	7.33	5.63	80.9
	8/8/12	28.28	22.18	0.787	7.1	3.87	187.1
	8/9/12	28.28	22.13	0.794	7.1	4.1	165
	8/14/12	28.25	22.14	0.795	7.05	2.24	182.4
	8/17/12	28.24	22.05	0.82	7.26	6.08	181.8
	8/21/12	28.23	22.08	0.781	7.09	4.19	140.5
	8/23/12	28.21	22.11	0.786	7.01	1.86	85
	1/11/13	25.57	22.38	0.926	6.95	22.49	4.77
	2/27/13	28.02	22.28	0.593	6.87	2.49	297.4
	4/23/13	28.03	22.72	0.752	7.35	6.29	216
	5/30/13	27.35	22.24	0.862	6.93	4.79	193.2
	6/10/13	26.31	22.28	1.411	6.6	5.18	274.1
	6/19/13	26.87	22.2	2.409	6.61	5.1	283.8
	7/19/13	28.11	22.23	5.513	6.31	2.22	345
	8/19/13	28.29	22.24	4.858	6.28	1.76	332.8
	9/17/13	28.28	22.46	1.93	6.67	3.22	258.8
	10/21/13	27.86	22.21	4.727	6.21	0.56	262.7
	11/18/13	27.91	22.33	6.348	6.46	4.18	348.9
	2/10/14	28.19	22.01	10.630	6.82	2.92	390.4
	5/14/14	28.19	22.22	17.220	7.02	4.87	409.8
	8/6/14	28.21	19.92	15.360	7.01	4.44	351.9
PZ-01	7/18/12	120.05	24.55	0.54	7.03	---	81.3
	8/3/12	---	---	---	---	---	---
	8/8/12	120.26	24.32	0.456	7.22	4.9	119.4
	8/9/12	120.4	23.27	0.474	7.88	4.05	116.3
	8/14/12	120.27	22.94	0.468	7.14	4.27	107.8
	8/17/12	120.3	23.87	0.535	7.05	5.2	314.1
	8/21/12	120.32	22.38	0.476	7.16	4.55	99.2
	8/23/12	120.28	22.66	0.471	7.09	4.55	67.9
	1/11/13	120.36	20.43	0.41	7.16	6.35	325.1
	2/27/13	120.79	19.8	0.32	7.21	6.19	199.3
	4/23/13	120.87	21.73	0.485	7.28	5.74	185.9
	5/30/13	---	---	---	---	---	---
	6/10/13	120.84	23.63	0.384	7.1	6.38	198
	6/19/13	120.88	26.87	0.477	7.17	5.42	197.2
	7/19/13	120.97	24.17	0.58	7.19	9.43	282
	8/19/13	121.8	23.13	0.617	6.96	6.15	330.1
	9/17/13	121.25	22.89	0.41	7.11	5.93	228.9
	10/21/13	121.21	21.91	0.558	6.94	5.72	311
	11/18/13	121.12	22.3	0.462	7.04	5.48	198.9
	2/10/14	121.43	16.67	0.557	7.17	7.7	309.8
	5/14/14	121.92	18.46	0.555	7.09	7.19	432.9
	8/6/14	121.75	23.67	0.484	7.19	4.92	146.6
PZ-02	7/18/12	46.29	22.23	0.371	7.25	---	61.1
	8/3/12	---	---	---	---	---	---
	8/8/12	47.24	23.26	0.4	7.58	7.45	189.2
	8/9/12	46.83	22.29	0.348	7.52	5.8	145.7
	8/14/12	45.58	22.22	0.354	7.5	5.77	162.7
	8/17/12	45.69	22.27	0.402	7.53	5.94	166.6
	8/21/12	45.98	22.14	0.413	7.31	5.78	128.7
	8/23/12	45.95	22.24	0.426	7.26	5.59	73.7
	1/11/13	43.15	20.53	0.828	6.13	4.96	300.5
	2/27/13	44.96	21.9	0.645	6.7	4.11	312.1
	4/23/13	46.69	22.68	0.883	7.06	5.21	226.6
	5/30/13	---	---	---	---	---	---

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	6/10/13	42.56	22.2	1.09	6.64	4.86	276.3
	6/19/13	43.43	22.35	1.299	6.78	5.42	213.9
	7/19/13	47.4	23.34	2.179	6.8	6.88	288.4
	8/19/13	48.74	22.2	2.175	6.81	5.7	343.9
	9/17/13	49.35	23.53	2.203	6.63	4.47	324.4
	10/21/13	44.85	22.23	3.103	6.63	4.05	299.2
	11/18/13	45.71	22.06	2.783	6.54	4.12	305.1
	2/10/14	48.02	20.54	3.664	6.75	4.42	350.9
	5/14/14	48.77	22.29	4.538	6.91	4.19	385.1
	8/6/14	47.95	20.35	5.021	6.8	4.4	356.7
PZ-03	7/18/12	128.72	26.21	0.514	7.05	---	82.4
	8/3/12	---	---	---	---	---	---
	8/8/12	128.73	23.54	0.488	7	7.41	123.8
	8/9/12	128.74	22.9	0.491	7.01	5.87	128.1
	8/14/12	128.74	22.5	0.49	6.96	5.93	125.4
	8/17/12	128.68	23.01	0.528	6.96	6.43	178.7
	8/21/12	128.77	22.25	0.487	6.99	5.71	100.6
	8/23/12	128.72	22.73	0.482	7	6.28	80.3
	1/11/13	128.72	20.33	0.51	6.87	6.23	353.7
	2/27/13	129.06	19.23	0.359	7.05	6.78	231.4
	4/23/13	129.05	21.56	0.499	7.14	5.36	202
	5/30/13	---	---	---	---	---	---
	6/10/13	129.13	23.03	0.413	6.82	6.81	228.2
	6/19/13	132.51	23.48	0.415	6.63	6.63	215.9
	7/19/13	129.13	23.4	0.477	7.07	11.34	255.1
	8/19/13	129.16	24.28	0.43	6.93	5.48	219.2
	10/21/13	129.18	21.7	0.479	6.99	6.08	280
	11/18/13	129.21	21.64	0.468	6.71	6.35	240.8
	2/10/14	129.3	19.17	0.497	7.42	7.01	278.1
	5/14/14	124.57	20.02	0.473	7.23	7.6	502.3
	8/6/14	129.47	23.1	0.409	7.08	5.36	-181.2
PZ-04	7/18/12	36.49	22.71	0.555	6.91	---	94.6
	8/3/12	---	---	---	---	---	---
	8/8/12	36.51	22.72	0.519	6.98	1.43	116.7
	8/9/12	36.49	22.74	0.517	7.01	2.02	115.7
	8/14/12	36.48	22.76	0.518	6.99	1.81	105.1
	8/17/12	36.48	22.7	0.54	6.95	4.42	160.8
	8/21/12	36.48	22.66	0.519	6.93	2.13	82.1
	8/23/12	36.48	22.69	0.513	6.96	2.17	63.7
	1/11/13	36.49	20.83	0.623	6.8	4.09	336.3
	2/27/13	36.51	22.62	0.435	6.77	2.44	248
	4/23/13	36.55	22.36	0.628	7.02	3.65	226.5
	5/30/13	---	---	---	---	---	---
	6/10/13	36.52	23.84	0.571	6.65	5.21	255.6
	6/19/13	36.54	22.77	0.532	6.68	3.73	196.9
	7/19/13	36.49	22.95	0.631	6.82	6	259
	8/19/13	36.54	22.82	0.578	6.75	3.86	206.1
	10/21/13	36.47	22.68	0.666	6.72	2.39	304
	11/18/13	36.47	22.76	0.659	6.54	2.73	225.9
	2/10/14	36.52	22.3	0.689	6.89	1.79	292.7
	5/14/14	36.52	22.42	0.671	6.89	2.56	546.2
	8/6/14	36.5	22.74	0.597	6.91	3.78	158
PZ-05	7/18/12	115.14	25.26	0.537	7.11	---	69.7
	8/3/12	---	---	---	---	---	---
	8/8/12	116.93	23.11	0.506	7.13	7.49	209.2
	8/9/12	116.92	22.33	0.511	7.05	5.79	161.5
	8/14/12	117.36	22.62	0.511	7.04	6.13	180.4
	8/17/12	117.1	22.65	0.555	7.03	6.09	254.6
	8/21/12	116.32	22.02	0.522	7.01	6.18	138.8
	8/23/12	114.32	22.38	0.521	6.98	5.9	95.1
	1/11/13	116.15	20.34	0.58	6.81	5.77	292.5
	2/27/13	115.44	20.44	0.381	6.91	5.73	513.3
	4/23/13	114.07	22.28	0.541	7.22	6.49	201.8
	5/30/13	---	---	---	---	---	---

Well ID	Date	Depth to Water (ft bgs)	Temp. (°C)	Cond. (ms/cm^c)	pH	DO (mg/L)	ORP (mV)
	6/10/13	98.09	22.89	0.488	6.76	6.62	268.9
	6/19/13	105.51	24.83	0.611	6.84	5.97	194
	7/19/13	115.81	22.52	0.59	6.45	8.77	271.8
	8/19/13	119.39					
	9/17/13	120.38	24.56	0.581	6.94	5.12	200.6
	10/21/13	98.74	21.99	0.801	6.76	5.38	258.9
	11/18/13	105.03	21.7	0.682	6.73	5.5	287.2
	2/10/14	119.79	18.38	0.726	6.94	6.18	328.3
	5/14/14	121.05	21.62	0.675	7.16	6.96	350
	8/6/14	113.21	21.84	0.570	7.05	6.19	270.1
PZ-06	7/18/12	36.43	22.31	0.287	7.75	---	55.6
	8/3/12	---	---	---	---	---	---
	8/8/12	36.46	24.09	0.332	7.26	6.63	111.7
	8/9/12	36.54	22.49	0.34	7.31	5.76	107.9
	8/14/12	36.46	22.48	0.349	7.21	4.72	99.5
	8/17/12	36.45	22.47	0.385	7.19	4.55	145.6
	8/21/12	36.44	22.46	0.373	7.15	3.78	40.6
	8/23/12	36.43	22.5	0.375	7.21	3.44	41.2
	1/11/13	36.39	22.71	0.574	6.74	3.13	187.7
	2/27/13	36.41	20.15	0.399	6.82	3.86	210.5
	4/23/13	36.35	22.39	0.584	6.99	4.4	195.4
	5/30/13	---	---	---	---	---	---
	6/10/13	36.4	22.76	0.493	6.62	4.59	206.6
	6/19/13	36.43	22.59	0.493	6.67	4.16	242.2
	7/19/13	36.51	22.73	0.554	6.86	6.63	282.5
	8/19/13	36.63	22.59	0.497	6.8	3.88	202.6
	9/17/13	36.4	22.63	0.479	6.67	4.01	241.2
	10/21/13	36.42	22.63	0.58	6.76	4.09	343.8
	11/18/13	36.44	22.62	0.564	6.56	3.59	204.9
	2/10/14	36.54	22.37	0.639	6.93	2.95	302.9
	5/14/14	36.63	22.74	0.628	6.85	2.32	477.8
	8/6/14	36.49	22.46	0.604	6.92	3.45	165.1

Indicates Baseline Sampling

Indicates ISCO Injection

--- Indicates parameter not sampled

Table 7.3 ISCO Treatability Study Regulatory Monitoring Well VOC Analytical Results

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
LS-5	3/7/2012	0.12	0.070	**0.81**	**2.5**	0.080	0.080
	6/4/2012	0.12	0.070	**1.2**	**3.3**	0.080	0.080
	8/3/2012	0.12	0.070	**0.40**	**1.2**	0.080	0.080
	8/6/2012	0.12	0.070	**1.3**	**2.8**	0.080	0.080
	8/16/2012	0.12	0.070	**1.2**	**2.8**	0.080	0.080
	8/30/2012	0.12	0.070	**0.84**	**3.0**	0.080	0.080
	10/1/2012	0.12	0.070	**0.98**	**2.5**	0.080	0.080
	12/3/2012	0.12	0.070	**0.84**	**2.7**	0.080	0.080
	3/11/2013	0.12	0.070	**0.80**	**2.7**	0.080	0.080
	4/23/2013	0.12	0.070	**1.2**	**3.1**	0.080	0.080
	6/19/2013	0.12	0.070	**0.84**	**2.3**	0.080	0.080
	7/19/2013	0.12	0.070	**0.72**	**2.4**	0.080	0.080
	9/17/2013	0.12	0.070	**0.95**	**2.7**	0.080	0.080
	12/9/2013	0.12	0.070	**0.95**	**2.5**	0.080	0.080
	3/5/2014	0.12	0.070	**1.0**	**3.0**	0.080	0.080
	6/2/2014	0.12	0.070	**0.85**	**2.8**	0.080	0.080
	9/3/2014	0.12	0.070	**0.88**	**3.1**	0.080	0.080
LS-6	3/7/2012	0.12	0.070	**0.81**	**1.8**	0.080	0.080
	6/4/2012	0.12	0.070	**1.1**	**3.4**	0.080	0.080
	8/3/2012	0.12	0.070	**0.76**	**1.6**	0.080	0.080
	8/6/2012	0.12	0.070	**0.74**	**2.0**	0.080	0.080
	8/16/2012	0.12	0.070	**0.87**	**1.5**	0.080	0.080
	8/30/2012	0.12	0.070	**0.55**	**1.8**	0.080	0.080
	10/1/2012	0.12	0.070	**0.69**	**1.9**	0.080	0.080
	12/3/2012	0.12	0.070	**0.85**	**2.2**	0.080	0.080
	3/11/2013	0.12	0.070	**0.87**	**2.7**	0.080	0.080
	4/23/2013	0.12	0.070	**1.1**	**3.0**	0.080	0.080
	6/19/2013	0.12	0.070	**0.68**	**3.0**	0.080	0.080
	7/19/2013	0.12	0.070	**0.58**	**1.9**	0.080	0.080
	9/17/2013	0.12	0.070	**0.68**	**2.1**	0.080	0.080
	12/9/2013	0.12	0.070	**0.84**	**2.7**	0.080	0.080
	3/5/2014	0.12	0.070	**0.76**	**3.2**	0.080	0.080
	6/2/2014	0.12	0.070	**0.91**	**3.2**	0.080	0.080
	9/3/2014	0.12	0.070	**0.80**	**3.1**	0.080	0.080
LS-7	3/7/2012	0.12	0.070	**2.4**	**0.36**	0.080	0.080
	6/4/2012	0.12	0.070	**3.1**	**0.42**	0.080	0.080
	8/3/2012	0.12	0.070	**1.8**	**0.30**	0.080	0.080
	8/6/2012	0.12	0.070	**2.8**	**0.41**	0.080	0.080
	8/16/2012	0.12	0.070	**2.4**	**0.30**	0.080	0.080
	8/30/2012	0.12	0.070	**2.6**	**0.66**	0.080	0.080
	10/1/2012	0.12	0.070	**1.7**	**0.46**	0.080	0.080
	12/3/2012	0.12	0.070	**2.0**	**0.43**	0.080	0.080
	3/11/2013	0.12	0.070	**2.0**	**0.41**	0.080	0.080
	4/23/2013	0.12	0.070	**2.7**	**0.27**	0.080	0.080
	6/19/2013	0.12	0.070	**1.7**	**0.24**	0.080	0.080
	7/19/2013	0.12	0.070	**2.0**	**0.24**	0.080	0.080
	9/17/2013	0.12	0.070	**1.9**	**0.19**	0.080	0.080
	12/9/2013	0.12	0.070	**2.1**	**0.23**	0.080	0.080
	3/5/2014	0.12	0.070	**1.6**	**0.44**	0.080	0.080
	6/2/2014	0.12	0.070	**2.1**	**0.46**	0.080	0.080
	9/3/2014	0.12	0.070	**2.1**	**0.54**	0.080	0.080
OFR-3	3/8/2012	0.12	**0.17**	**5.2**	**3.3**	0.080	0.080
	6/4/2012	0.12	0.070	**6.5**	**6.6**	0.080	0.080
	8/3/2012	0.12	0.070	**3.9**	**3.0**	0.080	0.080
	8/6/2012	0.12	0.070	**5.0**	**3.2**	0.080	0.080
	8/16/2012	0.12	0.070	**7.1**	**4.5**	0.080	0.080
	8/30/2012	0.12	0.070	**7.9**	**5.8**	0.080	0.080
	12/6/2012	0.12	0.070	**3.4**	**3.1**	0.080	0.080
	3/11/2013	0.12	0.070	**3.2**	**2.9**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	4/23/2013	0.12	**0.25**	**11**	**7.0**	0.080	0.080
RFR-10	3/8/2012	0.12	**0.40**	**16**	**10**	0.080	0.080
	6/4/2012	0.12	**0.49**	**26**	**14**	0.080	0.080
	8/3/2012	0.12	**0.33**	**8.9**	**3.4**	0.080	0.080
	8/6/2012	0.12	0.070	**12**	**4.5**	0.080	0.080
	8/16/2012	0.12	0.070	**8.5**	**3.1**	0.080	0.080
	8/30/2012	0.12	0.070	**12**	**4.8**	0.080	0.080
	10/1/2012	0.12	0.070	**9.6**	**4.6**	0.080	0.080
	12/3/2012	0.12	**0.29**	**18**	**7.7**	0.080	0.080
	3/11/2013	0.12	0.070	**8.4**	**3.2**	0.080	0.080
	4/23/2013	0.12	0.070	**12**	**4.3**	0.080	0.080
	6/19/2013	0.12	**0.28**	**13**	**8.7**	0.080	0.080
	7/19/2013	0.12	**0.21**	**15**	**6.9**	0.080	0.080
	9/17/2013	0.12	0.070	**7.4**	**2.3**	0.080	0.080
	12/9/2013	0.12	**0.16**	**14**	**6.4**	0.080	0.080
	3/5/2014	0.12	0.070	**8.4**	**3.4**	0.080	0.080
	6/2/2014	0.12	0.070	**9.4**	**4.9**	0.080	0.080
	9/3/2014	0.12	0.070	**6.8**	**2.4**	0.080	0.080
RFR-11	3/8/2012	0.12	0.070	**0.47**	**1.7**	0.080	0.080
	6/4/2012	0.12	0.070	**1.2**	**2.0**	0.080	0.080
	8/3/2012	0.12	0.070	**0.55**	**2.1**	0.080	0.080
	8/6/2012	0.12	0.070	**0.47**	**1.9**	0.080	0.080
	8/16/2012	0.12	0.070	**0.80**	**2.7**	0.080	0.080
	8/30/2012	0.12	0.070	**0.54**	**2.9**	0.080	0.080
	12/3/2012	0.12	0.070	**0.67**	**2.0**	0.080	0.080
	3/11/2013	0.12	0.070	**0.59**	**2.3**	0.080	0.080
	4/23/2013	0.12	0.070	**0.79**	**2.7**	0.080	0.080
	6/19/2013	0.12	0.070	**0.64**	**2.3**	0.080	0.080
	7/19/2013	0.12	0.070	**0.63**	**2.6**	0.080	0.080
	9/17/2013	0.12	0.070	**0.65**	**2.1**	0.080	0.080
	12/9/2013	0.12	0.070	0.060	**2.5**	0.080	0.080
	3/5/2014	0.12	0.070	**0.54**	**2.3**	0.080	0.080
	6/2/2014	0.12	0.070	**0.69**	**2.4**	0.080	0.080
	9/3/2014	0.12	0.070	**0.73**	**2.6**	0.080	0.080
CS-MW36-LGR	3/19/2012	0.12	0.070	**8.4**	**4.9**	0.080	0.080
	6/11/2012	0.12	0.070	**7.7**	**1.8**	0.080	0.080
	8/6/2012	0.12	**1.6**	**19**	**46**	0.080	0.080
	8/16/2012	0.12	**2.0**	**22**	**57**	0.080	0.080
	8/30/2012	0.12	**1.7**	**21**	**55**	0.080	0.080
	10/2/2012	0.12	**0.34**	**9.0**	**13**	0.080	0.080
	12/13/2012	0.12	**0.63**	**13**	**19**	0.080	0.080
	3/5/2013	0.12	**1.7**	**27**	**65**	0.080	0.080
	4/22/2013	0.12	**2.2**	**31**	**69**	0.080	0.080
	6/19/2013	0.12	0.070	**7.6**	**6.3**	0.080	0.080
	7/19/2013	0.12	**0.83**	**16**	**31**	0.080	0.080
	9/17/2013	0.12	**0.78**	**16**	**29**	0.080	0.080
	12/2/2013	0.12	**0.38**	**11**	**15**	0.080	0.080
	3/6/2014	0.12	**0.79**	**18**	**33**	0.080	0.080
	6/17/2014	0.12	0.070	**9.6**	**7.8**	0.080	0.080
	9/9/2014	0.12	**0.63**	**16**	**23**	0.080	0.080
CS-MW6-LGR	3/20/2012	0.12	0.070	**0.25**	0.050	0.080	0.080
	8/6/2012	0.12	0.070	0.060	0.050	0.080	0.080
	8/16/2012	0.12	0.070	0.060	0.050	0.080	0.080
	8/31/2012	0.12	0.070	0.060	0.050	0.080	0.080
	12/13/2012	0.12	0.070	0.060	0.050	0.080	0.080
	4/22/2013	0.12	0.070	**0.22**	0.050	0.080	0.080
	6/19/2013	0.12	0.070	0.060	0.050	0.080	0.080
	7/19/2013	0.12	0.070	0.060	0.050	0.080	0.080
	9/17/2013	0.12	0.070	0.060	0.050	0.080	0.080
	11/20/2013	0.12	0.070	0.060	0.050	0.080	0.080
	2/13/2014	0.12	0.070	0.060	0.050	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	6/17/2014	0.12	0.070	0.060	0.050	0.080	0.080
	9/4/2014	0.12	0.070	0.060	0.050	0.080	0.080
CS-MW7-LGR	3/20/2012	0.12	0.070	**0.69**	0.050	0.080	0.080
	8/6/2012	0.12	0.070	**0.35**	0.050	0.080	0.080
	8/16/2012	0.12	0.070	**0.40**	0.050	0.080	0.080
	8/31/2012	0.12	0.070	**0.53**	0.050	0.080	0.080
	12/17/2012	0.12	0.070	0.060	0.050	0.080	0.080
	4/22/2013	0.12	0.070	**0.89**	0.050	0.080	0.080
	6/19/2013	0.12	0.070	**0.39**	0.050	0.080	0.080
	7/19/2013	0.12	0.070	**0.50**	0.050	0.080	0.080
	9/19/2013	0.12	0.070	**0.68**	0.050	0.080	0.080
	11/20/2013	0.12	0.070	**0.51**	0.050	0.080	0.080
	2/13/2014	0.12	0.070	**0.80**	0.050	0.080	0.080
	6/20/2014	0.12	0.070	**0.83**	0.050	0.080	0.080
	9/4/2014	0.12	0.070	**0.71**	0.050	0.080	0.080
CS-MW8-LGR	3/20/2012	0.12	0.070	**2.4**	0.050	0.080	0.080
	8/6/2012	0.12	0.070	**1.6**	0.050	0.080	0.080
	8/16/2012	0.12	0.070	**2.4**	0.050	0.080	0.080
	8/30/2012	0.12	0.070	**2.0**	0.050	0.080	0.080
	9/11/2012	0.12	0.070	**1.8**	0.050	0.080	0.080
	12/13/2012	0.12	0.070	**2.1**	0.050	0.080	0.080
	4/22/2013	0.12	0.070	**3.0**	**0.16**	0.080	0.080
	6/19/2013	0.12	0.070	**2.5**	0.050	0.080	0.080
	7/19/2013	0.12	0.070	**1.6**	0.050	0.080	0.080
	9/17/2013	0.12	0.070	**1.4**	0.050	0.080	0.080
	11/20/2013	0.12	0.070	**3.1**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	**1.8**	0.050	0.080	0.080
	6/17/2014	0.12	0.070	**3.3**	0.050	0.080	0.080
	9/4/2014	0.12	0.070	**1.5**	0.050	0.080	0.080
CS-WB01-LGR-09	3/12/2012	0.12	**0.37**	**14**	**19**	0.080	0.080
	8/3/2012	0.12	**0.35**	**11**	**16**	0.080	0.080
	8/6/2012	0.12	**0.41**	**18**	**22**	0.080	0.080
	8/17/2012	0.12	**0.43**	**17**	**19**	0.080	0.080
	8/30/2012	0.12	**0.40**	**18**	**22**	0.080	0.080
	9/4/2012	0.12	**0.39**	**15**	**19**	0.080	0.080
	12/12/2012	0.12	**0.39**	**13**	**18**	0.080	0.080
	4/23/2013	0.12	**0.63**	**19**	**25**	0.080	0.080
	6/13/2013	0.12	**0.53**	**8.6**	**12**	0.080	0.080
	7/22/2013	0.12	**0.50**	**8.7**	**13**	0.080	0.080
	9/23/2013	0.12	**0.40**	**7.0**	**11**	0.080	0.080
	12/4/2013	0.12	**0.43**	**12**	**14**	0.080	0.080
	3/20/2014	0.12	**0.61**	**14**	**16**	0.080	0.080
	6/25/2014	0.12	**0.35**	**12**	**14**	0.080	0.080
	9/16/2014	0.12	**0.50**	**16**	**15**	0.080	0.080
CS-WB02-LGR-09	3/12/2012	0.12	**0.31**	**16**	**14**	0.080	0.080
	8/3/2012	0.12	0.070	**12**	**11**	0.080	0.080
	8/6/2012	0.12	**0.23**	**8.1**	**7.3**	0.080	0.080
	8/17/2012	0.12	**0.42**	**14**	**13**	0.080	0.080
	8/30/2012	0.12	**0.29**	**15**	**11**	0.080	0.080
	9/4/2012	0.12	**0.31**	**14**	**12**	0.080	0.080
	12/12/2012	0.12	0.070	**120**	**12**	0.080	0.080
	4/29/2013	0.12	**0.28**	**12**	**11**	0.080	0.080
	6/12/2013	0.12	**0.32**	**110**	**11**	0.080	0.080
	7/22/2013	0.12	**0.28**	**13**	**12**	0.080	0.080
	9/18/2013	0.12	**0.27**	**260**	**11**	0.080	0.080
	12/4/2013	0.12	**0.26**	**47**	**9.5**	0.080	0.080
	3/19/2014	0.12	0.070	**7.8**	**5.8**	0.080	0.080
	6/24/2014	0.12	**0.28**	**430**	**11**	0.080	0.080
	9/16/2014	0.60	0.35	**120**	**9.6**	0.40	0.40
CS-WB03-LGR-09	3/13/2012	0.12	**21**	**9.1**	**5.0**	0.080	0.080
	8/6/2012	0.12	**8.6**	**2.5**	**2.0**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	8/16/2012	0.12	**9.2**	**4.3**	**4.1**	0.080	0.080
	8/30/2012	0.12	**10.0**	**4.2**	**3.3**	0.080	0.080
	9/5/2012	0.12	**12**	**3.5**	**3.8**	0.080	0.080
	12/12/2012	0.12	**20**	**3.5**	**2.4**	0.080	0.080
	4/23/2013	0.12	**7.6**	**3.5**	**3.3**	0.080	0.080
	6/12/2013	0.12	**8.9**	**1.6**	**2.1**	0.080	0.080
	7/22/2013	0.12	**15**	**1.8**	**1.8**	0.080	0.080
	9/18/2013	0.12	**9.6**	**1.3**	**2.2**	0.080	0.080
	12/4/2013	0.12	**10**	**1.3**	**1.7**	0.080	0.080
	3/17/2014	0.12	**4.1**	**2.9**	**1.5**	0.080	**0.92**
	6/24/2014	0.12	**4.0**	**1.8**	**2.5**	0.080	0.080
	9/16/2014	0.12	**1.9**	**3.0**	**4.3**	0.080	0.080
CS-WB04-LGR-11	3/13/2012	0.12	0.070	**0.42**	**0.21**	0.080	0.080
	8/6/2012	0.12	0.070	0.060	0.050	0.080	0.080
	8/16/2012	0.12	0.070	**0.29**	0.050	0.080	0.080
	8/30/2012	0.12	0.070	0.060	0.050	0.080	0.080
	9/6/2012	0.12	0.070	**0.27**	0.050	0.080	0.080
	10/2/2012	0.12	0.070	0.060	0.050	0.080	0.080
	12/12/2012	0.12	0.070	0.060	0.050	0.080	0.080
	4/24/2013	0.12	0.070	**0.40**	0.050	0.080	0.080
	6/20/2013	0.12	0.070	**0.24**	0.050	0.080	0.080
	7/22/2013	0.12	0.070	**0.12**	0.050	0.080	0.080
	9/23/2013	0.12	0.070	**0.27**	0.050	0.080	0.080
	12/2/2013	0.12	0.070	0.060	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	**0.42**
	6/25/2014	0.12	0.070	**1.2**	0.050	0.080	0.080
	9/17/2014	0.12	0.070	**0.73**	0.050	0.080	0.080

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

Table 7.4 ISCO Treatability Study Performance Monitoring Well VOC Analytical Results

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
PZ-01	7/20/2012	0.12	0.070	**8.6**	**3.9**	0.080	0.080
	1/9/2013	0.12	0.070	**8.7**	**2.6**	0.080	0.080
	4/16/2013	0.12	0.070	**6.2**	**2.5**	0.080	0.080
	6/19/2013	0.12	0.070	**4.4**	**2.4**	0.080	0.080
	7/23/2013	0.12	0.070	**10**	**3.9**	0.080	0.080
	9/17/2013	0.12	0.070	**5.6**	**3.2**	0.080	0.080
	11/18/2013	0.12	0.070	**7.8**	**3.0**	0.080	0.080
	2/10/2014	0.12	0.070	**6.9**	**3.0**	0.080	0.080
	5/14/2014	0.12	0.070	**13**	**5.8**	0.080	0.080
	8/6/2014	0.12	0.070	**13**	**4.3**	0.080	0.080
PZ-02	7/20/2012	0.12	0.070	**1.6**	**0.37**	0.080	0.080
	1/9/2013	0.12	0.070	**2.7**	**1.7**	0.080	0.080
	4/16/2013	0.12	0.070	**1.1**	**1.1**	0.080	0.080
	6/19/2013	0.12	0.070	**1.1**	**1.3**	0.080	0.080
	7/23/2013	0.12	0.070	**1.1**	**1.3**	0.080	0.080
	11/18/2013	0.12	0.070	**1.5**	**0.93**	0.080	0.080
	2/10/2014	0.12	0.070	**1.2**	**0.48**	0.080	0.080
	5/14/2014	0.12	0.070	**0.87**	**0.21**	0.080	0.080
	8/6/2014	0.12	0.070	**1.1**	**0.63**	0.080	0.080
PZ-05	7/20/2012	0.12	0.070	**2.6**	**0.27**	0.080	0.080
	1/9/2013	0.12	0.070	**5.4**	**0.40**	0.080	0.080
	4/16/2013	0.12	0.070	**4.1**	**0.27**	0.080	0.080
	6/19/2013	0.12	0.070	**1.9**	0.050	0.080	0.080
	7/23/2013	0.12	0.070	**3.4**	**0.22**	0.080	0.080
	9/17/2013	0.12	0.070	**2.8**	**0.41**	0.080	0.080
	11/18/2013	0.12	0.070	**2.8**	**0.17**	0.080	0.080
	2/10/2014	0.12	0.070	**2.9**	**0.26**	0.080	0.080
	5/14/2014	0.12	0.070	**5.2**	**0.28**	0.080	0.080
	8/6/2014	0.12	0.070	**4.6**	0.050	0.080	0.080
PZ-06	7/20/2012	0.12	0.070	0.060	0.050	0.080	0.080
	1/9/2013	0.12	0.070	**16**	**0.24**	0.080	0.080
	4/16/2013	0.12	0.070	**6.8**	**0.22**	0.080	0.080
	6/19/2013	0.12	0.070	**8.5**	**0.20**	0.080	0.080
	7/23/2013	0.12	0.070	**5.4**	0.050	0.080	0.080
	9/17/2013	0.12	0.070	**2.9**	**0.18**	0.080	0.080
	11/18/2013	0.12	0.070	**6.6**	0.050	0.080	0.080
	2/10/2014	0.12	0.070	**5.4**	**0.20**	0.080	0.080
	5/14/2014	0.12	0.070	**4.8**	**0.26**	0.080	0.080
	8/6/2014	0.12	0.070	**5.6**	0.050	0.080	0.080
TSW-01	7/18/2012	0.12	**1.2**	**6,400**	**4.8**	0.080	0.080
	8/30/2012	0.12	**16**	**64,000**	**49**	**0.31**	0.080
	9/28/2012	0.12	**15**	**28,000**	**29**	0.080	0.080
	10/1/2012	3.0	**14**	**25,000**	**27**	2.0	2.0
	1/9/2013	0.12	**5.0**	**13,000**	**12**	0.080	0.080
	4/16/2013	0.12	**7.0**	**7,600**	**32**	0.080	0.080
	6/19/2013	24	14	**6,100**	**54**	16	16
	7/23/2013	12	7.0	**9,500**	**28**	8.0	8.0
	9/17/2013	24	14	**3,900**	**18**	16	16
	11/18/2013	60	35	**7,800**	**32**	40	40
	2/10/2014	0.12	**2.5**	**3,100**	**7.1**	0.080	0.080
	5/14/2014	0.12	**3.8**	**4,100**	**13**	0.080	0.080
	8/6/2014	6.0	**9.3**	**5,400**	**15**	4.0	4.0
TSW-03	7/20/2012	0.12	0.070	**1.9**	**0.97**	0.080	0.080
	8/30/2012	0.12	0.070	**3.1**	**0.63**	0.080	0.080
	10/1/2012	0.12	0.070	**12**	**0.25**	0.080	0.080
	4/16/2013	0.12	0.070	**4.1**	**3.4**	0.080	0.080
	6/19/2013	0.12	0.070	**2.5**	**2.4**	0.080	0.080
	7/23/2013	0.12	0.070	**1.4**	**2.4**	0.080	0.080
	9/17/2013	0.12	0.070	**3.1**	**0.65**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	11/18/2013	0.12	0.070	**5.3**	**1.4**	0.080	0.080
	2/10/2014	0.12	0.070	**1.0**	0.050	0.080	0.080
	5/14/2014	0.12	0.070	**1.1**	**0.68**	0.080	0.080
	8/6/2014	0.12	0.070	**3.6**	**0.98**	0.080	0.080
TSW-04	7/20/2012	0.12	0.070	**0.79**	**1.7**	0.080	0.080
	8/30/2012	0.12	0.070	**2.8**	**3.8**	0.080	0.080
	4/16/2013	0.12	0.070	**0.71**	**2.6**	0.080	0.080
	6/19/2013	0.12	0.070	**3.9**	**0.42**	0.080	0.080
	7/23/2013	0.12	0.070	**1.7**	0.050	0.080	0.080
	9/17/2013	0.12	0.070	**0.74**	**0.58**	0.080	0.080
	11/18/2013	0.12	0.070	**0.26**	0.050	0.080	0.080
	2/10/2014	0.12	0.070	**0.62**	0.050	0.080	0.080
	5/14/2014	0.12	0.070	**0.63**	0.050	0.080	0.080
	8/6/2014	0.12	0.070	**2.1**	**0.39**	0.080	0.080
TSW-05	7/20/2012	0.12	0.070	**24**	0.050	0.080	0.080
	8/14/2012	0.12	0.070	**16**	0.050	0.080	0.080
	8/30/2012	0.12	0.070	**14**	**0.18**	0.080	0.080
	10/1/2012	0.12	0.070	**15**	**0.28**	0.080	0.080
	1/9/2013	0.12	0.070	**42**	**0.61**	0.080	0.080
	4/18/2013	0.12	0.070	**44**	**0.50**	0.080	0.080
	6/19/2013	0.12	0.070	**94**	**0.37**	0.080	0.080
	7/23/2013	0.12	0.070	**220**	**0.34**	0.080	0.080
	9/17/2013	0.12	0.070	**82**	**0.34**	0.080	0.080
	11/18/2013	0.12	0.070	**61**	**0.43**	0.080	0.080
	2/10/2014	0.12	0.070	**37**	**0.39**	0.080	0.080
	5/14/2014	0.12	0.070	**29**	**0.26**	0.080	0.080
	8/6/2014	0.12	0.070	**150**	**0.35**	0.080	0.080
TSW-07	7/20/2012	0.12	0.070	0.060	**1.5**	0.080	0.080
	8/30/2012	0.12	0.070	**0.49**	**3.2**	0.080	0.080
	4/16/2013	0.12	0.070	0.060	**1.5**	0.080	0.080
	6/19/2013	0.12	0.070	**0.99**	**1.7**	0.080	0.080
	7/23/2013	0.12	0.070	**0.84**	**3.6**	0.080	0.080
	9/17/2013	0.12	0.070	**0.98**	**4.8**	0.080	0.080
	11/18/2013	0.12	0.070	**0.64**	**2.0**	0.080	0.080
	2/10/2014	0.12	0.070	**0.55**	**2.2**	0.080	0.080
	5/14/2014	0.12	0.070	**0.39**	**0.29**	0.080	0.080
	8/6/2014	0.12	0.070	**1.5**	**0.86**	0.080	0.080
VEW-15	7/18/2012	0.12	**30**	**57**	**11**	**0.37**	0.080
	8/14/2012	0.12	**21**	**24**	**6.8**	**0.20**	0.080
	8/30/2012	0.12	**21**	**36**	**9.4**	**0.29**	0.080
	10/1/2012	0.12	**19**	**25**	**7.7**	**0.15**	0.080
	4/17/2013	0.12	**7.7**	**19**	**6.1**	0.080	0.080
	6/19/2013	0.12	**14**	**22**	**8.0**	**0.25**	0.080
	7/23/2013	0.12	**15**	**27**	**8.3**	**0.41**	0.080
	9/17/2013	0.12	**16**	**49**	**12**	**0.30**	0.080
	11/18/2013	0.12	**16**	**36**	**15**	**0.46**	0.080
	2/10/2014	0.12	**5.2**	**13**	**4.8**	0.080	0.080
	5/14/2014	0.12	**8.6**	**25**	**6.0**	0.080	0.080
	8/6/2014	0.12	**22**	**41**	**12**	0.080	0.080
VEW-19	7/18/2012	0.12	**27**	**89**	**16**	**0.80**	0.080
	8/30/2012	0.12	**24**	**150**	**18**	**1.4**	0.080
	1/9/2013	0.12	**31**	**140**	**22**	**1.2**	0.080
	4/16/2013	0.12	**17**	**100**	**13**	**0.69**	0.080
	6/19/2013	0.12	**3.5**	**130**	**2.6**	0.080	0.080
	7/23/2013	0.12	**2.5**	**22**	**0.96**	0.080	0.080
	9/17/2013	0.12	**5.9**	**22**	**2.3**	**0.27**	0.080
	11/18/2013	0.24	**21**	**170**	**11**	**0.92**	0.16
	2/10/2014	0.12	**7.8**	**57**	**4.4**	**0.53**	0.080
	8/6/2014	0.12	**43**	**150**	**20**	**1.8**	0.080
VEW-25	7/18/2012	0.12	**0.69**	**29**	**1.3**	0.080	0.080
	10/1/2012	0.30	**5.5**	**280**	**15**	0.20	0.20

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	1/9/2013	0.12	**3.8**	**350**	**14**	0.080	0.080
	6/19/2013	0.12	0.070	**28**	**0.34**	0.080	0.080
	7/23/2013	0.12	0.070	**5.9**	0.050	0.080	0.080
	9/17/2013	0.12	0.070	**4.4**	0.050	0.080	0.080
	11/18/2013	0.12	**2.3**	**120**	**5.9**	0.080	0.080
	2/10/2014	0.12	**2.2**	**100**	**4.6**	0.080	0.080
	5/14/2014	0.12	**1.5**	**71**	**3.1**	0.080	0.080
	8/6/2014	0.12	**3.8**	**160**	**7.7**	**0.24**	0.080
VEW-27	7/18/2012	0.12	**7.0**	**5,000**	**31**	**0.30**	0.080
	8/30/2012	0.12	**53**	**3,400**	**57**	**2.4**	0.080
	9/28/2012	0.12	**69**	**2,400**	**64**	**3.2**	0.080
	10/1/2012	0.24	**52**	**2,400**	**48**	**4.9**	0.16
	1/9/2013	0.12	**82**	**1,500**	**66**	**2.8**	0.080
	4/16/2013	0.12	**17**	**540**	**22**	**0.77**	0.080
	6/19/2013	0.12	0.070	**15**	0.050	0.080	0.080
	7/23/2013	0.12	0.070	**7.8**	0.050	0.080	0.080
	9/17/2013	0.12	0.070	**7.6**	0.050	0.080	0.080
	11/18/2013	0.12	0.070	**14**	0.050	0.080	0.080
	2/10/2014	0.12	0.070	**64**	0.050	0.080	0.080
	5/14/2014	0.12	0.070	**31**	0.050	0.080	0.080
	8/6/2014	0.12	0.070	**47**	**0.47**	0.080	0.080
VEW-32	7/18/2012	0.12	**0.60**	**1,300**	**1.7**	0.080	0.080
	8/14/2012	0.12	**0.48**	**1,500**	**2.1**	0.080	0.080
	8/30/2012	0.12	**0.78**	**11,000**	**3.3**	0.080	0.080
	9/28/2012	0.12	**0.36**	**1,100**	**0.97**	0.080	0.080
	10/1/2012	0.60	0.35	**510**	0.25	0.40	0.40
	1/9/2013	0.12	0.070	**1,400**	**8.1**	0.080	0.080
	4/18/2013	0.12	**0.83**	**2,600**	**15**	0.080	0.080
	6/19/2013	12	7.0	**2,900**	5.0	8.0	8.0
	7/23/2013	6.0	3.5	**9,900**	**7.8**	4.0	4.0
	9/17/2013	24	14	**3,800**	**12**	16	16
	11/18/2013	6.0	3.5	**1,600**	2.5	4.0	4.0
	2/10/2014	0.12	**0.47**	**1,600**	**22**	0.080	0.080
	5/14/2014	1.2	0.70	**2,000**	**4.5**	0.80	0.80
	8/6/2014	0.12	**1.1**	**6,800**	**2.7**	0.080	0.080
CS-WB01-LGR-01	7/31/2012	0.12	0.070	**3.8**	**0.19**	0.080	0.080
	9/4/2012	0.12	0.070	**3.5**	**0.18**	0.080	0.080
	4/29/2013	0.12	0.070	**2.0**	**0.18**	0.080	0.080
	6/13/2013	0.12	0.070	**2.8**	**0.28**	0.080	0.080
	7/22/2013	0.12	0.070	**1.6**	**0.25**	0.080	0.080
	9/23/2013	0.12	0.070	**1.7**	**0.21**	0.080	0.080
	12/4/2013	0.12	0.070	**3.4**	**0.20**	0.080	0.080
	3/20/2014	0.12	0.070	**3.3**	0.050	0.080	0.080
	6/25/2014	0.12	0.070	**3.9**	**0.30**	0.080	0.080
	9/16/2014	0.12	0.070	**4.2**	**0.20**	0.080	0.080
CS-WB02-LGR-01	7/30/2012	0.12	0.070	**0.29**	**0.76**	0.080	0.080
	9/4/2012	0.12	0.070	**0.55**	**1.2**	0.080	0.080
	4/30/2013	0.12	0.070	**0.85**	**0.81**	0.080	0.080
	6/12/2013	0.12	0.070	**2.4**	**0.36**	0.080	0.080
	7/22/2013	0.12	0.070	**0.73**	**0.58**	0.080	0.080
	9/18/2013	0.12	0.070	**14**	**0.47**	0.080	0.080
	12/4/2013	0.12	0.070	**5.1**	**0.35**	0.080	0.080
	6/24/2014	0.12	0.070	**7.0**	**0.48**	0.080	0.080
CS-WB03-LGR-01	7/24/2012	0.12	0.070	**640**	**50**	0.080	0.080
	12/4/2013	0.12	**0.50**	**540**	**15**	0.080	0.080
	3/17/2014	0.12	**0.64**	**1,000**	**23**	0.080	0.080
	6/24/2014	0.24	**0.65**	**370**	**17**	0.16	0.16
CS-WB03-UGR-01	7/24/2012	0.12	0.070	**5.4**	**0.64**	0.080	0.080
	8/30/2012	0.12	**1.5**	**6,300**	**85**	0.080	0.080
	9/5/2012	0.12	**1.5**	**8,100**	**99**	0.080	0.080
	10/2/2012	0.12	**1.2**	**7,000**	**78**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*trans* -1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	12/12/2012	0.12	**2.1**	**30,000**	**180**	0.080	0.080
	4/22/2013	0.12	**2.7**	**13,000**	**140**	0.080	0.080
	6/12/2013	3.0	1.8	**8,700**	**71**	2.0	2.0
	7/22/2013	24	14	**9,100**	**94**	16	16
	9/18/2013	24	14	**9,900**	**100**	16	16
	12/4/2013	120	70	**21,000**	**200**	80	80
	3/17/2014	0.12	**2.9**	**20,000**	**110**	0.080	0.080
	6/24/2014	6.0	3.5	**14,000**	**110**	4.0	4.0
	9/16/2014	24	14	**30,000**	**170**	16	16

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

Table 7.5 ISCO Treatability Study Regulatory Monitoring Well Metals Analytical Results

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
LS-5	3/7/2012	1.8	0.20	0.20	0.30	1.0	16	1.9	0.10	1.0	3.2	0.081	1.0	43
	3/7/2012	5.7	0.20	0.20	0.30	1.0	9.3	1.9	0.10	1.0	3.2	0.081	1.0	30
	8/3/2012	3.2	0.20	0.20	0.30	1.0	31	6.3	0.10	1.0	3.2	0.081	1.0	82
	8/6/2012	2.2	0.20	0.20	0.30	1.0	18	4.7	0.10	1.0	3.2	0.081	1.0	48
	8/16/2012	1.8	0.20	0.20	0.30	1.0	13	1.9	0.10	1.0	3.2	0.081	1.0	32
	8/30/2012	1.8	0.20	0.20	0.30	1.0	9.0	1.9	0.10	1.0	3.2	0.081	1.0	14
	10/1/2012	1.8	0.20	0.20	0.30	1.0	9.0	1.9	0.10	1.0	3.2	0.27	1.0	49
	4/23/2013	1.8	0.20	0.20	0.30	1.0	25	1.9	0.10	1.0	3.2	0.081	1.0	52
	6/19/2013	1.8	0.20	0.20	0.30	1.0	19	1.9	0.10	1.0	3.2	0.14	1.0	44
	7/19/2013	1.8	0.20	0.20	0.30	1.0	11	1.9	0.10	1.0	3.2	0.46	1.0	37
	9/17/2013	1.9	0.20	0.20	0.50	1.0	13	2.1	0.10	1.0	3.2	1.0	1.0	40
	12/9/2013	1.8	0.20	0.20	0.50	1.0	18	1.9	0.10	1.0	3.2	1.0	1.0	34
	3/5/2014	1.8	0.90	0.20	0.50	1.0	10	1.9	0.10	1.0	3.2	1.0	1.0	35
	6/2/2014	3.0	0.20	0.20	0.50	1.0	14	1.9	0.10	1.0	3.2	1.0	1.0	53
	9/3/2014	2.3	1.8	0.20	0.50	1.0	18	1.9	0.10	1.0	3.2	1.0	1.0	44
LS-6	3/7/2012	1.8	0.20	0.20	0.30	1.0	6.0	1.9	0.10	1.0	3.2	0.081	1.0	16
	3/7/2012	5.9	0.20	0.20	0.30	1.0	3.1	1.9	0.10	1.0	3.2	0.56	1.0	20
	8/3/2012	2.7	0.20	0.20	0.30	1.0	5.0	2.6	0.10	1.0	3.2	0.081	1.0	24
	8/6/2012	3.1	0.20	0.20	0.30	1.0	3.6	2.1	0.10	1.0	3.2	0.081	1.0	29
	8/16/2012	1.8	0.20	0.20	0.30	1.0	8.5	1.9	0.10	1.0	3.2	0.081	1.0	93
	8/30/2012	1.8	0.20	0.20	0.30	1.0	4.6	1.9	0.10	1.0	3.2	0.081	1.0	8.9
	10/1/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.29	1.0	29
	4/23/2013	1.8	0.20	38	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.081	1.0	54
	6/19/2013	1.8	0.20	0.20	0.30	1.0	10	1.9	0.10	1.0	3.2	0.081	1.0	28
	7/19/2013	1.8	0.20	0.20	0.30	1.0	12	2.7	0.10	1.0	3.2	0.66	1.0	41
	9/17/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	22
	12/9/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.20	1.0	3.2	1.0	1.0	13
	3/5/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	18
	6/2/2014	1.8	0.90	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.0	18
	9/3/2014	2.8	1.0	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.0	21
LS-7	3/7/2012	1.8	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.081	1.0	13
	3/7/2012	5.0	0.20	0.20	0.30	1.0	6.1	1.9	0.10	1.0	3.2	0.081	1.0	21
	8/3/2012	3.1	0.20	0.20	0.30	1.0	5.5	2.1	0.10	1.0	3.2	0.081	1.0	15
	8/6/2012	3.5	0.20	0.20	0.30	1.0	12	3.1	0.10	1.0	3.2	0.081	1.0	21
	8/16/2012	1.8	0.20	0.20	0.30	1.0	7.1	1.9	0.10	1.0	3.2	0.081	1.0	14
	8/30/2012	1.8	0.20	0.20	0.30	1.0	6.3	1.9	0.10	1.0	3.2	0.081	1.1	8.0
	10/1/2012	1.8	0.20	0.20	0.30	1.0	4.2	1.9	0.10	1.0	3.2	0.081	1.0	29
	4/23/2013	1.8	0.20	0.20	0.30	1.0	8.0	1.9	0.10	1.0	3.2	0.081	1.0	43
	6/19/2013	1.8	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.15	1.0	13
	7/19/2013	1.8	0.20	0.20	0.30	1.0	8.0	1.9	0.10	1.0	3.2	0.99	1.0	17
	9/17/2013	1.8	0.20	0.20	0.50	1.0	6.0	1.9	0.10	1.0	3.2	1.0	1.0	16
	12/9/2013	1.8	0.20	0.20	0.50	1.0	8.0	1.9	0.20	1.0	3.2	1.0	1.0	12
	3/5/2014	1.8	0.20	0.20	0.50	1.0	7.0	1.9	0.10	1.0	3.2	1.0	1.0	33
	6/2/2014	2.7	0.20	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.0	13
	9/3/2014	1.8	2.2	0.20	0.50	1.0	8.0	1.9	0.10	1.0	3.2	1.0	1.0	9.0
OFR-3	3/8/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	79
	3/8/2012	5.5	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	82
	8/3/2012	2.8	0.20	0.20	0.30	1.0	4.1	1.9	0.10	1.0	3.2	0.081	1.0	78
	8/6/2012	2.8	0.20	0.20	0.30	1.1	3.0	1.9	0.10	1.0	3.2	0.081	1.0	83
	8/16/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	82
	8/30/2012	1.8	0.20	0.20	0.30	1.0	4.3	1.9	0.10	1.0	3.6	0.081	1.0	78
	4/23/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.27	1.0	110
RFR-10	3/8/2012	2.3	0.20	0.20	0.30	1.0	13	1.9	0.10	1.0	3.2	0.081	1.0	16
	3/8/2012	9.1	0.20	0.20	0.30	1.0	6.8	1.9	0.10	1.0	3.2	0.081	1.0	12
	8/3/2012	2.5	0.20	0.20	0.30	1.0	3.7	3.0	0.10	2.3	3.2	0.081	1.0	9.5
	8/6/2012	2.6	0.20	0.20	0.30	1.0	3.0	3.1	0.10	1.0	3.2	0.081	1.0	11
	8/16/2012	1.8	0.20	0.20	0.30	1.0	4.0	1.9	0.10	1.0	3.2	0.081	1.0	9.5
	8/30/2012	1.8	0.20	0.20	0.30	1.0	11	3.9	0.10	5.5	4.0	0.081	1.7	9.5
	10/1/2012	1.8	0.20	0.20	0.30	1.0	3.8	1.9	0.10	1.0	3.2	0.16	1.0	16
	4/23/2013	1.8	0.20	0.20	0.30	1.0	8.0	1.9	0.10	1.0	3.2	0.11	1.0	39
	6/19/2013	1.8	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.16	1.0	11
	7/19/2013	1.8	0.20	0.20	0.30	1.0	13	1.9	0.10	1.4	3.2	0.081	1.0	26
	9/17/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	14
	12/9/2013	1.8	0.20	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.3	15
	3/5/2014	1.8	0.70	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	20
	6/2/2014	2.6	0.20	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.2	11
	9/3/2014	1.8	1.8	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
RFR-11	3/8/2012	1.8	0.20	0.20	0.30	1.0	33	6.8	0.10	1.0	3.2	0.081	1.0	120
	3/8/2012	7.9	0.20	0.20	0.30	1.0	4.2	1.9	0.10	1.0	3.2	0.081	1.0	74
	8/3/2012	2.6	0.20	0.20	0.30	1.0	20	2.8	0.10	1.0	3.2	0.081	1.0	110
	8/6/2012	3.0	0.20	0.20	0.30	1.0	8.0	2.6	0.10	1.0	3.2	0.081	1.0	73
	8/16/2012	1.8	0.20	0.20	0.30	1.0	9.3	1.9	0.10	1.0	3.2	0.081	1.0	67
	8/30/2012	1.8	0.20	0.20	0.30	1.0	4.4	1.9	0.10	1.0	5.0	0.081	1.0	36
	4/23/2013	1.8	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.081	1.0	78
	6/19/2013	1.8	0.20	0.20	0.30	1.0	8.0	1.9	0.10	1.0	3.2	0.28	1.0	76
	7/19/2013	1.8	0.20	0.20	0.30	1.0	7.0	1.9	0.10	1.0	3.2	0.62	1.0	65
	9/17/2013	1.8	0.20	0.20	0.50	1.0	4.0	1.9	0.10	1.0	3.2	1.0	1.0	51
	12/9/2013	1.8	0.20	0.20	0.50	1.0	8.0	1.9	0.20	1.0	3.2	1.0	1.0	44
	3/5/2014	1.8	0.20	0.20	0.50	1.0	19	1.9	0.10	1.0	3.2	1.0	1.0	90
	6/2/2014	2.3	0.80	0.20	0.50	1.0	11	1.9	0.10	1.0	3.2	1.0	2.5	66
	9/3/2014	2.0	2.2	0.20	0.50	1.0	8.0	1.9	0.10	1.0	3.2	1.0	1.0	53
CS-MW36-LGR	3/19/2012	1.8	0.20	0.20	0.50	1.0	7.0	1.9	0.10	3.4	3.2	0.36	1.0	25

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	3/19/2012	1.8	0.20	0.20	0.30	1.0	6.7	1.9	0.10	4.0	3.2	0.62	1.0	22
	6/11/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	2.7	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	8/2/2012	2.8	0.20	0.20	0.30	1.0	3.0	2.4	0.10	2.2	3.2	0.081	1.0	8.0
	8/6/2012	1.8	0.40	0.20	0.30	2.0	3.0	1.9	0.10	4.6	3.2	0.081	1.0	14
	8/16/2012	1.8	0.20	0.20	0.30	1.5	3.0	1.9	0.10	2.1	3.2	0.081	1.0	8.0
	8/30/2012	1.8	0.90	0.20	0.30	1.0	3.0	1.9	0.10	1.1	3.2	0.081	1.0	8.0
	8/30/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	12/13/2012	#N/A	#N/A	#N/A	0.50	2.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	3/5/2013	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	4/22/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	22
	6/19/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	0.28	1.0	8.0
	7/19/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.56	1.0	8.0
	9/17/2013	1.9	0.20	0.20	0.50	1.0	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
	12/2/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	3/6/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	18
	6/17/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	9/9/2014	1.8	1.7	0.20	0.50	1.1	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-MW6-LGR	3/20/2012	2.5	0.20	0.20	0.50	1.0	5.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	3/20/2012	1.8	0.20	0.20	0.30	1.0	6.4	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/2/2012	3.3	0.20	0.20	0.30	1.0	3.0	2.9	0.10	4.8	3.2	0.081	1.0	8.0
	8/6/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	9.7	3.2	0.081	1.0	15
	8/16/2012	230	0.20	0.20	0.30	4.3	3.0	1.9	0.10	7.8	3.2	0.081	1.0	8.0
	8/31/2012	700	1.8	0.20	0.30	5.3	6.2	1.9	0.10	12	3.2	0.081	1.0	8.0
	10/2/2012	1.8	0.20	0.20	0.30	1.2	3.0	1.9	0.10	2.2	3.2	0.081	1.0	8.0
	12/13/2012	1.8	#N/A	#N/A	0.50	11	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	4/22/2013	15	0.20	0.20	0.30	77	3.0	1.9	0.10	19	3.2	0.081	1.0	13
	6/19/2013	1.8	0.20	0.20	0.30	5.2	3.0	1.9	0.10	3.8	3.2	0.13	1.0	8.0
	7/19/2013	2.0	0.20	0.20	0.30	8.4	3.0	1.9	0.10	6.4	3.2	0.33	1.0	8.0
	9/17/2013	2.5	0.20	0.20	0.50	2.3	3.0	1.9	0.10	3.0	3.2	1.0	1.0	8.0
	11/20/2013	5.1	0.20	0.20	1.0	1.0	3.0	1.9	0.10	1.0	3.2	1.0	9.8	8.0
	2/13/2014	1.8	0.30	0.20	0.50	1.7	3.0	1.9	0.20	2.0	3.2	1.0	1.0	8.0
	6/17/2014	2.0	0.20	0.20	0.50	1.5	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	9/4/2014	3.2	2.4	0.20	0.50	1.5	3.0	1.9	0.10	3.0	3.2	1.0	1.0	8.0
CS-MW7-LGR	3/20/2012	1.8	0.20	0.20	0.50	1.0	5.0	1.9	0.20	1.0	3.2	0.16	1.0	8.0
	3/20/2012	1.8	0.20	0.20	0.30	1.0	6.0	1.9	0.10	1.0	3.2	0.55	1.0	8.0
	8/2/2012	2.9	0.20	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/6/2012	1.8	0.60	0.20	0.30	1.3	3.0	1.9	0.10	5.2	3.2	0.081	1.0	24
	8/16/2012	1.8	0.20	0.20	0.30	1.2	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/31/2012	1.8	0.20	0.20	0.30	1.2	3.1	1.9	0.10	1.0	3.2	0.081	1.0	9.5
	12/17/2012	#N/A	#N/A	#N/A	0.50	3.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	4/22/2013	1.8	0.20	0.20	0.30	1.7	3.0	1.9	0.10	1.0	3.2	0.24	1.0	13
	6/19/2013	1.8	0.20	0.20	0.30	1.5	3.0	1.9	0.10	1.0	3.2	0.11	1.0	8.0
	7/19/2013	1.8	0.20	0.20	0.30	2.3	3.0	1.9	0.10	1.0	3.2	0.68	1.0	8.0
	9/19/2013	1.8	0.20	0.20	0.50	1.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	9.0
	11/20/2013	4.2	0.20	0.20	1.5	1.0	3.0	1.9	0.10	1.0	3.2	1.0	14	9.0
	2/13/2014	1.8	0.60	0.20	0.50	2.2	3.0	1.9	0.20	1.0	3.2	1.0	1.0	8.0
	6/20/2014	1.8	0.20	0.20	0.50	1.4	3.0	1.9	0.10	1.0	6.1	1.0	1.0	8.0
	9/4/2014	1.8	0.80	0.20	0.50	2.3	3.0	1.9	0.10	4.0	3.2	1.0	1.0	8.0
CS-MW8-LGR	3/20/2012	3.4	0.20	0.20	0.50	1.0	6.0	1.9	0.10	1.0	3.2	0.44	1.0	8.0
	3/20/2012	1.8	0.20	0.20	0.30	1.0	5.6	1.9	0.10	1.0	3.2	0.24	1.0	14
	8/2/2012	3.5	0.20	0.20	0.30	11	15	2.1	0.10	2.9	3.2	0.081	1.0	8.0
	8/6/2012	1.8	0.20	0.20	0.30	1.0	4.1	1.9	0.10	3.7	3.2	0.081	1.0	17
	8/16/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/30/2012	1.8	0.50	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	9/11/2012	#N/A	#N/A	#N/A	0.50	6.0	#N/A	1.9	0.20	#N/A	#N/A	#N/A	#N/A	#N/A
	12/13/2012	#N/A	#N/A	#N/A	0.50	4.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	4/22/2013	1.8	0.20	0.20	0.30	4.4	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	6/19/2013	1.8	0.20	0.20	0.50	1.2	3.0	1.9	0.10	1.0	3.2	0.44	1.0	8.0
	7/19/2013	1.8	0.20	0.20	0.30	1.5	3.0	1.9	0.10	1.0	3.2	0.22	1.0	8.0
	9/17/2013	1.8	0.20	0.20	0.50	1.4	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	11/20/2013	2.3	0.20	0.20	1.3	1.0	3.0	1.9	0.10	1.0	3.2	1.0	13	8.0
	3/6/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	23
	6/17/2014	1.8	0.20	0.20	0.50	1.1	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	9/4/2014	1.8	1.6	0.20	0.50	1.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB01-LGR-09	3/12/2012	1.8	0.20	0.20	0.30	1.1	3.0	1.9	0.10	1.0	3.2	0.081	1.0	34
	3/12/2012	1.8	0.20	0.20	0.30	3.8	3.0	1.9	0.10	1.2	3.2	0.081	1.0	48
	8/3/2012	2.7	0.20	0.20	0.30	1.0	3.0	2.5	0.10	1.0	3.2	0.081	1.0	28
	8/6/2012	1.8	0.20	0.20	0.30	1.4	3.4	1.9	0.10	5.8	3.2	0.081	1.0	46
	8/17/2012	1.8	0.20	0.20	0.30	1.3	3.9	1.9	0.10	1.0	3.2	0.081	1.0	13
	8/30/2012	1.8	0.50	0.20	0.30	1.0	4.5	1.9	0.10	1.0	3.2	0.081	1.0	25
	4/23/2013	1.8	0.20	0.20	0.30	2.2	3.0	1.9	0.10	1.0	3.2	0.48	1.0	35
	6/13/2013	1.8	0.20	0.20	0.30	2.4	4.0	1.9	0.10	1.0	3.2	0.79	1.0	8.0
	7/22/2013	1.8	0.20	0.20	0.30	3.4	3.0	1.9	0.10	1.0	3.2	0.37	1.0	27
	9/23/2013	1.8	0.20	0.20	0.50	2.7	3.0	1.9	0.10	1.0	3.2	1.0	1.0	17
	12/4/2013	1.8	0.20	0.20	0.50	1.5	3.0	1.9	0.10	3.0	3.2	1.0	2.7	10
	3/20/2014	1.8	0.20	0.20	0.50	1.7	6.0	1.9	0.10	1.0	3.2	1.0	1.0	22
	6/25/2014	1.8	0.20	0.20	0.50	2.1	3.0	1.9	0.10	1.0	3.2	1.0	1.0	26
	9/11/2014	1.8	1.0	0.20	0.50	2.1	3.0	1.9	0.10	1.0	3.2	1.0	1.0	19
CS-WB02-LGR-09	3/12/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	14
	3/12/2012	1.8	0.20	0.20	0.30	2.4	3.0	1.9	0.10	1.0	3.2	0.081	1.0	14
	8/3/2012	2.6	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	14
	8/6/2012	1.8	0.20	0.20	0.30	83	3.9	1.9	0.10	38	3.2	0.081	1.0	31
	8/17/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	9.6
	8/30/2012	1.8	0.90	0.20	0.30	1.0	4.0	1.9	0.10	1.0	3.2	0.081	1.0	10

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	4/29/2013	1.8	0.20	0.20	0.30	**1.5**	3.0	1.9	0.10	1.0	3.2	**1.2**	1.0	**9.0**
	6/12/2013	1.8	0.20	0.20	0.30	**4.3**	3.0	1.9	0.10	**1.5**	3.2	**0.96**	1.0	8.0
	7/22/2013	1.8	0.20	0.20	0.30	**3.3**	3.0	1.9	0.10	1.0	3.2	**0.69**	1.0	**13**
	9/18/2013	**2.2**	0.20	0.20	0.50	**2.7**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**9.0**
	12/4/2013	1.8	0.20	0.20	0.50	**1.4**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	3/19/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	6/24/2014	1.8	0.20	0.20	0.50	**3.4**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	9/11/2014	1.8	**1.1**	0.20	0.50	**1.7**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB03-LGR-09	3/13/2012	1.8	0.20	0.20	0.30	**3.6**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**17**
	3/13/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**30**
	8/2/2012	**3.0**	0.20	0.20	0.30	1.0	3.0	**2.5**	0.10	1.0	3.2	0.081	1.0	**18**
	8/6/2012	1.8	0.20	0.20	0.30	**1.6**	**3.4**	1.9	0.10	**24**	3.2	0.081	1.0	**28**
	8/16/2012	1.8	**0.40**	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**8.5**
	8/30/2012	1.8	**0.70**	0.20	0.30	1.0	**3.7**	1.9	0.10	1.0	3.2	0.081	1.0	**8.3**
	4/23/2013	1.8	0.20	0.20	0.30	**1.7**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**13**
	6/12/2013	1.8	0.20	0.20	0.30	**5.8**	3.0	1.9	0.10	**2.8**	3.2	**0.53**	1.0	**14**
	7/22/2013	1.8	0.20	0.20	0.30	**2.8**	3.0	1.9	0.10	1.0	3.2	**0.23**	1.0	**15**
	9/18/2013	1.8	0.20	0.20	0.50	**7.3**	3.0	1.9	0.10	**4.0**	3.2	1.0	1.0	**15**
	12/4/2013	1.8	0.20	0.20	0.50	**1.4**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**10**
	3/17/2014	1.8	0.20	0.20	0.50	**1.7**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	6/24/2014	1.8	0.20	0.20	0.50	**3.0**	**4.0**	1.9	0.10	**2.0**	3.2	1.0	1.0	**16**
	9/10/2014	1.8	0.20	0.20	0.50	**1.3**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB04-LGR-11	3/13/2012	1.8	0.20	0.20	0.30	**2.4**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**33**
	3/13/2012	1.8	0.20	0.20	0.30	**1.2**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**28**
	8/2/2012	**3.5**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**16**
	8/6/2012	1.8	0.20	0.20	0.30	1.0	**3.1**	1.9	0.10	**6.7**	3.2	0.081	1.0	**30**
	8/16/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**11**
	8/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	**2.6**	0.10	1.0	3.2	0.081	1.0	8.0
	10/2/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.29**	1.0	**15**
	4/24/2013	1.8	0.20	0.20	0.30	**1.6**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**21**
	6/20/2013	1.8	0.20	0.20	0.30	**2.4**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/22/2013	1.8	0.20	0.20	0.30	**4.0**	3.0	1.9	0.10	**1.3**	3.2	**0.45**	1.0	8.0
	9/23/2013	**2.2**	0.20	0.20	0.50	**1.8**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**18**
	12/2/2013	1.8	0.20	0.20	0.50	**4.0**	3.0	1.9	0.10	1.0	**4.4**	1.0	1.0	8.0
	3/6/2014	1.8	0.20	0.20	0.50	**2.2**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	**820**
	6/25/2014	1.8	0.20	0.20	0.50	**2.5**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**14**
	9/10/2014	1.8	**1.4**	0.20	0.50	**2.0**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**13**

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.
Red text indicates dissolved metals analysis.
Black text indicates total metals analysis.
#N/A indicates that the metal was not tested.

Table 7.6 ISCO Treatability Study Performance Monitoring Well Metals Analytical Results

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
PZ-01	7/20/2012	3.1	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	4.4	1.9	0.10	1.0	3.2	0.081	1.0	12
	4/16/2013	1.8	1.7	0.20	0.30	1.4	3.0	1.9	0.10	1.0	3.2	0.28	1.0	41
	6/19/2013	2.5	0.20	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.081	1.0	14
	7/23/2013	2.3	0.30	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.30	1.0	30
	9/17/2013	2.9	0.20	0.20	0.50	1.2	3.0	1.9	0.10	1.0	3.2	1.0	1.0	24
	11/18/2013	2.8	0.20	0.30	2.2	1.7	6.0	1.9	0.10	2.0	3.2	2.0	1.0	78
	2/10/2014	1.8	1.0	0.20	0.50	1.1	3.0	1.9	0.20	1.0	3.2	1.0	1.0	35
	5/14/2014	2.6	0.60	0.20	0.50	3.3	5.0	1.9	0.10	1.0	3.2	1.0	1.0	70
	8/6/2014	3.0	0.30	0.20	0.50	1.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	71
PZ-02	7/20/2012	2.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.2	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/16/2013	1.8	0.40	0.20	0.30	30	3.0	1.9	0.10	1.2	3.2	0.20	1.0	8.0
	6/19/2013	1.9	0.20	0.20	0.30	84	3.0	1.9	0.10	1.0	3.2	0.72	1.0	8.0
	7/23/2013	3.8	4.7	0.40	0.30	93	12	1.9	0.10	6.3	3.2	1.8	1.0	16
	11/18/2013	4.0	0.20	0.20	16	150	3.0	1.9	0.10	2.0	3.2	2.0	1.0	10
	2/10/2014	3.1	4.4	0.80	0.50	170	9.0	1.9	0.20	10	3.2	2.0	1.0	34
	5/14/2014	7.3	11	2.0	0.50	250	17	4.1	0.30	21	3.2	1.0	1.1	45
	8/6/2014	6.8	7.2	0.90	0.50	270	8.0	1.9	0.10	10	3.2	1.0	1.0	33
PZ-05	7/20/2012	3.7	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.74	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.9	1.9	0.10	1.0	3.2	0.12	1.0	8.0
	4/16/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.72	1.0	8.0
	6/19/2013	1.8	0.20	0.20	0.30	5.0	3.0	1.9	0.10	1.0	3.2	0.18	1.0	8.0
	7/23/2013	1.8	0.20	0.20	0.30	2.5	3.0	1.9	0.10	1.0	3.2	0.35	1.0	8.0
	9/17/2013	2.1	1.0	0.20	0.50	3.6	3.0	1.9	0.10	1.0	3.2	1.0	1.0	24
	11/18/2013	2.3	0.20	0.20	3.4	4.3	3.0	1.9	0.10	1.0	3.2	1.0	1.0	9.0
	2/10/2014	1.8	0.40	0.20	0.50	5.4	4.0	1.9	0.10	1.0	3.2	1.0	1.0	24
	5/14/2014	1.8	0.20	0.20	0.50	5.8	3.0	1.9	0.10	1.0	3.2	1.0	3.0	10
	8/6/2014	5.3	0.40	0.20	0.50	2.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	22
PZ-06	7/20/2012	1.8	0.20	0.20	0.30	1.4	4.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	4.1	1.9	0.10	2.3	3.2	0.081	1.0	8.0
	4/16/2013	2.5	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.98	1.0	8.0
	6/19/2013	1.8	0.20	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/23/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.73	1.0	8.0
	9/17/2013	2.2	0.20	0.20	0.50	1.3	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	11/18/2013	1.8	0.20	0.20	2.9	1.2	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
	2/10/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.20	1.0	3.2	1.0	1.0	8.0
	5/14/2014	1.9	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.7	8.0
	8/6/2014	2.6	0.30	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
TSW-01	7/18/2012	1.8	1.5	0.20	0.30	3.1	3.0	1.9	0.20	10	3.2	1.1	1.0	14
	7/18/2012	1.8	0.20	0.20	0.30	1.0	5.2	1.9	0.20	6.6	3.2	0.44	1.9	8.0
	8/30/2012	1.8	1.2	0.20	0.30	1.0	5.3	1.9	0.10	1.4	3.2	0.081	1.0	11
	9/28/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.66	1.0	8.0
	10/1/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.43	1.0	12
	4/16/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.72	1.0	8.0
	6/19/2013	1.8	0.20	0.20	0.30	3.6	3.0	1.9	0.10	2.4	3.2	0.82	1.0	8.0
	7/23/2013	1.8	3.7	0.20	0.30	3.1	8.0	1.9	0.10	5.3	3.2	2.5	1.0	8.0
	9/17/2013	2.2	3.4	0.20	0.50	2.4	5.0	1.9	0.10	3.0	3.2	3.0	1.0	8.0
	11/18/2013	1.8	0.20	0.20	14	5.4	3.0	1.9	0.10	5.0	3.2	1.0	1.0	8.0
	2/10/2014	1.8	0.60	0.20	0.50	2.5	3.0	1.9	0.30	2.0	3.2	1.0	1.0	8.0
	5/14/2014	1.8	0.20	0.20	0.50	3.4	4.0	1.9	0.10	3.0	3.2	1.0	1.0	8.0
	8/6/2014	2.6	2.4	0.20	0.50	1.1	3.0	1.9	0.10	2.0	3.2	1.0	1.0	8.0
TSW-03	7/20/2012	1.8	0.20	0.20	0.30	3.4	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	2.1	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/30/2012	3.6	11	0.20	0.30	95	3.0	1.9	0.50	20	3.2	3.8	1.0	18
	10/1/2012	1.9	12	0.20	0.30	150	3.0	1.9	1.1	7.6	3.2	3.0	1.0	31
	1/9/2013	6.3	17	0.20	0.30	390	3.0	1.9	4.0	6.7	15	4.2	1.0	49
	4/16/2013	5.8	34	0.20	0.30	360	3.0	1.9	1.4	7.4	23	0.081	1.0	8.0
	6/19/2013	3.8	47	0.20	0.30	340	3.0	1.9	1.2	2.6	17	2.9	1.0	8.0
	7/23/2013	5.8	63	0.20	0.30	390	5.0	1.9	3.0	3.6	22	3.9	1.0	8.0
	9/17/2013	7.5	200	0.20	0.50	540	3.0	1.9	5.1	4.0	23	2.0	1.0	8.0
	11/18/2013	9.8	77	0.20	78	870	3.0	1.9	1.8	3.0	30	2.0	1.0	15
	2/10/2014	6.7	76	0.20	0.50	600	4.0	1.9	2.6	7.0	3.2	3.0	1.0	17
	5/14/2014	13	56	0.20	0.50	770	4.0	1.9	2.8	9.0	37	1.0	1.0	19
	8/6/2014	12	60	0.20	5.1	750	4.0	1.9	1.6	9.0	34	1.0	1.0	19
TSW-04	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.6	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	4.7	1.9	0.10	2.4	3.2	0.081	1.0	8.0
	8/30/2012	2.3	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.1	5.9	0.081	1.0	8.0
	4/16/2013	2.0	9.7	0.20	0.30	89	3.0	1.9	0.10	31	3.2	1.8	1.0	23
	6/19/2013	2.2	16	0.20	0.30	180	3.0	1.9	0.40	9.5	3.2	3.5	1.0	8.0
	7/23/2013	4.5	27	0.20	0.30	250	13	1.9	0.90	30	6.8	3.1	1.0	14
	9/17/2013	3.0	24	0.20	0.50	63	8.0	1.9	0.10	75	6.6	4.0	1.0	11
	11/18/2013	12	0.20	0.20	87	1,400	3.0	1.9	1.7	15	36	3.0	1.0	8.0
	2/10/2014	16	910	1.1	0.50	1,200	3.0	1.9	1.7	1.0	3.2	3.0	1.0	8.0
	5/14/2014	17	330	0.20	0.50	1,300	3.0	1.9	1.7	5.0	41	1.0	1.0	10
	8/6/2014	11	1,200	0.80	0.50	1,100	3.0	1.9	1.3	1.0	36	2.0	1.0	11
TSW-05	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	5.6	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	7.7	3.2	0.45	1.0	36
	8/14/2012	1.8	0.20	0.20	0.30	1.6	6.7	2.9	0.10	4.2	3.2	0.081	1.0	620
	8/30/2012	1.8	0.30	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	15
	4/18/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.62	1.0	8.0
	6/19/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	7/23/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.74**	1.0	8.0
	9/17/2013	1.8	0.20	0.20	0.50	**1.4**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	11/18/2013	1.8	0.20	0.20	**2.9**	1.0	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0
	2/10/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	5/14/2014	1.8	0.20	0.20	0.50	**4.5**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**17**
	8/6/2014	**2.0**	**0.50**	0.20	0.50	1.0	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	**19**
TSW-07	7/20/2012	1.8	0.20	0.20	0.30	**2.1**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	8/30/2012	1.8	**0.40**	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/16/2013	1.8	0.20	0.20	0.30	**1.5**	3.0	**2.2**	0.10	1.0	3.2	0.081	1.0	**18**
	6/19/2013	1.8	**0.80**	0.20	0.30	**29**	3.0	1.9	0.10	1.0	3.2	**1.3**	1.0	8.0
	7/23/2013	**2.4**	**8.5**	0.20	0.30	**62**	**11**	1.9	**0.90**	**5.9**	3.2	**4.0**	1.0	**31**
	9/17/2013	1.8	**2.2**	0.20	0.50	**16**	**4.0**	**3.0**	**0.50**	**2.0**	3.2	1.0	1.0	**29**
	11/18/2013	**3.0**	0.20	**0.30**	**40**	**140**	3.0	1.9	**5.8**	**7.0**	**7.3**	**6.0**	1.0	**35**
	2/10/2014	**2.4**	**9.5**	0.20	0.50	**330**	**4.0**	1.9	**5.6**	**3.0**	3.2	**4.0**	1.0	**17**
	5/14/2014	**9.3**	**14**	**0.30**	0.50	**610**	**6.0**	1.9	**4.1**	**12**	3.2	**2.0**	1.0	**24**
	8/6/2014	**11**	**12**	0.20	0.50	**630**	**4.0**	1.9	**6.3**	**2.0**	3.2	**2.0**	1.0	**75**
VEW-15	7/18/2012	**1.9**	**0.40**	**0.40**	**0.93**	**5.3**	**8.0**	**5.8**	0.20	**3.8**	3.2	**0.93**	1.0	**9,800**
	7/18/2012	1.8	0.20	0.20	0.30	1.0	**4.1**	1.9	0.20	**3.2**	3.2	0.081	1.0	**3,800**
	8/14/2012	1.8	0.20	0.20	**0.50**	**15**	**6.2**	1.9	0.10	**9.0**	3.2	0.081	1.0	**2,500**
	8/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**2,100**
	10/1/2012	1.8	0.20	0.20	**0.40**	1.0	3.0	1.9	0.10	1.0	3.2	**0.17**	1.0	**2,200**
	1/9/2013	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	**1,100**
	4/17/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.39**	1.0	**1,900**
	6/19/2013	1.8	0.20	0.20	**0.40**	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**1,600**
	7/23/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.3**	3.2	**0.76**	1.0	**2,300**
	9/17/2013	1.8	0.20	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**2,600**
	11/18/2013	**3.2**	0.20	0.20	**2.2**	1.0	3.0	1.9	0.10	**2.0**	3.2	**2.0**	1.0	**1,800**
	2/10/2014	1.8	0.20	0.20	0.50	1.0	3.0	1.9	**0.20**	1.0	3.2	1.0	1.0	**1,600**
	5/14/2014	1.8	0.20	0.20	0.50	**1.3**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**1,300**
	8/6/2014	1.8	**0.60**	0.20	0.50	1.0	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	**1,800**
VEW-19	7/18/2012	**2.1**	0.20	0.20	0.30	**1.1**	3.0	1.9	0.20	1.0	3.2	**0.21**	1.0	**57**
	7/18/2012	**2.8**	0.20	0.20	0.30	1.0	**4.3**	1.9	0.20	1.0	3.2	**0.61**	**2.0**	**42**
	8/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	**3.7**	0.081	1.0	**70**
	4/16/2013	1.8	**0.80**	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.30**	1.0	**54**
	6/19/2013	1.8	**450**	**0.40**	0.30	**130**	**64**	1.9	0.10	1.0	**38**	**0.94**	1.0	**160**
	7/23/2013	1.8	**250**	0.20	0.30	**110**	**33**	1.9	0.10	**1.2**	**40**	**0.63**	1.0	**220**
	9/17/2013	**2.2**	**53**	0.20	0.50	**41**	**16**	1.9	0.10	**2.0**	**26**	1.0	1.0	**110**
	11/18/2013	1.8	0.20	0.20	**13**	**5.6**	**7.0**	1.9	0.10	**3.0**	3.2	**2.0**	1.0	**75**
	2/10/2014	1.8	**14**	**0.80**	0.50	**16**	**30**	1.9	**0.30**	**4.0**	3.2	1.0	1.0	**390**
	8/6/2014	1.8	**14**	**1.4**	0.50	**14**	**45**	**6.5**	0.10	**8.0**	3.2	1.0	1.0	**780**
VEW-25	7/18/2012	1.8	**5.9**	0.20	0.30	**11**	3.0	1.9	0.20	**12**	3.2	**18**	1.0	8.0
	7/18/2012	1.8	0.20	0.20	0.30	1.0	**3.9**	1.9	0.20	1.0	3.2	**0.24**	1.0	8.0
	6/19/2013	**3.2**	**78**	0.20	0.30	**180**	**14**	1.9	**3.2**	**1.7**	3.2	**5.1**	1.0	8.0
	7/23/2013	**2.1**	**320**	**5.0**	0.30	**260**	**190**	**14**	**3.9**	**80**	3.2	**17**	1.0	**430**
	9/17/2013	**2.9**	**130**	**6.8**	0.50	**170**	**110**	**43**	**1.4**	**100**	3.2	**6.0**	1.0	**720**
	11/18/2013	**3.1**	**11**	**1.7**	**76**	**52**	**18**	1.9	**0.90**	**32**	**3.6**	**14**	1.0	**250**
	2/10/2014	1.8	**30**	**5.7**	0.50	**40**	**52**	**4.9**	**1.1**	**60**	3.2	**21**	1.0	**620**
	5/14/2014	1.8	**39**	**5.1**	0.50	**69**	**53**	**17**	**0.70**	**62**	3.2	**7.0**	1.0	**460**
	8/6/2014	1.8	**17**	**3.5**	0.50	**36**	**27**	**6.4**	**0.70**	**27**	3.2	**5.0**	1.0	**520**
VEW-27	7/18/2012	**2.4**	**1.2**	0.20	0.30	**1.6**	**4.0**	1.9	0.20	1.0	3.2	**1.2**	1.0	8.0
	7/18/2012	1.8	**0.70**	0.20	0.30	1.0	**3.5**	1.9	0.20	1.0	3.2	**0.11**	1.0	8.0
	8/30/2012	1.8	0.20	0.20	0.30	1.0	**3.7**	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	9/28/2012	1.8	0.20	0.20	**0.40**	1.0	3.0	1.9	0.10	1.0	3.2	**0.69**	1.0	8.0
	4/16/2013	1.8	**0.50**	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.24**	1.0	8.0
	6/19/2013	1.8	**560**	**0.30**	0.30	**190**	**4.0**	1.9	0.10	1.0	**31**	**0.79**	1.0	8.0
	7/23/2013	**2.9**	**210**	0.20	0.30	**240**	**9.0**	1.9	0.10	**1.3**	**40**	**1.1**	1.0	8.0
	9/17/2013	**3.2**	**62**	0.20	0.50	**120**	3.0	1.9	0.10	**2.0**	**33**	1.0	1.0	**11**
	11/18/2013	**8.9**	0.20	0.20	**72**	**110**	3.0	1.9	0.10	**5.0**	**22**	1.0	1.0	**11**
	2/10/2014	1.8	**21**	0.20	0.50	**46**	3.0	1.9	**0.20**	**2.0**	3.2	**2.0**	1.0	8.0
	5/14/2014	1.8	**25**	**0.30**	0.50	**23**	3.0	1.9	0.10	**19**	3.2	1.0	1.0	**12**
	8/6/2014	**3.1**	**27**	**0.40**	0.50	**13**	3.0	1.9	0.10	**41**	**5.9**	1.0	1.0	**15**
VEW-32	7/18/2012	1.8	0.20	0.20	0.30	**1.6**	**4.0**	1.9	0.20	1.0	3.2	**0.66**	1.0	8.0
	7/18/2012	**2.6**	0.20	0.20	0.30	1.0	**6.6**	1.9	0.20	1.0	3.2	**0.12**	1.0	8.0
	8/14/2012	1.8	0.20	0.20	0.30	1.0	**7.1**	**7.4**	0.10	**1.8**	3.2	0.081	1.0	**13**
	8/30/2012	1.8	**0.40**	0.20	0.30	1.0	**5.5**	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	9/28/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.11**	1.0	**15**
	4/18/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**0.48**	1.0	**12**
	6/19/2013	1.8	0.20	0.20	0.30	**1.2**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/23/2013	1.8	0.20	0.20	0.30	**3.9**	**5.0**	1.9	0.10	**1.7**	3.2	**0.26**	1.0	**51**
	9/17/2013	**2.0**	0.20	0.20	0.50	**1.8**	**4.0**	1.9	0.10	1.0	3.2	1.0	1.0	**50**
	11/18/2013	1.8	0.20	0.20	**0.80**	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**22**
	2/10/2014	1.8	0.20	0.20	0.50	**1.1**	3.0	1.9	**0.20**	1.0	3.2	1.0	1.0	**23**
	5/14/2014	1.8	0.20	0.20	0.50	**4.0**	3.0	1.9	0.10	1.0	3.2	**2.0**	1.0	**20**
	8/6/2014	**2.4**	**0.60**	0.20	0.50	1.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**28**
CS-WB01-LGR-01	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**2.2**	3.2	**0.21**	1.0	8.0
	7/31/2012	1.8	0.20	0.20	0.30	**1.6**	3.0	1.9	0.10	**14**	3.2	0.081	1.0	**23**
	4/29/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.6**	3.2	**0.18**	1.0	8.0
	6/13/2013	1.8	0.20	0.20	0.30	**19**	3.0	1.9	0.10	**13**	3.2	**0.39**	1.0	8.0
	7/22/2013	1.8	0.20	0.20	0.30	**3.0**	3.0	1.9	0.10	**1.2**	3.2	0.081	1.0	8.0
	9/23/2013	1.8	0.20	0.20	0.50	**1.8**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0
	12/4/2013	1.8	0.20	0.20	0.50	**3.5**	3.0	1.9	0.10	**4.0**	3.2	1.0	1.0	8.0
	3/20/2014	1.8	0.20	0.20	0.50	**1.5**	3.0	1.9	0.10	**2.0**	**3.8**	**2.0**	1.0	8.0
	6/25/2014	1.8	0.20	0.20	0.50	**3.9**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	9/11/2014	1.8	**1.8**	0.20	0.50	**1.2**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	8.0
CS-WB02-LGR-01	7/30/2012	1.8	0.20	0.20	0.30	**13**	3.0	1.9	0.10	**9.2**	3.2	0.081	1.0	8.0
	7/30/2012	1.8	0.20	0.20	0.30	**1.4**	3.0	1.9	0.10	**1.9**	3.2	0.081	1.0	8.0
	4/30/2013	**4.1**	**4.9**	0.20	0.30	**170**	3.0	1.9	0.10	**3.0**	3.2	**0.53**	1.0	**23**
	6/12/2013	**3.1**	**5.9**	0.20	0.30	**140**	3.0	1.9	0.10	**3.1**	3.2	**2.4**	1.0	**16**
	7/22/2013	1.8	**4.8**	0.20	0.30	**140**	3.0	1.9	0.10	**3.1**	3.2	**1.9**	1.0	**17**
	9/18/2013	**4.6**	**3.2**	0.20	0.50	**200**	**4.0**	1.9	0.10	**5.0**	3.2	1.0	1.0	**18**
	12/4/2013	**4.7**	0.20	0.20	0.50	**440**	3.0	1.9	0.10	**5.0**	**6.7**	**2.0**	1.0	**12**
	6/24/2014	**7.6**	**2.0**	0.20	0.50	**450**	**4.0**	1.9	0.10	**4.0**	3.2	1.0	1.0	**9.0**
CS-WB03-LGR-01	7/24/2012	**4.4**	0.20	0.20	0.30	**2.1**	3.0	1.9	0.10	**2.8**	3.2	0.081	1.0	8.0
	7/24/2012	**3.3**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.9**	3.2	0.081	1.0	8.0
	12/4/2013	1.8	0.20	0.20	0.50	**6.4**	3.0	1.9	0.10	**7.0**	**3.5**	1.0	**2.5**	8.0
	3/17/2014	1.8	0.20	0.20	0.50	**3.0**	3.0	1.9	0.10	**3.0**	3.2	**2.0**	1.0	8.0
	6/24/2014	1.8	0.20	0.20	0.50	**3.5**	3.0	1.9	0.10	**4.0**	3.2	1.0	1.0	8.0
CS-WB03-UGR-01	7/24/2012	**5.1**	0.20	0.20	0.30	**3.0**	3.0	1.9	0.10	**2.0**	3.2	**0.69**	1.0	**62**
	7/24/2012	**3.3**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	**5.7**	**0.40**	1.0	**9.0**
	8/30/2012	**2.7**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	**5.7**	0.081	**1.4**	8.0
	4/22/2013	1.8	0.20	0.20	0.30	**1.7**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**19**
	6/12/2013	1.8	0.20	0.20	0.30	**19**	3.0	1.9	0.10	**11**	3.2	**0.43**	1.0	8.0
	7/22/2013	1.8	0.20	0.20	0.30	**3.8**	3.0	1.9	0.10	**2.2**	3.2	**0.28**	1.0	8.0
	9/18/2013	**1.9**	0.20	0.20	0.50	**5.1**	3.0	1.9	0.10	**3.0**	3.2	1.0	1.0	**19**
	12/4/2013	1.8	0.20	0.20	0.50	**2.8**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	3/17/2014	1.8	0.20	0.20	0.50	**5.0**	**10**	1.9	0.10	**4.0**	3.2	**2.0**	1.0	**9.0**
	6/24/2014	1.8	0.20	0.20	0.50	**1.6**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	9/10/2014	1.8	**1.4**	0.20	0.50	**1.6**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.
Red text indicates dissolved metals analysis.
Black text indicates total metals analysis.
#N/A indicates that the metal was not tested.

Table 7.7 ISCO Treatability Study Regulatory Monitoring
Well Anion Results

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
LS-5	3/7/2012	**11**	**23**
	8/3/2012	**12**	**22**
	8/6/2012	**11**	**23**
	8/16/2012	**11**	**22**
	8/30/2012	**11**	**21**
	4/23/2013	**11**	**22**
	6/19/2013	**13**	**21**
	7/19/2013	**12**	**23**
	9/17/2013	**11**	**21**
	12/9/2013	**12**	**22**
	3/5/2014	**12**	**19**
	6/2/2014	**11**	**20**
	9/3/2014	**11**	**20**
LS-6	3/7/2012	**13**	**20**
	8/3/2012	**12**	**20**
	8/6/2012	**12**	**20**
	8/16/2012	**12**	**22**
	8/30/2012	**12**	**20**
	4/23/2013	**11**	**22**
	6/19/2013	**13**	**17**
	7/19/2013	**11**	**19**
	9/17/2013	**12**	**20**
	12/9/2013	**12**	**20**
	3/5/2014	**12**	**18**
	6/2/2014	**11**	**17**
	9/3/2014	**11**	**17**
LS-7	3/7/2012	**9.0**	**17**
	8/3/2012	**9.0**	**17**
	8/6/2012	**8.8**	**16**
	8/16/2012	**8.7**	**15**
	8/30/2012	**8.9**	**16**
	4/23/2013	**8.2**	**15**
	6/19/2013	**9.9**	**16**
	7/19/2013	**11**	**15**
	9/17/2013	**8.2**	**15**
	12/9/2013	**9.1**	**16**
	3/5/2014	**9.2**	**14**
	6/2/2014	**8.7**	**15**
	9/3/2014	**8.7**	**15**
OFR-3	3/8/2012	**11**	**14**
	8/3/2012	**11**	**15**
	8/6/2012	**11**	**14**
	8/16/2012	**11**	**14**
	8/30/2012	**11**	**15**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	4/23/2013	**10**	**15**
RFR-10	3/8/2012	**14**	**17**
	8/3/2012	**18**	**54**
	8/6/2012	**16**	**15**
	8/16/2012	**16**	**15**
	8/30/2012	**16**	**25**
	4/23/2013	**16**	**27**
	6/19/2013	**16**	**16**
	7/19/2013	**17**	**46**
	9/17/2013	**15**	**15**
	12/9/2013	**15**	**17**
	3/5/2014	**16**	**14**
	6/2/2014	**15**	**14**
	9/3/2014	**15**	**15**
RFR-11	3/8/2012	**12**	**24**
	8/3/2012	**11**	**17**
	8/6/2012	**11**	**21**
	8/16/2012	**11**	**18**
	8/30/2012	**11**	**18**
	4/23/2013	**11**	**18**
	6/19/2013	**13**	**22**
	7/19/2013	**11**	**18**
	9/17/2013	**19**	**22**
	12/9/2013	**12**	**17**
	3/5/2014	**12**	**18**
	6/2/2014	**12**	**21**
	9/3/2014	**11**	**16**
CS-MW36-LGR	3/19/2012	**15**	**16**
	8/2/2012	**14**	**19**
	8/6/2012	**13**	**21**
	8/16/2012	**13**	**21**
	8/30/2012	**14**	**23**
	4/22/2013	**13**	**20**
	6/19/2013	**17**	**16**
	7/19/2013	**17**	**18**
	9/17/2013	**13**	**20**
	12/2/2013	**16**	**15**
	3/6/2014	**14**	**19**
	6/17/2014	**15**	**12**
	9/9/2014	**14**	**18**
CS-MW6-LGR	3/20/2012	**12**	**16**
	8/2/2012	**10**	**17**
	8/6/2012	**10**	**17**
	8/16/2012	**10**	**17**
	8/31/2012	**9.8**	**18**
	10/2/2012	**12**	**16**
	4/22/2013	**9.9**	**18**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	6/19/2013	**11**	**17**
	7/19/2013	**15**	**18**
	9/17/2013	**9.7**	**18**
	11/20/2013	**10**	**19**
	2/13/2014	**22**	**7.7**
	6/17/2014	**9.6**	**17**
	9/4/2014	**9.9**	**17**
CS-MW7-LGR	3/20/2012	**19**	**8.2**
	8/2/2012	**19**	**8.0**
	8/6/2012	**19**	**7.9**
	8/16/2012	**19**	**8.0**
	8/31/2012	**19**	**8.0**
	4/22/2013	**19**	**8.4**
	6/19/2013	**22**	**9.0**
	7/19/2013	**32**	**9.6**
	9/19/2013	**20**	**11**
	11/20/2013	**20**	**8.7**
	2/13/2014	**22**	**7.7**
	6/20/2014	**20**	**8.2**
	9/4/2014	**20**	**8.1**
CS-MW8-LGR	3/20/2012	**18**	**9.1**
	8/2/2012	**19**	**9.2**
	8/6/2012	**18**	**9.3**
	8/16/2012	**18**	**9.4**
	8/30/2012	**18**	**9.7**
	4/22/2013	**17**	**9.8**
	6/19/2013	**20**	**9.7**
	7/19/2013	**21**	**9.3**
	9/17/2013	**17**	**10**
	11/20/2013	**18**	**9.7**
	3/6/2014	**18**	**9.0**
	6/17/2014	**17**	**9.0**
	9/4/2014	**18**	**9.8**
CS-WB01-LGR-09	3/12/2012	**12**	**15**
	8/3/2012	**13**	**16**
	8/6/2012	**12**	**14**
	8/17/2012	**12**	**15**
	8/30/2012	**12**	**15**
	4/23/2013	**13**	**14**
	6/13/2013	**14**	**22**
	7/22/2013	**13**	**14**
	9/23/2013	**12**	**20**
	12/4/2013	**13**	**16**
	3/20/2014	**13**	**15**
	6/25/2014	**12**	**15**
	9/11/2014	**13**	**15**
CS-WB02-LGR-09	3/12/2012	**14**	**15**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	8/3/2012	**14**	**16**
	8/6/2012	**13**	**15**
	8/17/2012	**13**	**15**
	8/30/2012	**13**	**15**
	4/29/2013	**14**	**15**
	6/12/2013	**14**	**16**
	7/22/2013	**13**	**16**
	9/18/2013	**13**	**17**
	12/4/2013	**14**	**17**
	3/19/2014	**13**	**16**
	6/24/2014	**13**	**16**
	9/11/2014	**13**	**16**
CS-WB03-LGR-09	3/13/2012	**14**	**15**
	8/2/2012	**13**	**19**
	8/6/2012	**13**	**18**
	8/16/2012	**13**	**17**
	8/30/2012	**13**	**19**
	4/23/2013	**12**	**19**
	6/12/2013	**18**	**15**
	7/22/2013	**14**	**20**
	9/18/2013	**12**	**19**
	12/4/2013	**12**	**22**
	3/17/2014	**12**	**20**
	6/24/2014	**14**	**17**
	9/10/2014	**13**	**17**
CS-WB04-LGR-11	3/13/2012	**13**	**14**
	8/2/2012	**13**	**14**
	8/6/2012	**12**	**14**
	8/16/2012	**12**	**13**
	8/30/2012	**13**	**14**
	4/24/2013	**13**	**14**
	6/20/2013	**14**	**15**
	7/22/2013	**13**	**14**
	9/23/2013	**12**	**15**
	12/2/2013	**13**	**15**
	3/6/2014	**18**	**7.6**
	6/25/2014	**12**	**14**
	9/10/2014	**13**	**14**

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

Table 7.8 ISCO Treatability Study Performance Monitoring
Well Anion Results

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
PZ-01	7/20/2012	**14**	**18**
	4/16/2013	**13**	**19**
	6/19/2013	**15**	**18**
	7/23/2013	**15**	**30**
	9/17/2013	**13**	**20**
	11/18/2013	**15**	**18**
	2/10/2014	**14**	**19**
	5/14/2014	**13**	**17**
	8/6/2014	**13**	**18**
PZ-02	7/20/2012	**23**	**20**
	4/16/2013	**51**	**56**
	6/19/2013	**63**	**330**
	7/23/2013	**66**	5.2
	11/18/2013	**54**	**860**
	2/10/2014	**63**	**1,200**
	5/14/2014	**73**	**1,700**
	8/6/2014	**61**	**2,100**
PZ-05	7/20/2012	**20**	**19**
	4/16/2013	**19**	**19**
	6/19/2013	**23**	**63**
	7/23/2013	**22**	**27**
	9/17/2013	**17**	**51**
	11/18/2013	**17**	**63**
	2/10/2014	**19**	**84**
	5/14/2014	**18**	**52**
	8/6/2014	**19**	**35**
PZ-06	7/20/2012	**6.2**	**19**
	4/16/2013	**4.6**	**17**
	6/19/2013	**4.7**	**12**
	7/23/2013	**5.2**	**43**
	9/17/2013	**4.8**	**25**
	11/18/2013	**3.8**	**14**
	2/10/2014	**5.1**	**43**
	5/14/2014	**5.1**	**31**
	8/6/2014	**4.5**	**17**
TSW-01	7/18/2012	**15**	**240**
	8/30/2012	**14**	**140**
	9/28/2012	**14**	**100**
	10/1/2012	**12**	**88**
	4/16/2013	**10**	**67**
	6/19/2013	**24**	**560**
	7/23/2013	**31**	**820**
	9/17/2013	**31**	**800**
	11/18/2013	**29**	**990**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	2/10/2014	**24**	**690**
	5/14/2014	**20**	**580**
	8/6/2014	**21**	**470**
TSW-03	7/20/2012	**3.9**	**17**
	8/30/2012	**55**	**1,400**
	10/1/2012	**47**	**2,000**
	1/9/2013	**100**	**6,600**
	4/16/2013	**120**	**7,600**
	6/19/2013	**120**	**7,100**
	7/23/2013	**150**	**9,300**
	9/17/2013	**120**	**15,000**
	11/18/2013	**110**	**14,000**
	2/10/2014	**110**	**12,000**
	5/14/2014	**100**	**11,000**
	8/6/2014	**95**	**12,000**
TSW-04	7/20/2012	**7.1**	**25**
	8/30/2012	**13**	**49**
	4/16/2013	**76**	**5,000**
	6/19/2013	**130**	**6,800**
	7/23/2013	**120**	**8,600**
	9/17/2013	**98**	**8,700**
	11/18/2013	**110**	**24,000**
	2/10/2014	**150**	**21,000**
	5/14/2014	**140**	**23,000**
	8/6/2014	**120**	**19,000**
TSW-05	7/20/2012	**8.4**	**160**
	8/14/2012	**6.9**	**58**
	8/30/2012	**7.0**	**61**
	10/1/2012	**6.2**	**43**
	4/18/2013	**6.5**	**29**
	6/19/2013	**5.7**	**22**
	7/23/2013	**6.7**	**36**
	9/17/2013	**5.4**	**45**
	11/18/2013	**4.4**	**20**
	2/10/2014	**6.1**	**23**
	5/14/2014	**5.3**	**29**
	8/6/2014	**6.0**	**28**
TSW-07	7/20/2012	**80**	**27**
	8/30/2012	**86**	**24**
	10/1/2012	**48**	**18**
	4/16/2013	**83**	**33**
	6/19/2013	**18**	**850**
	7/23/2013	**80**	**1,800**
	9/17/2013	**36**	**300**
	11/18/2013	**68**	**2,000**
	2/10/2014	**90**	**3,800**
	5/14/2014	**100**	**7,200**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	8/6/2014	**93**	**6,900**
VEW-15	7/18/2012	**4.1**	**24**
	8/14/2012	**4.2**	**21**
	8/30/2012	**4.0**	**20**
	4/17/2013	**4.7**	**49**
	6/19/2013	**5.7**	**40**
	7/23/2013	**7.7**	**47**
	9/17/2013	**5.0**	**35**
	11/18/2013	**4.0**	**43**
	2/10/2014	**4.7**	**50**
	5/14/2014	**4.6**	**51**
	8/6/2014	**4.7**	**50**
VEW-19	7/18/2012	**9.0**	**29**
	8/30/2012	**9.5**	**47**
	10/1/2012	**10**	**58**
	4/16/2013	**11**	**80**
	6/19/2013	**130**	**3,700**
	7/23/2013	**130**	**9,600**
	9/17/2013	**100**	**10,000**
	11/18/2013	**16**	**970**
	2/10/2014	**30**	**2,400**
	8/6/2014	**25**	**1,500**
VEW-25	7/18/2012	**7.9**	**20**
	6/19/2013	**120**	**5,100**
	7/23/2013	**100**	**4,500**
	9/17/2013	**81**	**3,200**
	11/18/2013	**22**	**1,500**
	2/10/2014	**21**	**1,300**
	5/14/2014	**23**	**1,500**
	8/6/2014	**20**	**1,400**
VEW-27	7/18/2012	**7.6**	**54**
	8/30/2012	**8.2**	**97**
	9/28/2012	**9.1**	**140**
	10/1/2012	**8.4**	**180**
	4/16/2013	**9.0**	**290**
	6/19/2013	**120**	**14,000**
	7/23/2013	**130**	**37,000**
	9/17/2013	**14**	**23,000**
	11/18/2013	**62**	**18,000**
	2/10/2014	**69**	**11,000**
	5/14/2014	**63**	**9,800**
	8/6/2014	**67**	**15,000**
VEW-32	7/18/2012	**2.7**	**12**
	8/14/2012	**3.3**	**16**
	8/30/2012	**3.9**	**20**
	9/28/2012	**2.8**	**12**
	4/18/2013	**4.9**	**35**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	6/19/2013	**3.3**	**15**
	7/23/2013	**4.2**	**18**
	9/17/2013	**4.7**	0.26
	11/18/2013	**2.2**	**11**
	2/10/2014	**4.4**	**29**
	5/14/2014	**3.6**	**20**
	8/6/2014	**3.0**	**12**
CS-WB01-LGR-01	7/31/2012	**9.2**	**24**
	4/29/2013	**9.5**	**23**
	6/13/2013	**9.0**	**28**
	7/22/2013	**8.3**	**19**
	9/23/2013	**8.6**	**24**
	12/4/2013	**8.6**	**22**
	3/20/2014	**9.2**	**21**
	6/25/2014	**8.0**	**22**
	9/11/2014	**8.9**	**22**
CS-WB02-LGR-01	7/30/2012	**200**	**31**
	4/30/2013	**170**	**3,100**
	6/12/2013	**160**	**2,400**
	7/22/2013	**140**	**1,800**
	9/18/2013	**100**	**1,700**
	12/4/2013	**86**	**3,200**
	6/24/2014	**59**	**2,400**
CS-WB03-LGR-01	7/24/2012	**13**	**27**
	3/17/2014	**13**	**28**
	6/24/2014	**12**	**29**
CS-WB03-UGR-01	7/24/2012	**8.0**	**90**
	8/30/2012	**7.9**	**79**
	10/2/2012	**7.7**	**67**
	4/22/2013	**7.5**	**67**
	6/12/2013	**8.7**	**72**
	7/22/2013	**9.5**	**76**
	9/18/2013	**7.5**	**70**
	12/4/2013	**8.2**	**75**
	3/17/2014	**8.1**	**75**
	6/24/2014	**7.8**	**77**
	9/10/2014	**8.2**	**77**

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

Table 7.9 ISCO Treatability Study Additional Monitoring Location VOC Analytical Results

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*tran* s-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
PZ-03	7/20/2012	0.12	0.070	**1.2**	**1.6**	0.080	0.080
	1/9/2013	0.12	0.070	**1.6**	**1.7**	0.080	0.080
	4/16/2013	0.12	0.070	**0.79**	**1.0**	0.080	0.080
PZ-04	7/20/2012	0.12	0.070	**0.67**	0.050	0.080	0.080
	1/9/2013	0.12	0.070	**2.0**	**0.10**	0.080	0.080
	4/16/2013	0.12	0.070	**2.5**	0.050	0.080	0.080
TSW-02	4/16/2013	0.12	0.070	**31**	**2.6**	0.080	0.080
TSW-06	7/20/2012	0.12	0.070	0.060	0.050	0.080	0.080
	4/18/2013	0.12	0.070	**1.4**	**0.27**	0.080	0.080
VEW-13	4/16/2013	0.12	0.070	**17**	**0.67**	0.080	0.080
VEW-16	7/18/2012	0.12	0.070	**0.93**	0.050	0.080	0.080
	4/17/2013	0.12	0.070	**16**	**0.22**	0.080	0.080
VEW-18	7/18/2012	0.12	**2.2**	**6.7**	**1.1**	0.080	0.080
	4/18/2013	0.12	**0.23**	**13**	**0.42**	0.080	0.080
VEW-20	7/18/2012	0.12	**96**	**5.8**	**190**	**10**	0.080
	4/16/2013	0.12	**8.2**	**0.43**	**19**	**0.72**	0.080
VEW-21	4/16/2013	0.12	0.070	0.060	**1.4**	0.080	0.080
VEW-23	4/16/2013	0.12	0.070	**7.0**	**1.6**	0.080	0.080
VEW-26	7/18/2012	0.12	0.070	**1.6**	**0.40**	0.080	0.080
VEW-28A	7/18/2012	0.12	0.070	**11**	**5.2**	0.080	0.080
	4/18/2013	0.12	0.070	**11**	**5.1**	0.080	0.080
VEW-28B	7/18/2012	0.12	0.070	**46**	**2.1**	0.080	0.080
	8/30/2012	0.12	0.070	**20**	**1.6**	0.080	0.080
	10/1/2012	0.12	0.070	**4.8**	**0.66**	0.080	0.080
	4/18/2013	0.12	0.070	**15**	**1.5**	0.080	0.080
VEW-29	7/18/2012	0.12	0.070	**4.5**	**0.19**	0.080	0.080
	4/17/2013	0.12	**0.41**	**56**	**0.32**	0.080	0.080
VEW-31	7/18/2012	0.12	0.070	**3.5**	0.050	0.080	0.080
	4/17/2013	0.12	**0.22**	**60**	**0.51**	0.080	0.080
I10-4	3/7/2012	0.12	0.070	**4.5**	**1.9**	0.080	0.080
	6/4/2012	0.12	0.070	**5.2**	**2.5**	0.080	0.080
	8/3/2012	0.12	0.070	**3.8**	**1.6**	0.080	0.080
	8/6/2012	0.12	0.070	**5.2**	**2.0**	0.080	0.080
	8/16/2012	0.12	0.070	**3.9**	**1.7**	0.080	0.080
	8/30/2012	0.12	0.070	**4.5**	**2.2**	0.080	0.080
	12/3/2012	0.12	0.070	**4.1**	**1.9**	0.080	0.080
	3/12/2013	0.12	0.070	**4.8**	**2.0**	0.080	0.080
	4/23/2013	0.12	0.070	**4.3**	**1.9**	0.080	0.080
	6/26/2013	0.12	0.070	**3.9**	**1.6**	0.080	0.080
	9/9/2013	0.12	0.070	**3.4**	**1.7**	0.080	0.080
	12/9/2013	0.12	0.070	**4.0**	**1.6**	0.080	0.080
CS-MW35-LGR	3/20/2012	0.12	0.070	**1.3**	0.050	0.080	0.080
	6/11/2012	0.12	0.070	**2.8**	0.050	0.080	0.080
	9/12/2012	0.12	0.070	**1.2**	0.050	0.080	0.080
	12/13/2012	0.12	0.070	**1.5**	0.050	0.080	0.080
	6/25/2013	0.12	0.070	**0.79**	0.050	0.080	0.080
	9/5/2013	0.12	0.070	**0.69**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	**0.46**	0.050	0.080	0.080
	6/18/2014	0.12	0.070	**0.51**	0.050	0.080	0.080
	9/9/2014	0.12	0.070	**0.35**	0.050	0.080	0.080
CS-WB01-LGR-02	7/31/2012	0.12	0.070	**20**	**5.3**	0.080	0.080
	9/4/2012	0.12	0.070	**14**	**4.0**	0.080	0.080
	4/29/2013	0.12	0.070	**5.8**	**1.8**	0.080	0.080
	6/13/2013	0.12	0.070	**9.3**	**2.8**	0.080	0.080
	3/20/2014	0.12	0.070	**11**	**2.5**	0.080	0.080
CS-WB01-LGR-03	7/31/2012	0.12	0.070	**2.1**	**10**	0.080	0.080
	9/4/2012	0.12	0.070	**2.3**	**8.5**	0.080	0.080
	4/29/2013	0.12	0.070	**1.1**	**3.8**	0.080	0.080
	6/13/2013	0.12	0.070	**2.5**	**9.8**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*tran* s-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	3/20/2014	0.12	0.070	**2.3**	**6.5**	0.080	0.080
CS-WB01-LGR-04	7/31/2012	0.12	0.070	0.060	0.050	0.080	0.080
	9/4/2012	0.12	0.070	0.060	**0.14**	0.080	0.080
	4/25/2013	0.12	0.070	0.060	0.050	0.080	0.080
	6/13/2013	0.12	**0.11**	0.060	**0.13**	0.080	0.080
	3/20/2014	0.12	**0.23**	0.060	0.050	0.080	0.080
CS-WB01-LGR-05	7/31/2012	0.12	0.070	0.060	0.050	0.080	0.080
	9/4/2012	0.12	0.070	**0.12**	**0.20**	0.080	0.080
	4/25/2013	0.12	0.070	**0.18**	0.050	0.080	0.080
	6/13/2013	0.12	0.070	**0.33**	0.050	0.080	0.080
	3/20/2014	0.12	0.070	**0.31**	**0.16**	0.080	0.080
CS-WB01-LGR-06	7/30/2012	0.12	**0.41**	**0.25**	**2.4**	0.080	0.080
	9/4/2012	0.12	**0.31**	**0.20**	**1.9**	0.080	0.080
	4/25/2013	0.12	**0.24**	**0.70**	**0.75**	0.080	0.080
	6/13/2013	0.12	**0.55**	**0.29**	**0.82**	0.080	0.080
	3/20/2014	0.12	**0.30**	**0.34**	**0.37**	0.080	0.080
CS-WB01-LGR-07	7/30/2012	0.12	**0.19**	**18**	**16**	0.080	0.080
	9/4/2012	0.12	**0.20**	**15**	**12**	0.080	0.080
	4/25/2013	0.12	**0.18**	**8.6**	**8.0**	0.080	0.080
	6/13/2013	0.12	**0.21**	**11**	**12**	0.080	0.080
	3/20/2014	0.12	**0.18**	**14**	**11**	0.080	0.080
CS-WB01-LGR-08	7/30/2012	0.12	**1.5**	**2.3**	**7.9**	0.080	0.080
	9/4/2012	0.12	**0.95**	**3.1**	**6.8**	0.080	0.080
	4/25/2013	0.12	**0.87**	**2.2**	**4.4**	0.080	0.080
	6/13/2013	0.12	**1.6**	**5.6**	**9.4**	0.080	0.080
	3/20/2014	0.12	**1.2**	**5.2**	**7.0**	0.080	0.080
CS-WB02-LGR-03	7/30/2012	0.12	0.070	**5.5**	**0.56**	0.080	0.080
	9/4/2012	0.12	0.070	**5.0**	**2.8**	0.080	0.080
	4/30/2013	0.12	0.070	**5.3**	**2.5**	0.080	0.080
	6/12/2013	0.12	0.070	**4.7**	**1.9**	0.080	0.080
	3/19/2014	0.12	0.070	**6.1**	**2.2**	0.080	0.080
CS-WB02-LGR-04	7/30/2012	0.12	0.070	**4.6**	**13**	0.080	0.080
	9/4/2012	0.12	0.070	**3.1**	**9.5**	0.080	0.080
	4/30/2013	0.12	0.070	**3.6**	**8.8**	0.080	0.080
	6/12/2013	0.12	0.070	**4.2**	**8.8**	0.080	0.080
	3/19/2014	0.12	0.070	**4.0**	**8.0**	0.080	0.080
CS-WB02-LGR-05	7/27/2012	0.12	0.070	**1.4**	**4.4**	0.080	0.080
	9/4/2012	0.12	0.070	**1.0**	**3.7**	0.080	0.080
	4/29/2013	0.12	0.070	**0.44**	**1.3**	0.080	0.080
	6/12/2013	0.12	0.070	**2.6**	**2.7**	0.080	0.080
	3/19/2014	0.12	0.070	**1.1**	**2.2**	0.080	0.080
CS-WB02-LGR-06	7/27/2012	0.12	**0.24**	**2.2**	**4.0**	**0.21**	0.080
	9/4/2012	0.12	0.070	**1.5**	**4.0**	0.080	0.080
	4/29/2013	0.12	0.070	**0.62**	**1.5**	0.080	0.080
	6/12/2013	0.12	**0.23**	**3.0**	**3.4**	**0.21**	0.080
	3/19/2014	0.12	**0.17**	**1.1**	**2.1**	**0.19**	0.080
CS-WB02-LGR-07	7/27/2012	0.12	**0.48**	**0.35**	**0.36**	0.080	0.080
	9/4/2012	0.12	**0.55**	0.060	**0.47**	0.080	0.080
	4/29/2013	0.12	**0.60**	0.060	**0.22**	0.080	0.080
	6/12/2013	0.12	**0.32**	**2.1**	**0.72**	0.080	0.080
	3/19/2014	0.12	**0.69**	**0.44**	**0.55**	0.080	0.080
CS-WB02-LGR-08	7/27/2012	0.12	**3.0**	**0.45**	**0.89**	**0.78**	0.080
	9/4/2012	0.12	**2.4**	**0.68**	**0.89**	**0.66**	0.080
	4/29/2013	0.12	**1.2**	**0.58**	**0.66**	**0.23**	0.080
	6/12/2013	0.12	**2.0**	**4.0**	**0.73**	**0.54**	0.080
	3/19/2014	0.12	**1.3**	**0.87**	**0.66**	**0.30**	0.080
CS-WB03-LGR-03	7/24/2012	0.12	0.070	0.060	0.050	0.080	0.080
	9/5/2012	0.12	**0.26**	**18**	**9.3**	0.080	0.080
	4/22/2013	0.12	**0.27**	**35**	**12**	0.080	0.080
	6/12/2013	0.12	**0.15**	**13**	**7.2**	0.080	0.080
	3/17/2014	0.12	0.070	**31**	**8.2**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*tran* s-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
CS-WB03-LGR-04	7/24/2012	0.12	0.070	**26**	**8.6**	0.080	0.080
	9/5/2012	0.12	0.070	**15**	**8.4**	0.080	0.080
	4/22/2013	0.12	0.070	**30**	**10**	0.080	0.080
	6/12/2013	0.12	0.070	**12**	**5.9**	0.080	0.080
	3/17/2014	0.12	0.070	**18**	**6.5**	0.080	0.080
CS-WB03-LGR-05	7/24/2012	0.12	0.070	**11**	**4.3**	0.080	0.080
	9/5/2012	0.12	0.070	**15**	**5.5**	0.080	0.080
	4/22/2013	0.12	0.070	**19**	**5.1**	0.080	0.080
	6/12/2013	0.12	0.070	**14**	**5.3**	0.080	0.080
	3/17/2014	0.12	0.070	**16**	**3.8**	0.080	0.080
CS-WB03-LGR-06	7/24/2012	0.12	0.070	**22**	**5.3**	0.080	0.080
	9/5/2012	0.12	**0.71**	**3.3**	**0.56**	0.080	0.080
	4/23/2013	0.12	**0.24**	**4.3**	**0.91**	0.080	0.080
	6/12/2013	0.12	**0.75**	**1.6**	**1.2**	0.080	0.080
	3/17/2014	0.12	**1.3**	**5.0**	**0.93**	0.080	0.080
CS-WB03-LGR-07	7/25/2012	0.12	**6.4**	**1.6**	**3.0**	0.080	0.080
	9/5/2012	0.12	**6.5**	**1.0**	**2.5**	0.080	0.080
	4/23/2013	0.12	**9.0**	**0.52**	**1.5**	0.080	0.080
	6/12/2013	0.12	**9.8**	**0.48**	**1.9**	0.080	0.080
	3/17/2014	0.12	**4.6**	**0.83**	**0.34**	0.080	0.080
CS-WB03-LGR-08	7/25/2012	0.12	**6.9**	**1.3**	**1.7**	0.080	0.080
	9/5/2012	0.12	**6.1**	**1.1**	**2.1**	0.080	0.080
	4/23/2013	0.12	**5.1**	**0.95**	**1.5**	0.080	**0.37**
	6/12/2013	0.12	**4.5**	**0.21**	**0.96**	0.080	**0.42**
	3/17/2014	0.12	**2.0**	**1.1**	**0.69**	0.080	0.080
CS-WB04-BS-01	9/6/2012	0.12	0.070	**0.19**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
CS-WB04-BS-02	9/6/2012	0.12	**0.10**	**0.33**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
CS-WB04-CC-01	9/6/2012	0.12	**0.60**	**0.26**	0.050	0.080	0.080
	3/6/2014	0.12	**0.69**	0.060	0.050	0.080	0.080
CS-WB04-CC-02	9/6/2012	0.12	0.070	**0.47**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
CS-WB04-CC-03	9/6/2012	0.12	0.070	**2.7**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
CS-WB04-LGR-01	7/26/2012	0.12	0.070	**0.37**	0.050	0.080	0.080
	9/6/2012	0.12	0.070	**0.57**	0.050	0.080	0.080
	4/24/2013	0.12	0.070	**0.58**	0.050	0.080	0.080
	12/2/2013	0.12	0.070	**0.31**	0.050	0.080	0.080
	3/6/2014	0.12	0.070	**0.50**	0.050	0.080	0.080
	6/25/2014	0.12	0.070	**0.94**	0.050	0.080	0.080
	9/17/2014	0.12	0.070	**0.89**	0.050	0.080	0.080
CS-WB04-LGR-03	7/26/2012	0.12	0.070	0.060	0.050	0.080	0.080
	9/6/2012	0.12	0.070	**0.25**	0.050	0.080	0.080
	4/24/2013	0.12	0.070	0.060	0.050	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
CS-WB04-LGR-04	7/26/2012	0.12	**0.19**	0.060	0.050	0.080	0.080
	9/6/2012	0.12	**0.10**	**0.41**	**0.22**	0.080	0.080
	4/24/2013	0.12	0.070	**0.35**	**0.24**	0.080	0.080
	3/6/2014	0.12	0.070	0.060	0.050	0.080	0.080
CS-WB04-LGR-06	3/13/2012	0.12	**3.2**	**35**	**11**	0.080	0.080
	7/26/2012	0.12	**2.2**	**20**	**6.4**	0.080	0.080
	9/6/2012	0.12	**2.6**	**26**	**8.6**	**0.20**	0.080
	12/12/2012	0.12	**3.2**	**38**	**11**	0.080	0.080
	4/24/2013	0.12	**2.9**	**35**	**11**	**0.25**	0.080
	6/20/2013	0.12	**3.5**	**39**	**13**	**0.40**	0.080
	9/23/2013	0.12	**2.7**	**28**	**9.4**	**0.25**	0.080
	3/6/2014	0.12	**2.9**	**34**	**10**	**0.28**	0.080
	6/25/2014	0.12	**2.6**	**32**	**7.8**	**0.23**	0.080
CS-WB04-LGR-07	3/13/2012	0.12	**3.2**	**32**	**11**	0.080	0.080
	7/26/2012	0.12	**1.8**	**12**	**5.2**	0.080	0.080

Well ID	Sample Date	1,1-Dichloro-ethene µg/L	*cis* -1,2-Dichloroethene µg/L	Tetrachloro-ethene (PCE) µg/L	Trichloroethene (TCE) µg/L	*tran* s-1,2-Dichloroethene µg/L	Vinyl chloride µg/L
	9/6/2012	0.12	**2.2**	**23**	**8.1**	**0.20**	0.080
	12/12/2012	0.12	**2.5**	**28**	**9.6**	**0.27**	0.080
	4/24/2013	0.12	**2.3**	**12**	**4.7**	0.080	0.080
	6/20/2013	0.12	**2.5**	**19**	**7.0**	**0.23**	0.080
	9/23/2013	0.12	**2.1**	**20**	**7.0**	**0.18**	0.080
	3/6/2014	0.12	**2.5**	**26**	**9.2**	**0.21**	0.080
	6/25/2014	0.12	**2.6**	**33**	**8.7**	**0.22**	0.080
CS-WB04-LGR-08	7/26/2012	0.12	0.070	**0.31**	**1.1**	0.080	0.080
	9/6/2012	0.12	0.070	**0.38**	**0.69**	0.080	0.080
	4/24/2013	0.12	0.070	**0.40**	**0.65**	0.080	0.080
	6/20/2013	0.12	0.070	**0.39**	**0.98**	0.080	0.080
	3/6/2014	0.12	0.070	**0.33**	**0.74**	0.080	0.080
CS-WB04-LGR-09	3/13/2012	0.12	0.070	**10**	**7.8**	0.080	0.080
	7/25/2012	0.12	0.070	**8.5**	**7.0**	0.080	0.080
	9/6/2012	0.12	0.070	**7.3**	**5.7**	0.080	0.080
	12/12/2012	0.12	0.070	**8.6**	**6.4**	0.080	0.080
	4/24/2013	0.12	0.070	**3.8**	**3.5**	0.080	0.080
	6/20/2013	0.12	0.070	**6.0**	**5.9**	0.080	0.080
	9/23/2013	0.12	0.070	**8.4**	**8.3**	0.080	0.080
	3/6/2014	0.12	0.070	**5.6**	**4.7**	0.080	0.080
	6/25/2014	0.12	0.070	**11**	**7.1**	0.080	0.080
CS-WB04-LGR-10	3/13/2012	0.12	0.070	**1.1**	**0.66**	0.080	0.080
	7/25/2012	0.12	0.070	**1.6**	**0.63**	0.080	0.080
	9/6/2012	0.12	0.070	**1.2**	**0.54**	0.080	0.080
	12/12/2012	0.12	0.070	**1.4**	**0.60**	0.080	0.080
	4/24/2013	0.12	0.070	**1.1**	**0.51**	0.080	0.080
	6/20/2013	0.12	0.070	**1.4**	**0.73**	0.080	0.080
	9/23/2013	0.12	0.070	**1.2**	**0.58**	0.080	0.080
	3/6/2014	0.12	0.070	**1.7**	**0.65**	0.080	0.080
	6/25/2014	0.12	0.070	**2.4**	**0.87**	0.080	0.080

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

Table 7.10 ISCO Treatability Study Additional Monitoring Location Metals Analytical Results

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
PZ-03	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	5.6	1.9	0.10	9.9	3.2	0.081	1.0	22
	4/16/2013	1.8	1.4	0.20	0.30	1.0	4.0	7.5	0.10	1.0	3.2	2.1	1.0	120
PZ-04	7/20/2012	1.9	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.37	1.0	8.0
	4/16/2013	1.8	0.20	0.20	0.30	1.5	4.0	1.9	0.10	1.0	3.2	0.46	1.0	19
TSW-02	4/16/2013	1.8	0.40	0.20	0.30	1.0	3.0	1.9	0.10	1.9	#N/A	0.81	1.0	8.0
TSW-06	7/20/2012	1.8	0.20	0.20	0.30	1.2	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/20/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	13	3.2	0.081	1.0	41
	4/18/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.33	1.0	10
VEW-13	4/16/2013	1.8	0.70	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.56	1.0	8.0
VEW-16	7/18/2012	1.8	0.20	0.20	0.30	3.1	6.0	1.9	0.20	1.2	3.2	0.12	1.0	74
	7/18/2012	1.8	0.20	0.20	0.30	2.3	3.6	1.9	0.20	2.3	3.2	1.2	1.6	44
	4/17/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.84	1.0	40
VEW-18	7/18/2012	2.7	5.1	0.20	0.30	6.1	3.0	1.9	0.20	22	3.2	17	1.0	440
	7/18/2012	1.8	0.20	0.20	0.30	1.0	3.9	1.9	0.20	1.1	3.2	0.23	1.0	18
	4/18/2013	1.8	6.0	1.9	0.30	18	23	28	0.10	12	3.2	0.15	1.0	350
VEW-20	7/18/2012	3.2	17	3.9	0.30	79	29	12	0.20	49	3.2	4.1	1.0	130
	7/18/2012	1.9	0.20	0.20	0.30	1.0	3.8	1.9	0.20	1.0	3.2	0.73	1.3	8.0
	4/16/2013	1.8	1.0	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.22	1.0	8.0
VEW-21	4/16/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
VEW-23	4/16/2013	1.8	17	19	0.30	8.7	39	87	0.10	36	3.2	5.4	1.0	290
VEW-26	7/18/2012	2.5	0.20	0.20	0.30	1.5	4.0	1.9	0.20	2.4	3.2	0.84	1.0	8.0
	7/18/2012	1.9	0.20	0.20	0.30	1.0	3.3	1.9	0.20	2.0	3.2	1.2	1.0	8.0
VEW-28A	7/18/2012	2.4	6.1	2.2	0.30	8.8	12	6.4	0.20	5.2	3.2	1.3	1.0	34
	7/18/2012	2.5	0.20	0.20	0.30	1.0	3.8	1.9	0.20	1.0	3.2	0.081	2.0	8.0
	4/18/2013	1.8	7.7	3.4	0.30	9.8	16	9.2	0.10	7.3	3.2	0.081	1.0	39
VEW-28B	7/18/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.20	1.6	3.2	0.081	1.0	100
	7/18/2012	2.1	0.40	0.20	0.30	1.0	5.2	1.9	0.20	11	3.2	0.081	1.0	380
	8/30/2012	1.8	0.70	0.20	0.30	1.0	3.2	1.9	0.10	1.4	3.2	0.081	1.0	130
VEW-29	7/18/2012	1.8	0.50	0.20	0.30	1.0	3.0	1.9	0.20	2.0	3.2	0.19	1.0	8.0
	7/18/2012	2.3	2.2	0.20	0.30	1.2	6.6	11	0.20	2.8	3.2	0.25	1.0	8.0
	4/17/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.2	3.2	0.45	1.0	11
VEW-31	7/18/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.20	1.0	3.2	0.55	1.2	8.0
	7/18/2012	2.5	0.50	0.20	0.30	1.0	5.9	1.9	0.20	1.3	3.2	0.61	1.0	8.0
	4/17/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.53	1.0	61
I10-4	3/7/2012	1.8	0.20	0.20	0.30	1.6	7.0	40	0.10	1.0	3.2	0.081	1.0	74
	3/7/2012	4.7	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	52
	8/3/2012	3.0	0.20	0.20	0.30	1.0	3.0	7.0	0.10	1.0	3.2	0.081	1.0	97
	8/6/2012	3.2	0.20	0.20	0.30	1.0	3.0	3.2	0.10	1.4	3.2	0.081	1.0	95
	8/16/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	86
	8/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.3	63
	4/23/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.12	1.0	86
CS-MW35-LGR	3/20/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	6/11/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	3.0	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	9/12/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	12/13/2012	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	6/25/2013	#N/A	#N/A	#N/A	0.50	1.0	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	9/5/2013	#N/A	#N/A	#N/A	0.50	2.5	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	3/6/2014	#N/A	#N/A	#N/A	0.50	2.4	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	3/13/2014	1.8	2.2	0.20	#N/A	#N/A	3.0	#N/A	#N/A	1.0	3.2	1.0	1.0	8.0
	6/18/2014	#N/A	#N/A	#N/A	0.50	1.7	#N/A	1.9	0.10	#N/A	#N/A	#N/A	#N/A	#N/A
	9/9/2014	1.8	1.3	0.20	0.50	2.0	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB01-LGR-02	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	2.3	3.2	0.081	1.0	9.0
	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	8.0	3.2	0.081	1.0	24
	4/29/2013	2.2	0.20	0.20	0.30	1.8	3.0	1.9	0.10	1.0	3.2	0.60	1.0	23
CS-WB01-LGR-03	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.4	3.2	0.081	1.0	10
	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	7.4	3.2	0.081	1.0	10
	4/29/2013	1.8	0.20	0.20	0.30	1.3	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
CS-WB01-LGR-04	7/31/2012	1.8	0.20	0.20	0.30	3.5	3.0	1.9	0.10	2.2	3.2	0.081	1.0	14
	7/31/2012	1.8	0.20	0.20	0.30	1.9	3.0	1.9	0.10	9.3	3.2	0.081	1.0	18
	4/25/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	26
CS-WB01-LGR-05	7/31/2012	1.8	0.20	0.20	0.30	1.9	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/31/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	17	3.2	0.081	1.0	15
	4/25/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.10	1.0	24
CS-WB01-LGR-06	7/30/2012	1.8	0.20	0.20	0.30	1.8	3.0	1.9	0.10	1.5	3.2	0.081	1.0	11
	7/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.1	3.2	0.081	1.0	22
	4/25/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.13	1.0	30
CS-WB01-LGR-07	7/30/2012	1.8	0.20	0.20	0.30	4.9	3.0	1.9	0.10	3.5	3.2	0.081	1.0	20
	7/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	7.8	3.2	0.081	1.0	16
	4/25/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	33
CS-WB01-LGR-08	7/30/2012	1.8	0.20	0.20	0.30	8.2	3.0	1.9	0.10	11	3.2	0.081	1.0	42
	7/30/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	8.7	3.2	0.081	1.0	32
	4/25/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	6.3	3.2	0.083	1.0	32
CS-WB02-LGR-03	7/30/2012	1.8	0.20	0.20	0.30	3.1	3.0	1.9	0.10	2.0	3.2	0.081	1.0	8.0
	7/30/2012	1.8	0.20	0.20	0.30	5.5	3.0	1.9	0.10	5.6	3.2	0.081	1.0	8.2
	4/30/2013	1.8	0.20	0.20	0.30	2.4	3.0	1.9	0.10	1.0	3.2	0.31	1.0	22
CS-WB02-LGR-04	7/30/2012	1.8	0.20	0.20	0.30	1.1	3.0	1.9	0.10	2.2	3.2	0.081	1.0	8.0
	7/30/2012	2.5	0.20	0.20	0.30	6.0	3.0	1.9	0.10	13	3.2	0.081	1.0	14
	4/30/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.28	1.0	20
CS-WB02-LGR-05	7/27/2012	1.8	0.20	0.20	0.30	1.3	3.0	1.9	0.20	4.6	3.2	0.081	1.0	12
	7/27/2012	4.1	0.20	0.20	0.30	1.6	8.8	1.9	0.10	4.1	3.2	0.14	1.0	11

Well ID	Sample Date	Antimony µg/L	Arsenic µg/L	Beryllium µg/L	Cadmium µg/L	Chromium µg/L	Copper µg/L	Lead µg/L	Mercury µg/L	Nickel µg/L	Selenium µg/L	Silver µg/L	Thallium µg/L	Zinc µg/L
	4/29/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.8**	3.2	**1.1**	1.0	**27**
CS-WB02-LGR-06	7/27/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	**0.20**	**3.9**	3.2	0.081	1.0	**11**
	7/27/2012	**4.1**	0.20	0.20	0.30	**2.0**	**6.4**	1.9	0.10	**3.9**	3.2	0.081	1.0	8.0
	4/29/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.8**	3.2	**0.67**	1.0	8.0
CS-WB02-LGR-07	7/27/2012	1.8	0.20	0.20	0.30	**4.2**	3.0	1.9	**0.20**	**4.6**	3.2	0.081	1.0	**11**
	7/27/2012	**2.4**	0.20	0.20	0.30	**1.7**	**6.4**	1.9	0.10	**2.2**	3.2	0.081	1.0	**9.7**
	4/29/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	**2.1**	1.0	8.0
CS-WB02-LGR-08	7/27/2012	1.8	0.20	0.20	0.30	**1.9**	3.0	1.9	**0.20**	**4.5**	3.2	0.081	1.0	**13**
	7/27/2012	**3.6**	0.20	0.20	0.30	**2.7**	**6.7**	1.9	0.10	**4.1**	3.2	0.081	1.0	**12**
	4/29/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.9**	3.2	**1.1**	1.0	8.0
CS-WB03-LGR-03	7/24/2012	**4.7**	0.20	0.20	0.30	**2.7**	3.0	1.9	0.10	**1.1**	3.2	0.081	1.0	8.0
	7/24/2012	**3.0**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/22/2013	1.8	0.20	0.20	0.30	**1.5**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
CS-WB03-LGR-04	7/24/2012	**5.2**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.9**	3.2	0.081	1.0	8.0
	7/24/2012	**2.8**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.6**	3.2	0.081	1.0	8.0
	4/22/2013	1.8	0.20	0.20	0.30	**2.9**	3.0	1.9	0.10	**2.4**	3.2	0.081	1.0	**19**
CS-WB03-LGR-05	7/24/2012	**4.7**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**8.7**	3.2	0.081	1.0	8.0
	7/24/2012	**3.0**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**6.2**	3.2	0.081	1.0	8.0
	4/22/2013	1.8	0.20	0.20	0.30	**4.3**	3.0	1.9	0.10	**11**	3.2	**0.18**	1.0	**25**
CS-WB03-LGR-06	7/24/2012	**4.4**	**1.0**	0.20	0.30	**1.4**	3.0	1.9	0.10	**1.4**	3.2	0.081	1.0	8.0
	7/24/2012	**2.4**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/23/2013	1.8	0.20	0.20	0.30	**1.3**	3.0	1.9	0.10	1.0	3.2	**1.4**	1.0	8.0
CS-WB03-LGR-07	7/25/2012	**4.8**	0.20	0.20	0.30	**1.9**	3.0	1.9	0.10	**1.9**	3.2	0.081	1.0	8.0
	7/25/2012	**2.7**	0.20	0.20	0.30	1.0	**10**	1.9	**0.20**	**1.3**	3.2	0.081	**1.1**	8.0
	4/23/2013	1.8	0.20	0.20	0.30	**3.9**	3.0	1.9	0.10	**1.7**	3.2	**0.76**	1.0	**32**
CS-WB03-LGR-08	7/25/2012	**3.7**	**0.60**	0.20	0.30	**1.3**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**14**
	7/25/2012	**4.5**	0.20	0.20	0.30	1.0	**10**	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/23/2013	1.8	0.20	0.20	0.30	**1.9**	3.0	1.9	0.10	1.0	3.2	**0.085**	1.0	**22**
CS-WB04-LGR-01	7/26/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.1**	3.2	0.081	1.0	8.0
	7/26/2012	**4.0**	0.20	0.20	0.30	1.0	**7.3**	1.9	0.10	1.0	3.2	**0.44**	1.0	8.0
	4/24/2013	1.8	0.20	0.20	0.30	**1.7**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**24**
	12/2/2013	1.8	0.20	0.20	0.50	**2.4**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
	3/6/2014	1.8	0.20	0.20	0.50	**3.6**	3.0	1.9	0.10	**2.0**	3.2	1.0	1.0	**58**
	6/25/2014	1.8	0.20	0.20	0.50	**3.5**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	**12**
	9/10/2014	1.8	**1.0**	0.20	0.50	**1.6**	3.0	1.9	0.10	1.0	3.2	1.0	1.0	8.0
CS-WB04-LGR-03	7/26/2012	1.8	0.20	0.20	0.30	**1.4**	3.0	1.9	**0.20**	1.0	3.2	0.081	1.0	8.0
	7/26/2012	**3.8**	0.20	0.20	0.30	1.0	**6.8**	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/24/2013	1.8	0.20	0.20	0.30	**1.2**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**20**
CS-WB04-LGR-04	7/26/2012	**2.4**	0.20	0.20	0.30	1.0	3.0	1.9	**0.20**	1.0	3.2	0.081	1.0	8.0
	7/26/2012	**3.8**	0.20	0.20	0.30	1.0	**7.3**	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	4/24/2013	1.8	0.20	0.20	0.30	**2.0**	3.0	1.9	0.10	1.0	3.2	**0.98**	1.0	**26**
CS-WB04-LGR-06	7/26/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.5**	3.2	0.081	1.0	8.0
	7/26/2012	**4.5**	0.20	0.20	0.30	1.0	**7.0**	1.9	0.10	**1.3**	3.2	0.081	1.0	**9.0**
	4/24/2013	1.8	0.20	0.20	0.30	**1.4**	3.0	1.9	0.10	**1.7**	**5.6**	**0.47**	1.0	**83**
CS-WB04-LGR-07	7/26/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**1.7**	3.2	0.081	1.0	8.0
	7/26/2012	**4.8**	0.20	0.20	0.30	1.0	**6.5**	1.9	0.10	**1.1**	3.2	0.081	1.0	**9.1**
	4/24/2013	1.8	0.20	0.20	0.30	**1.3**	3.0	1.9	0.10	**1.5**	3.2	**0.41**	1.0	**11**
CS-WB04-LGR-08	7/26/2012	1.8	0.20	0.20	0.30	1.0	3.0	1.9	**0.20**	**6.4**	3.2	0.081	1.0	**12**
	7/26/2012	**3.5**	0.20	0.20	0.30	**1.9**	**7.5**	1.9	0.10	**6.3**	3.2	**0.14**	1.0	**16**
	4/24/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	**5.0**	3.2	0.081	1.0	**26**
CS-WB04-LGR-09	7/25/2012	**3.9**	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	8.0
	7/25/2012	**3.9**	0.20	0.20	0.30	1.0	**8.3**	1.9	0.10	1.0	3.2	0.081	1.0	**15**
	4/24/2013	1.8	0.20	0.20	0.30	**2.1**	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**24**
CS-WB04-LGR-10	7/25/2012	**3.9**	0.20	0.20	0.30	**2.6**	3.0	1.9	0.10	**1.2**	3.2	0.081	1.0	**30**
	7/25/2012	**3.9**	0.20	0.20	0.30	1.0	**9.5**	1.9	**0.20**	1.0	3.2	0.081	1.0	**13**
	4/24/2013	1.8	0.20	0.20	0.30	1.0	3.0	1.9	0.10	1.0	3.2	0.081	1.0	**26**

Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.
Red text indicates dissolved metals analysis.
Black text indicates total metals analysis.
#N/A indicates that the metal was not tested.

Table 7.11 ISCO Treatability Study Additional Monitoring Location Anion Results

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
PZ-03	7/20/2012	**13**	**10**
	4/16/2013	**13**	**11**
PZ-04	7/20/2012	**19**	**32**
	4/16/2013	**19**	**28**
TSW-02	4/16/2013	**7.4**	**190**
TSW-06	7/20/2012	**14**	**32**
	4/18/2013	**24**	**19**
VEW-13	4/16/2013	**4.9**	**79**
VEW-16	7/18/2012	**5.5**	**24**
	4/17/2013	**5.3**	**15**
VEW-18	7/18/2012	**5.1**	**35**
	4/18/2013	**6.7**	**140**
VEW-20	7/18/2012	**11**	**230**
	4/16/2013	**11**	**290**
VEW-21	4/16/2013	**10**	**110**
VEW-23	4/16/2013	**10**	**310**
VEW-26	7/18/2012	**6.3**	**24**
VEW-28A	7/18/2012	**13**	**18**
	4/18/2013	**13**	**18**
VEW-28B	7/18/2012	**11**	**58**
	8/30/2012	**11**	**53**
	4/18/2013	**13**	**55**
VEW-29	7/18/2012	**6.9**	**110**
	4/17/2013	**5.3**	**71**
VEW-31	7/18/2012	**14**	**26**
	4/17/2013	**22**	**330**
I10-4	3/7/2012	**11**	**16**
	8/3/2012	**12**	**17**
	8/6/2012	**12**	**16**
	8/16/2012	**11**	**16**
	8/30/2012	**11**	**16**
	4/23/2013	**11**	**17**
CS-MW35-LGR	3/13/2014	**26**	**130**
	9/9/2014	**21**	**100**
CS-WB01-LGR-02	7/31/2012	**14**	**17**
	4/29/2013	**13**	**16**
CS-WB01-LGR-03	7/31/2012	**11**	**19**
	4/29/2013	**13**	**17**
CS-WB01-LGR-04	7/31/2012	**12**	**41**
	4/25/2013	**13**	**37**
CS-WB01-LGR-05	7/31/2012	**12**	**42**

Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	4/25/2013	**13**	**41**
CS-WB01-LGR-06	7/30/2012	**12**	**40**
	4/25/2013	**13**	**39**
CS-WB01-LGR-07	7/30/2012	**12**	**16**
	4/25/2013	**13**	**15**
CS-WB01-LGR-08	7/30/2012	**13**	**26**
	4/25/2013	**13**	**25**
CS-WB02-LGR-03	7/30/2012	**17**	**23**
	4/30/2013	**17**	**20**
CS-WB02-LGR-04	7/30/2012	**12**	**23**
	4/30/2013	**13**	**22**
CS-WB02-LGR-05	7/27/2012	**12**	**26**
	4/29/2013	**12**	**24**
CS-WB02-LGR-06	7/27/2012	**12**	**27**
	4/29/2013	**13**	**24**
CS-WB02-LGR-07	7/27/2012	**15**	**39**
	4/29/2013	**12**	**36**
CS-WB02-LGR-08	7/27/2012	**18**	**32**
	4/29/2013	**17**	**29**
CS-WB03-LGR-03	7/24/2012	**14**	**17**
	4/22/2013	**13**	**16**
CS-WB03-LGR-04	7/24/2012	**14**	**24**
	4/22/2013	**13**	**24**
CS-WB03-LGR-05	7/24/2012	**14**	**39**
	4/22/2013	**13**	**37**
CS-WB03-LGR-06	7/24/2012	**14**	**51**
	4/23/2013	**13**	**48**
CS-WB03-LGR-07	7/25/2012	**18**	**59**
	4/23/2013	**13**	**52**
CS-WB03-LGR-08	7/25/2012	**12**	**37**
	4/23/2013	**9.8**	**29**
CS-WB04-LGR-01	7/26/2012	**15**	**75**
	4/24/2013	**11**	**68**
	12/2/2013	**12**	**77**
	3/6/2014	**11**	0.26
	6/25/2014	**11**	**74**
	9/10/2014	**11**	**73**
CS-WB04-LGR-03	7/26/2012	**14**	**54**
	4/24/2013	**15**	**49**
CS-WB04-LGR-04	7/26/2012	**14**	**50**
	4/24/2013	**14**	**46**
CS-WB04-LGR-06	7/26/2012	**11**	**22**
	4/24/2013	**11**	**21**
CS-WB04-LGR-07	7/26/2012	**17**	**47**

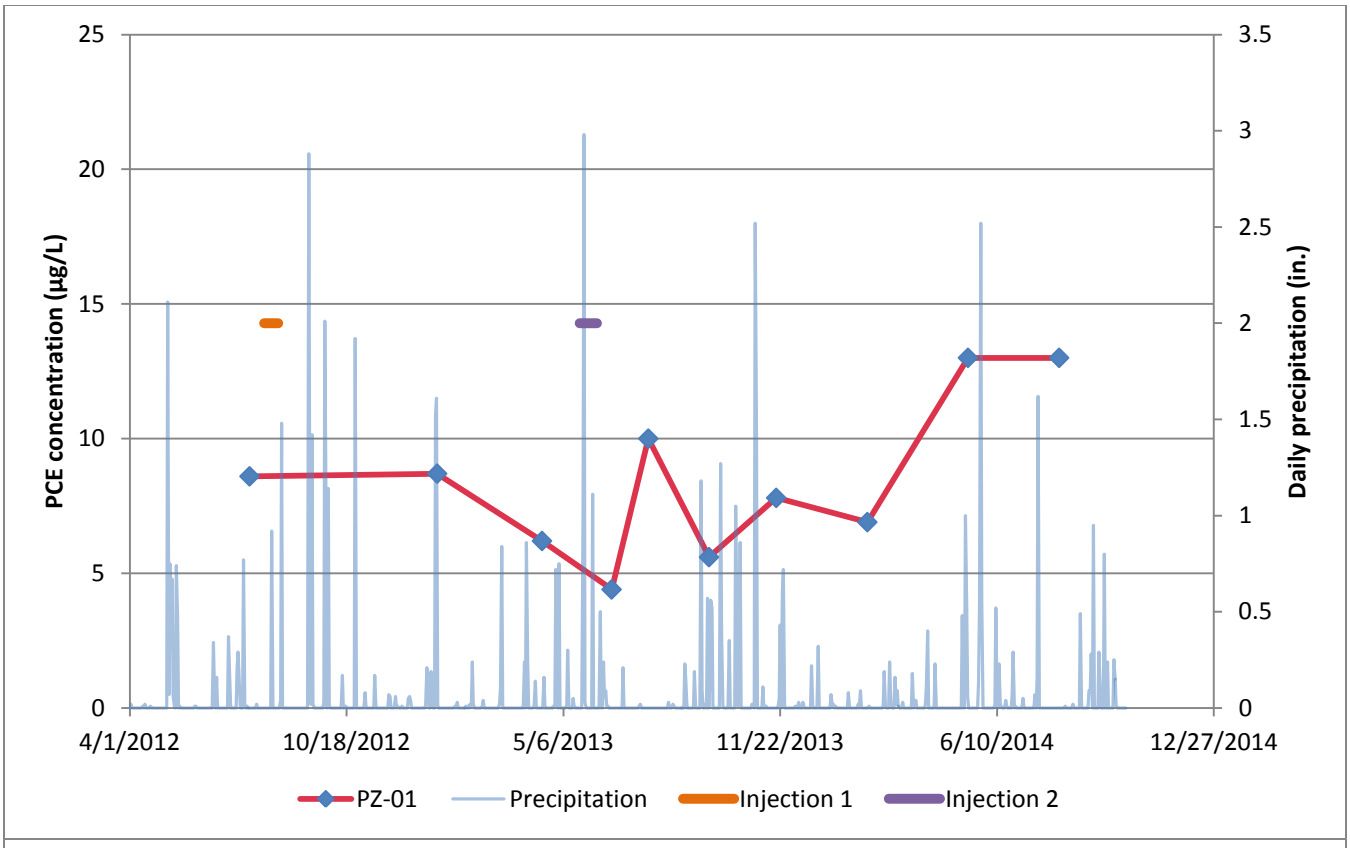
Well ID	Sample Date	Chloride mg/L	Sulfate mg/L
	4/24/2013	**12**	**22**
CS-WB04-LGR-08	7/26/2012	**11**	**26**
	4/24/2013	**12**	**23**
CS-WB04-LGR-09	7/25/2012	**15**	**16**
	4/24/2013	**15**	**16**
CS-WB04-LGR-10	7/25/2012	**18**	**15**
	4/24/2013	**19**	**14**

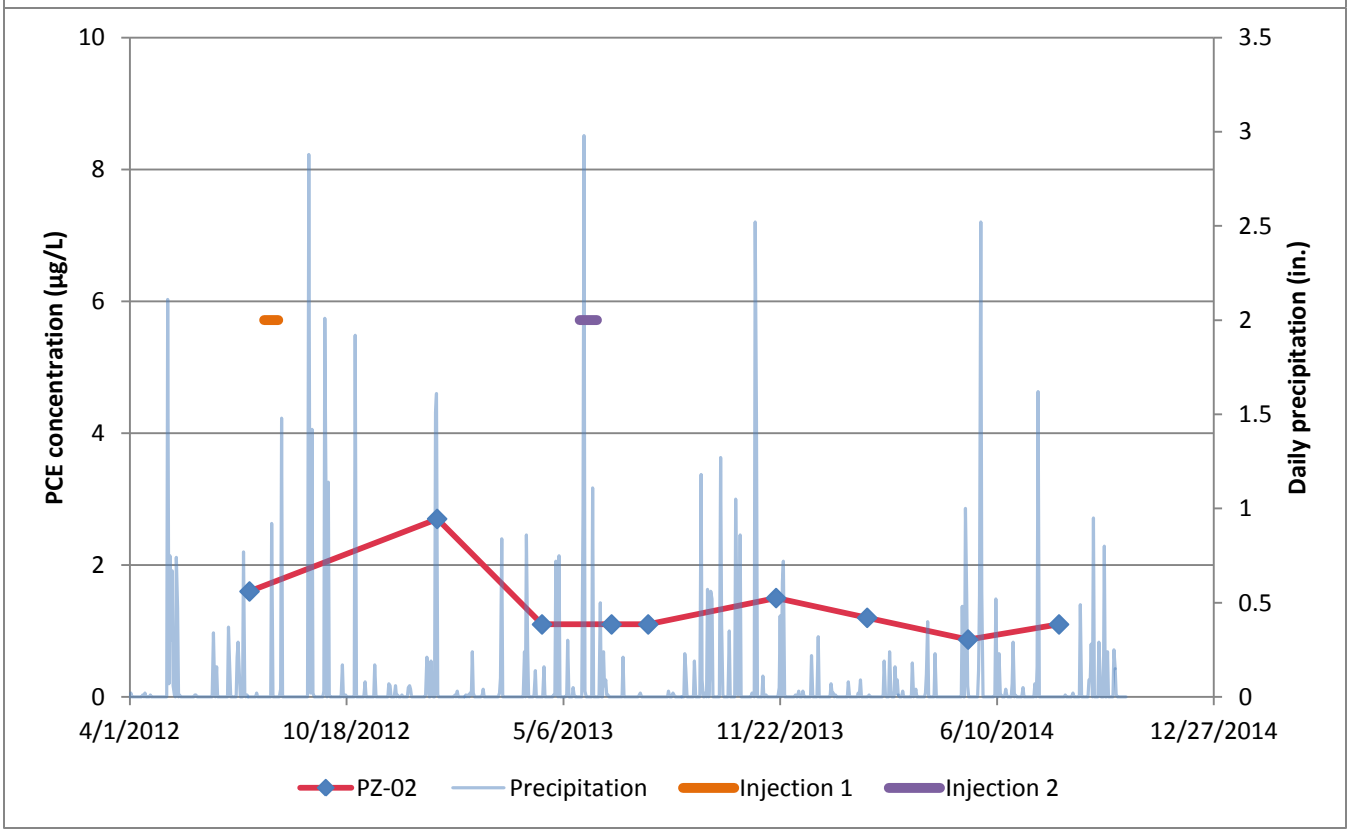
Detections are bolded. Results not highlighted are detections above the RL.
Not detected. Reported result is reported as the MDL and flagged U.
Trace value. Reported result is a value between the MDL and the RL and is flagged F.

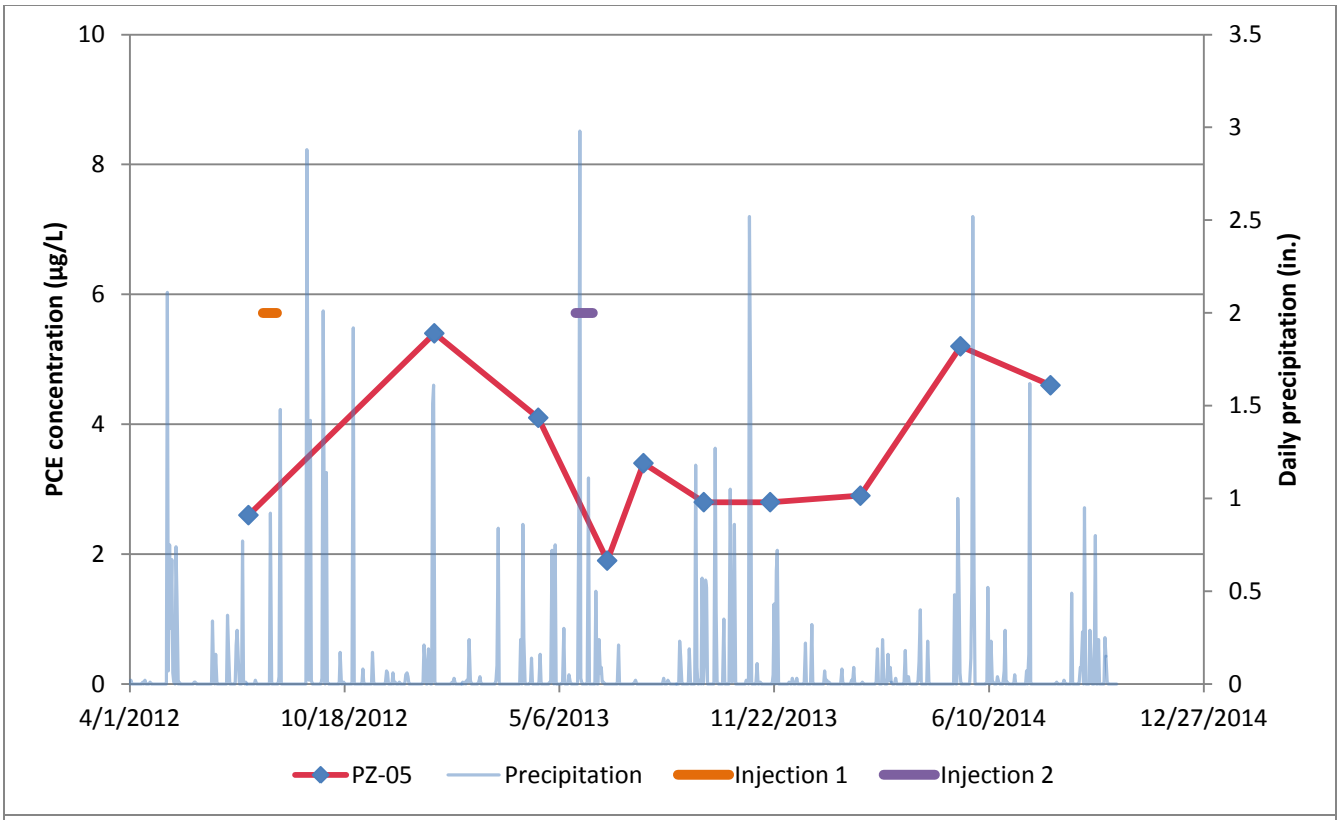
PCE Concentration Graphs

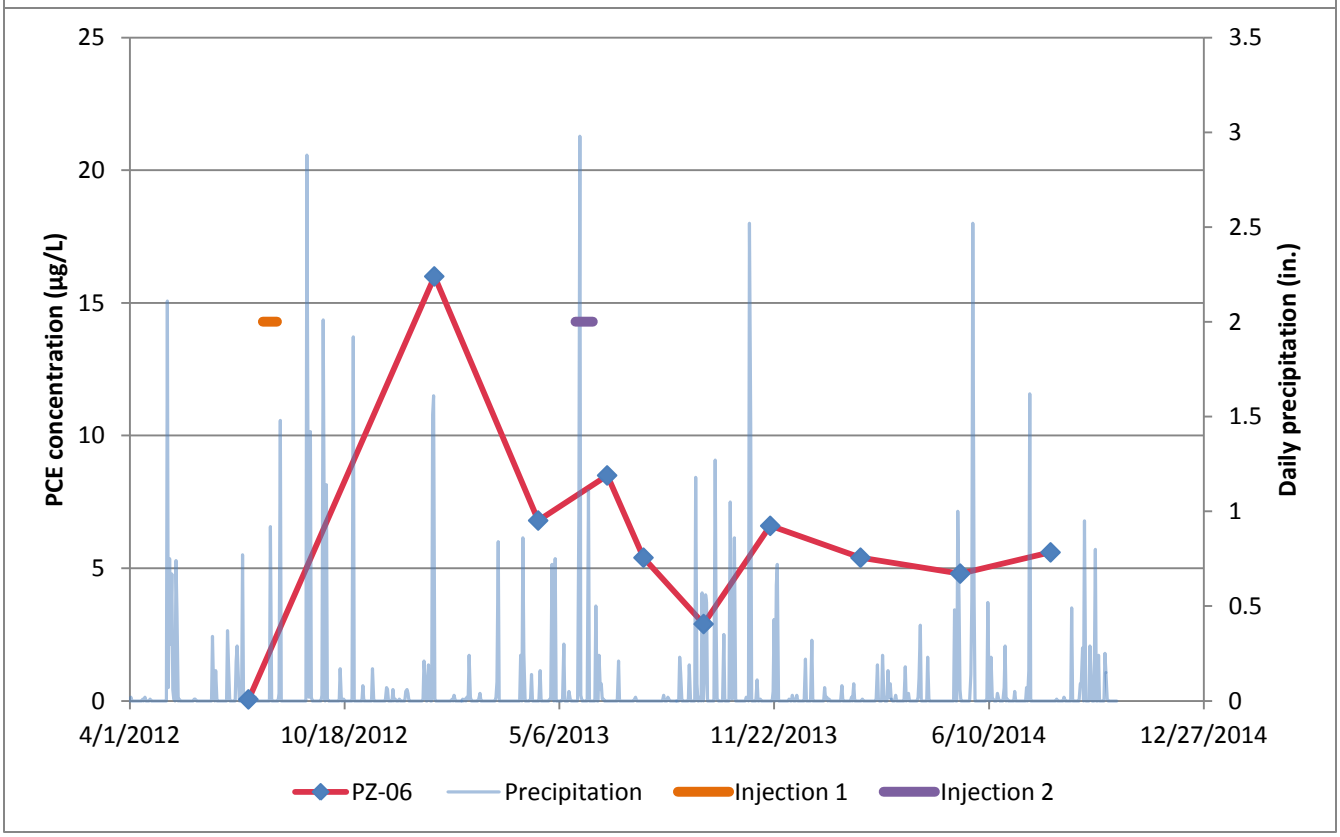
Piezometer Monitoring Wells (PZ)

- PZ-01
- PZ-02
- PZ-05
- PZ-06


PCE concentration (µg/L)
Daily precipitation (in.)
25
20
15
10
5
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
PZ-01
Precipitation
Injection 1
Injection 2

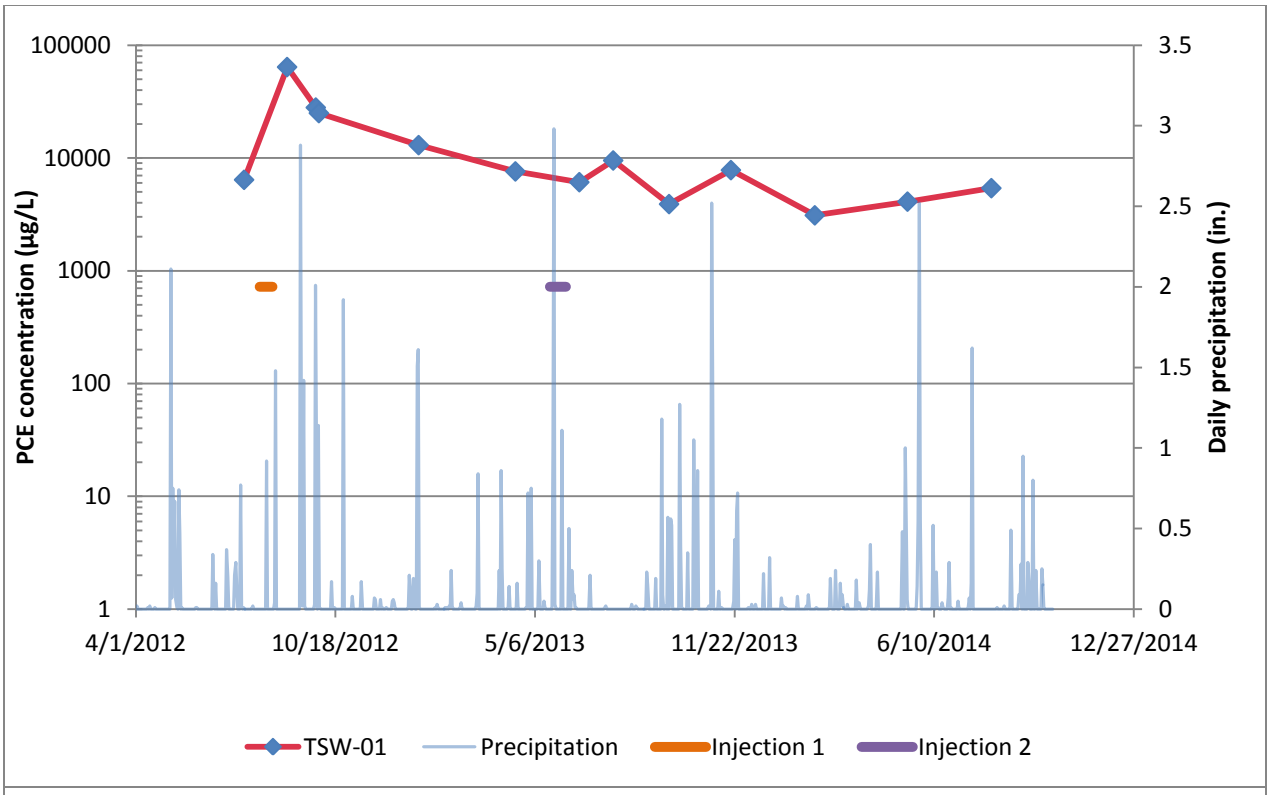

PCE concentration (µg/L)
Daily precipitation (in.)
10
8
6
4
2
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
PZ-02
Precipitation
Injection 1
Injection 2

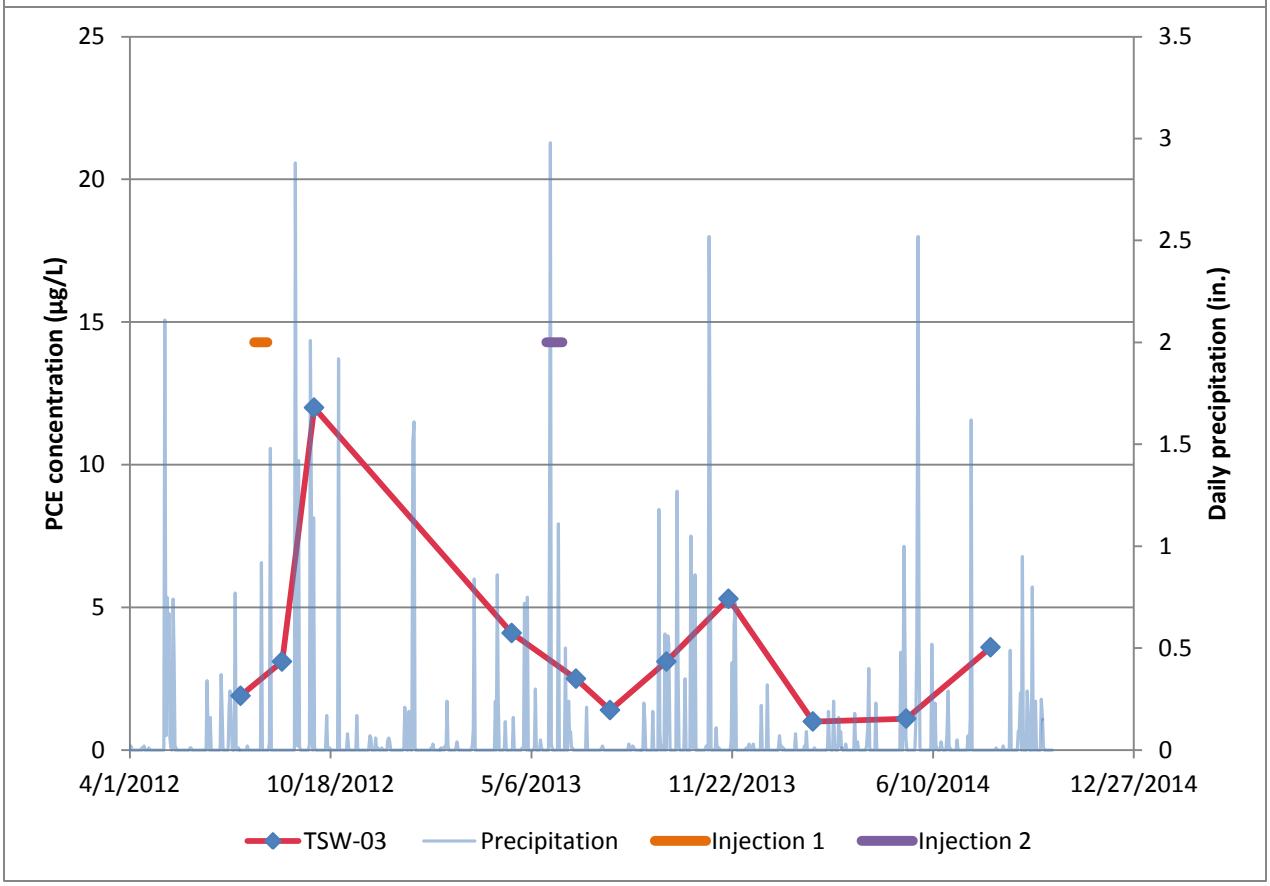

PCE concentration (µg/L)
Daily precipitation (in.)
10
8
6
4
2
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
PZ-05
Precipitation
Injection 1
Injection 2

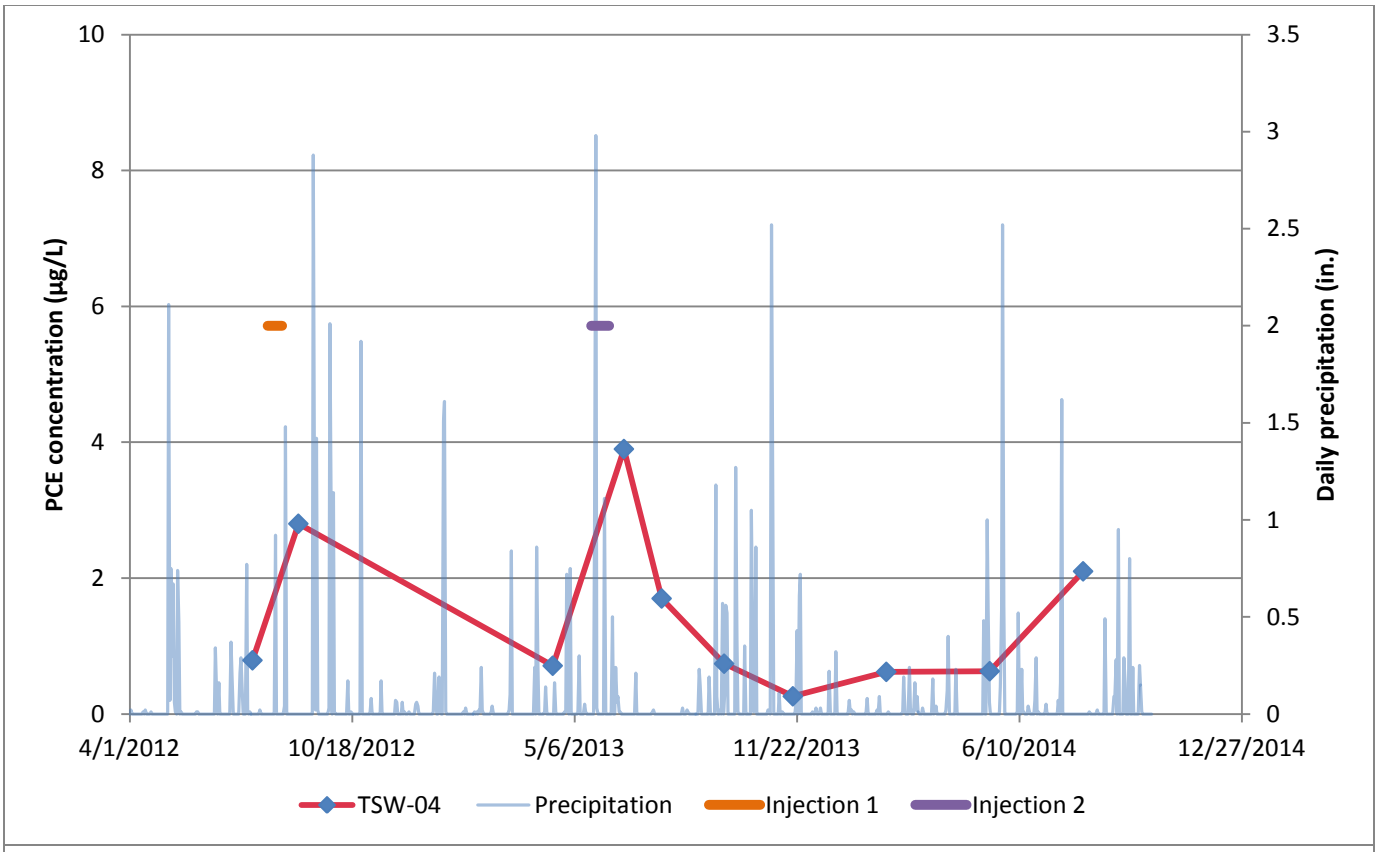

PCE concentration (µg/L)
Daily precipitation (in.)
25
20
15
10
5
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
PZ-06
Precipitation
Injection 1
Injection 2

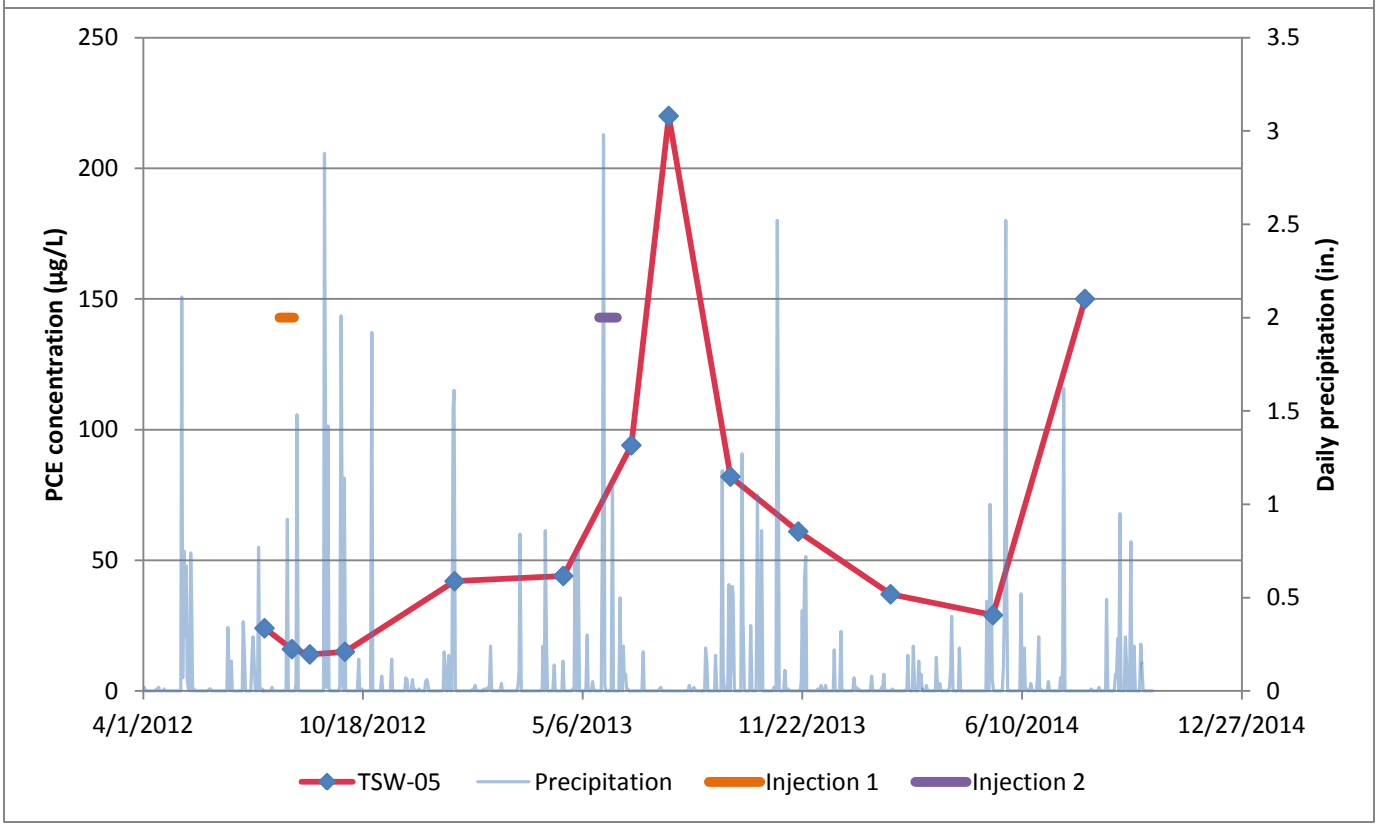
Treatability Study Wells (TSW)

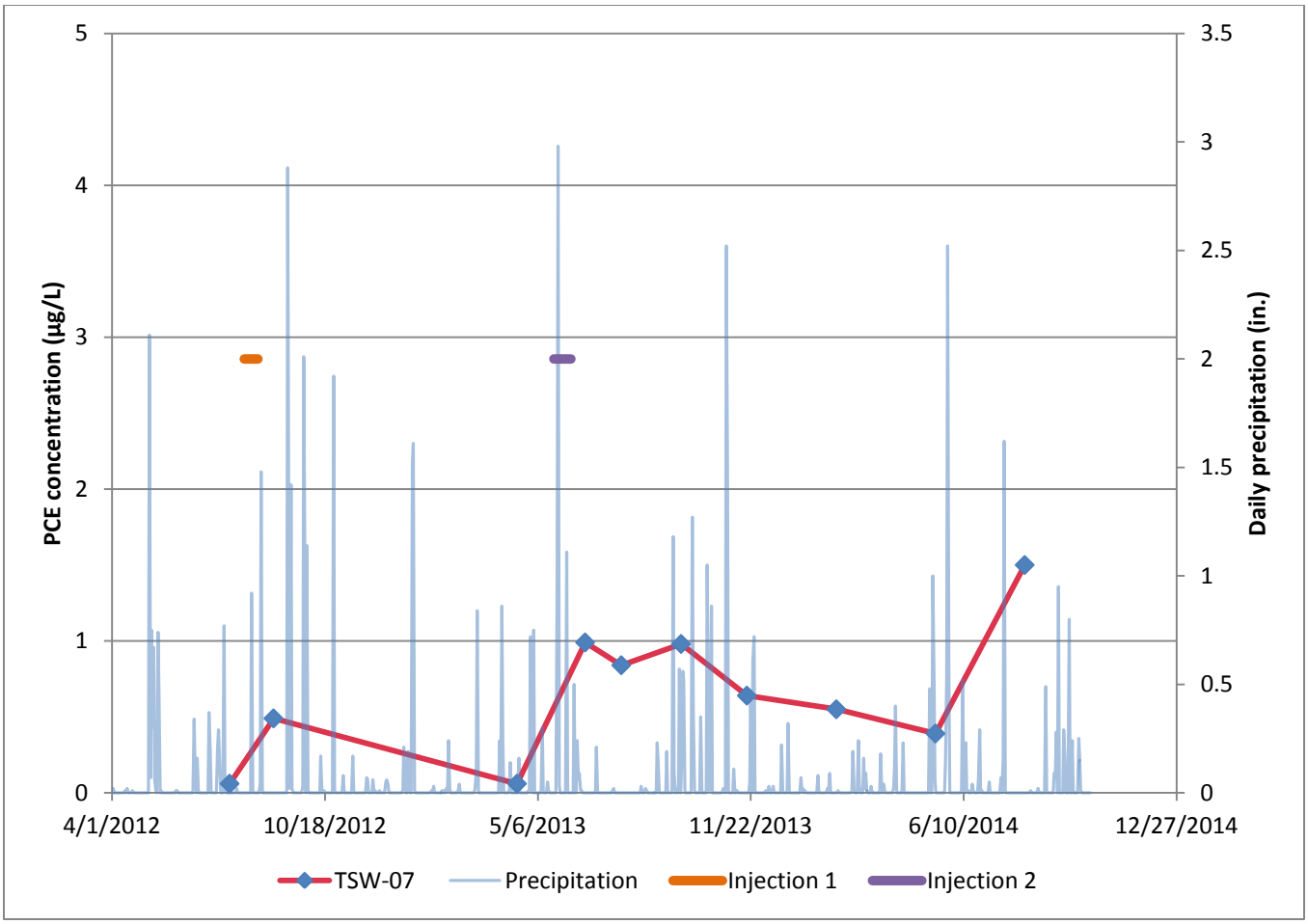
- TSW-01
- TSW-03
- TSW-04
- TSW-05
- TSW-07


100000
10000
1000
100
10
1
PCE concentration (µg/L)
3.5
3
2.5
2
1.5
1
0.5
0
Daily precipitation (in.)
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
TSW-01
Precipitation
Injection 1
Injection 2


25
20
15
10
5
0
PCE concentration (µg/L)
3.5
3
2.5
2
1.5
1
0.5
0
Daily precipitation (in.)
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
TSW-03
Precipitation
Injection 1
Injection 2

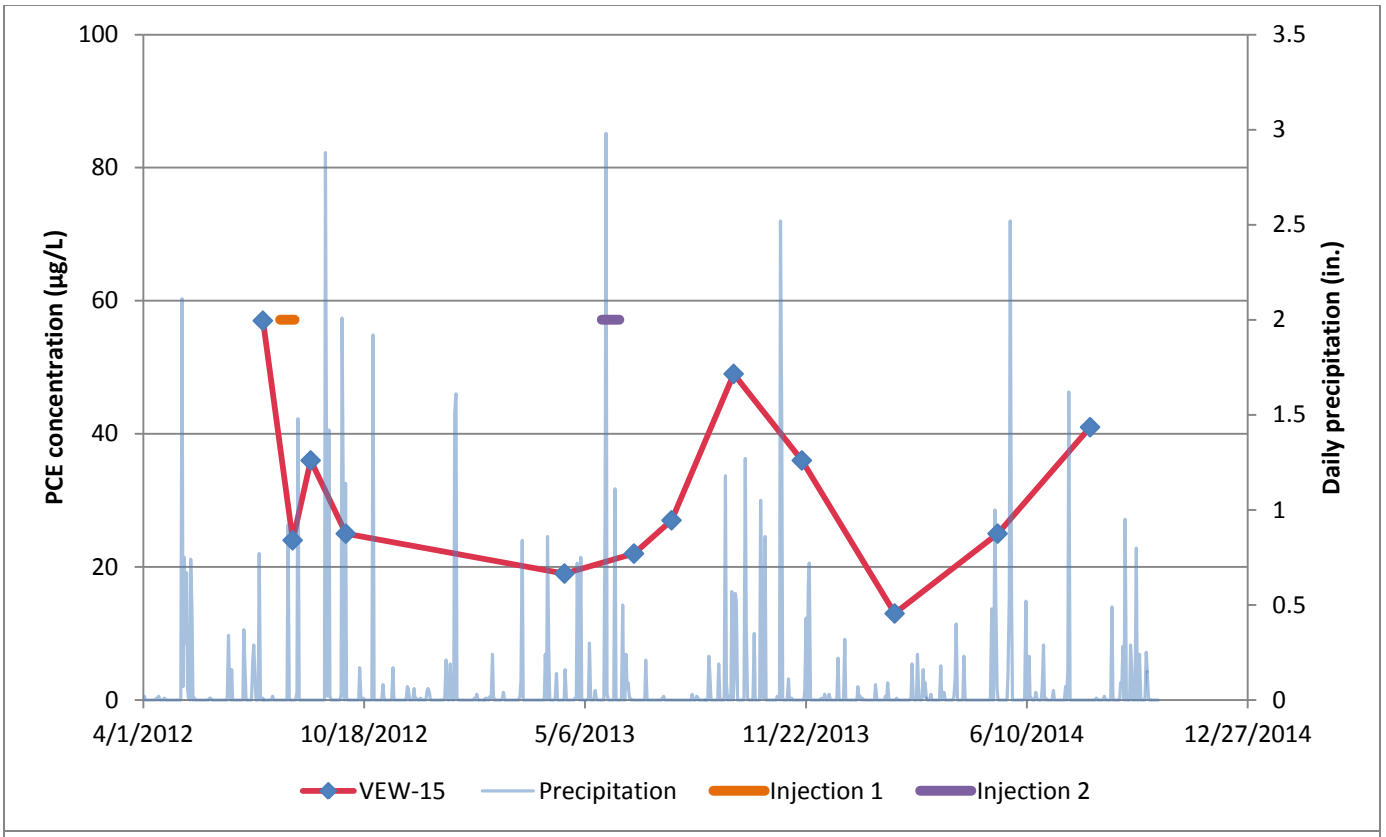

PCE concentration (µg/L)
Daily precipitation (in.)
10
8
6
4
2
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
TSW-04
Precipitation
Injection 1
Injection 2

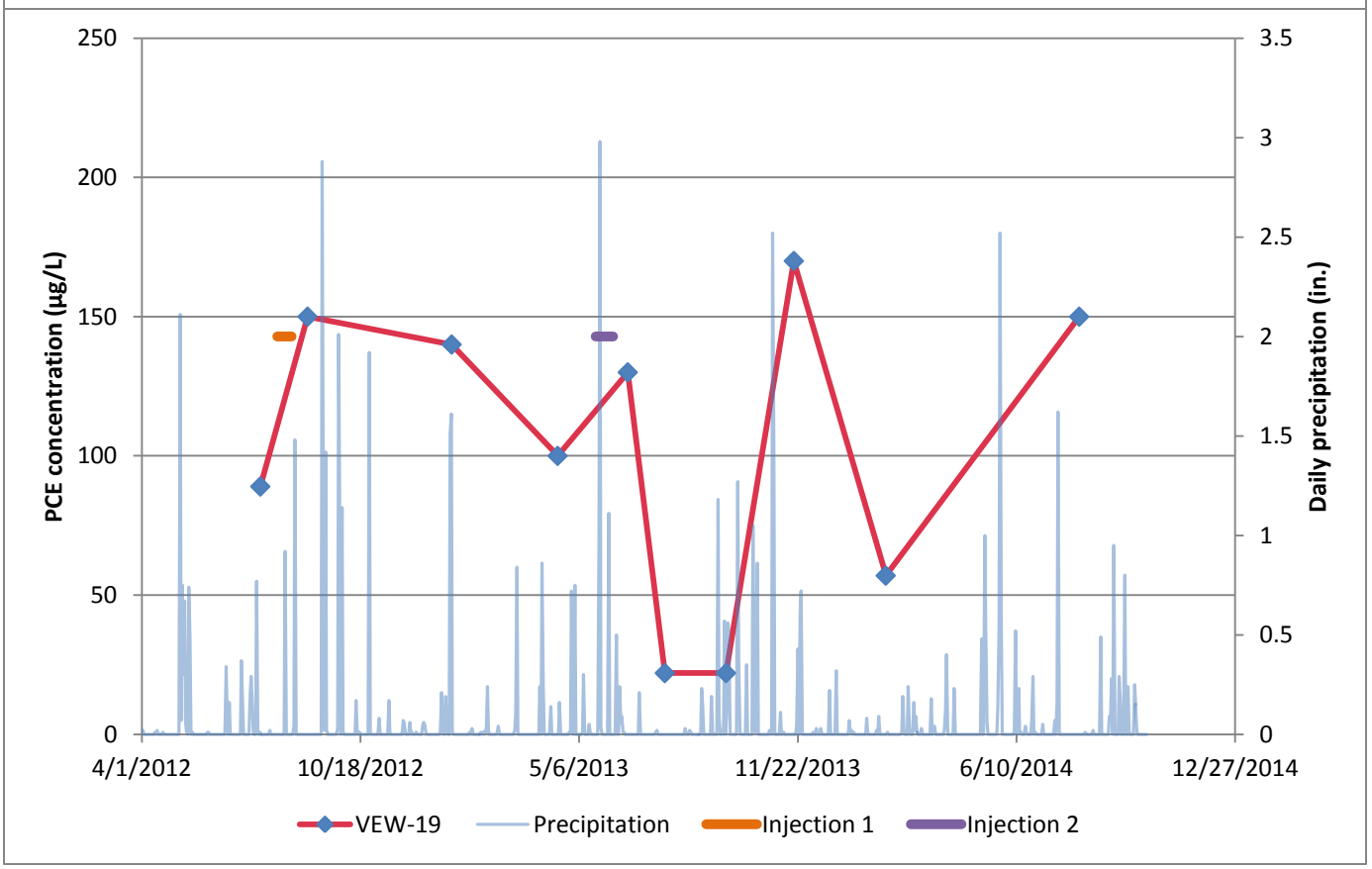

PCE concentration (µg/L)
Daily precipitation (in.)
250
200
150
100
50
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
TSW-05
Precipitation
Injection 1
Injection 2

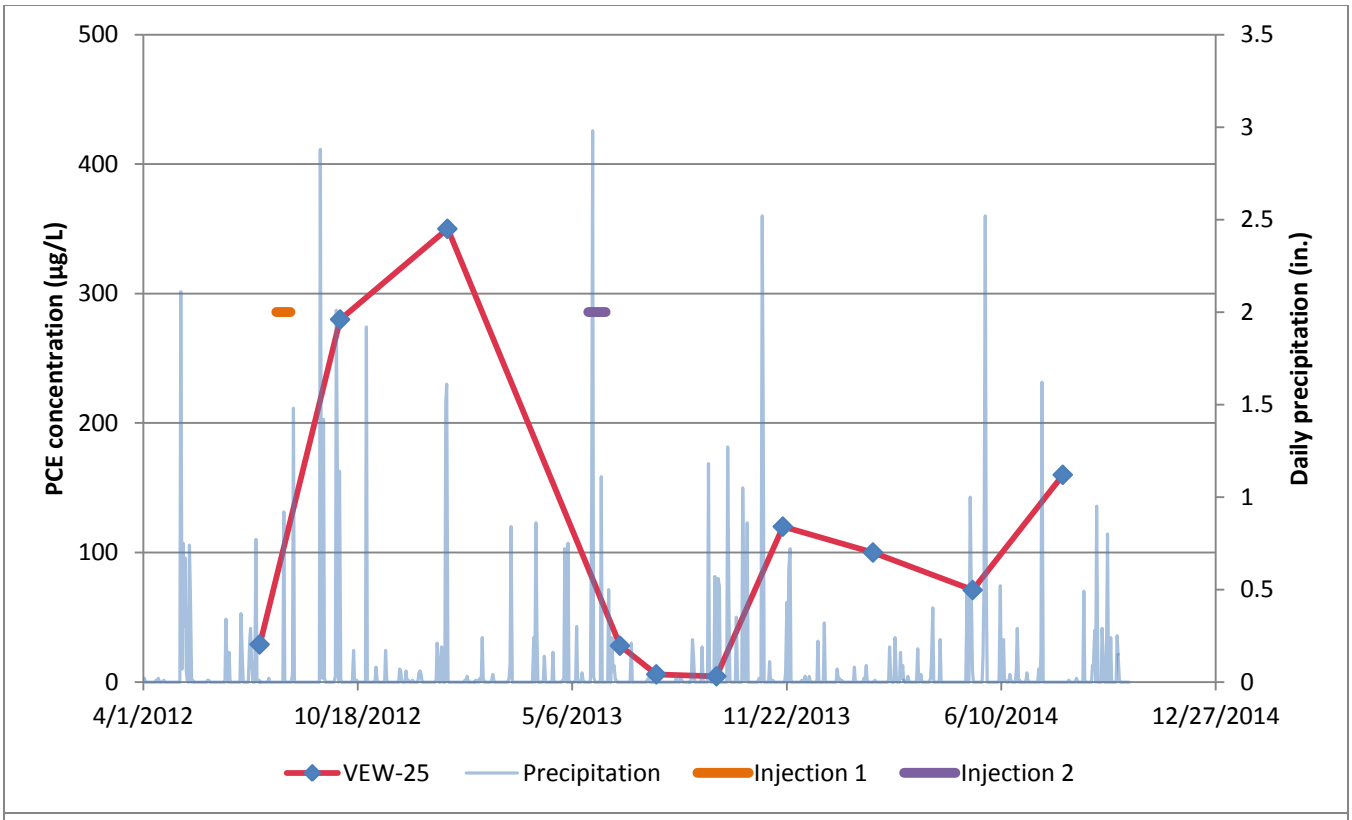

PCE concentration (µg/L)
Daily precipitation (in.)
5
4
3
2
1
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
TSW-07
Precipitation
Injection 1
Injection 2

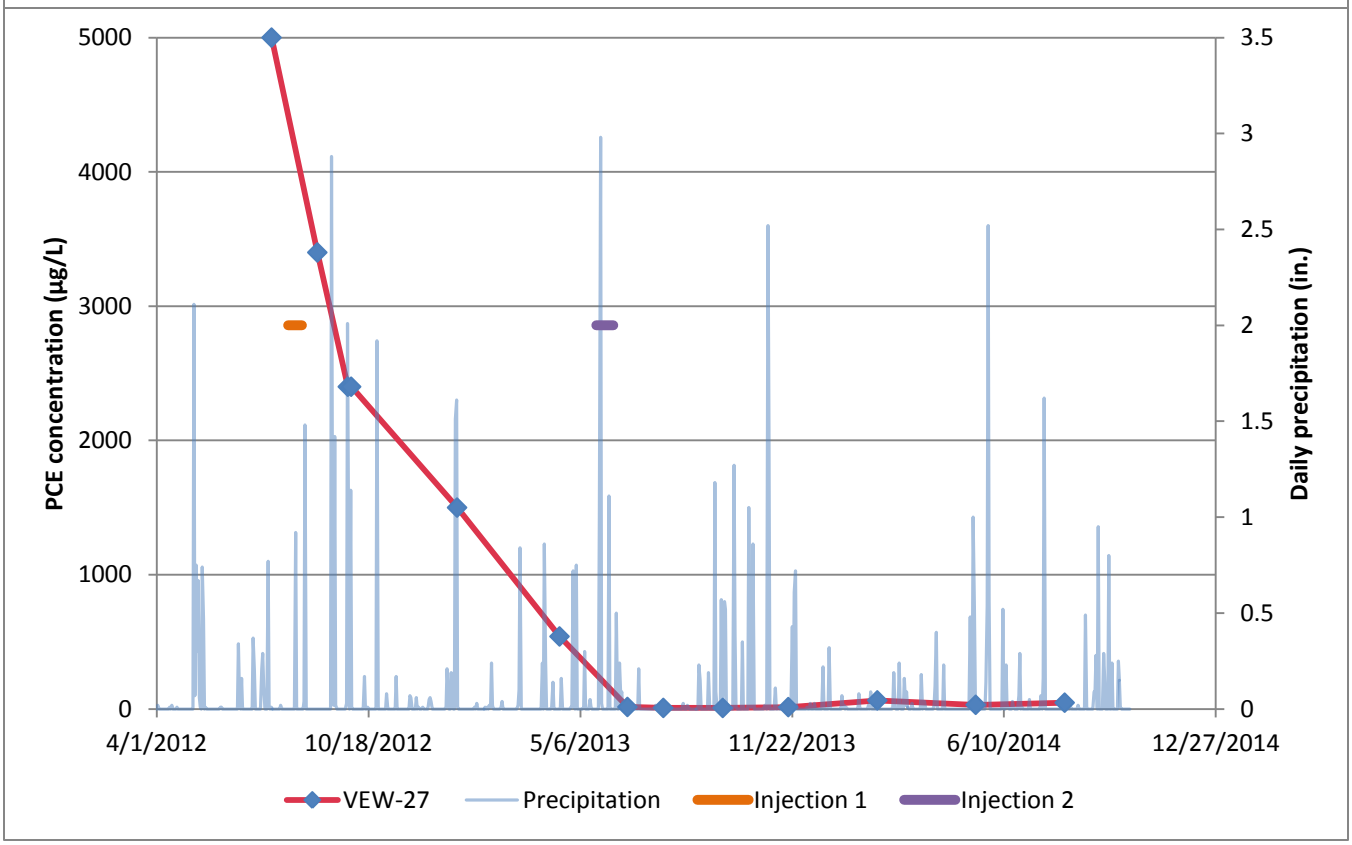
Vapor Extraction Wells (VEW)

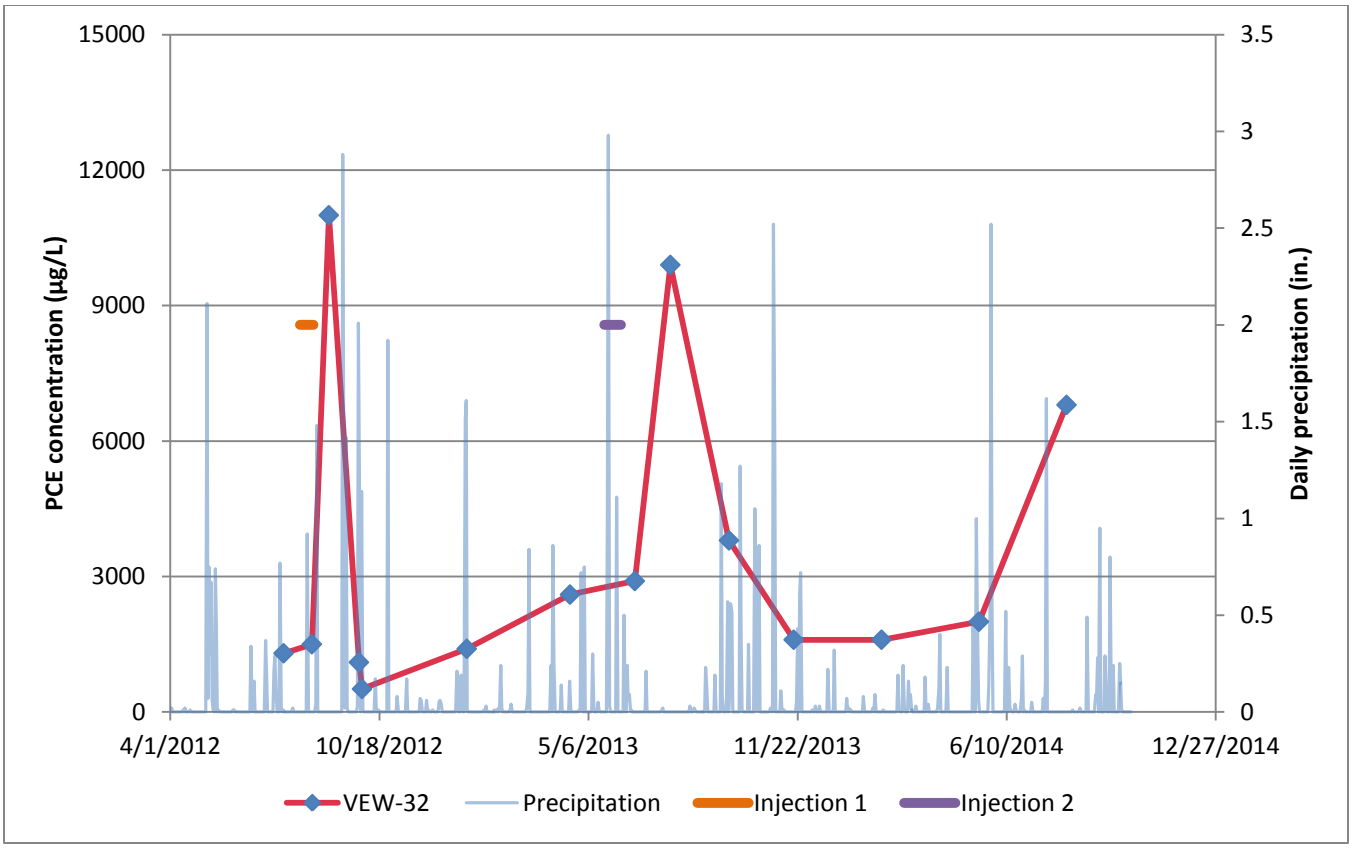
- VEW-15
- VEW-19
- VEW-25
- VEW-27
- VEW-32


100
80
60
40
20
0
PCE concentration (µg/L)
3.5
3
2.5
2
1.5
1
0.5
0
Daily precipitation (in.)
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
VEW-15
Precipitation
Injection 1
Injection 2


250
200
150
100
50
0
PCE concentration (µg/L)
3.5
3
2.5
2
1.5
1
0.5
0
Daily precipitation (in.)
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
VEW-19
Precipitation
Injection 1
Injection 2

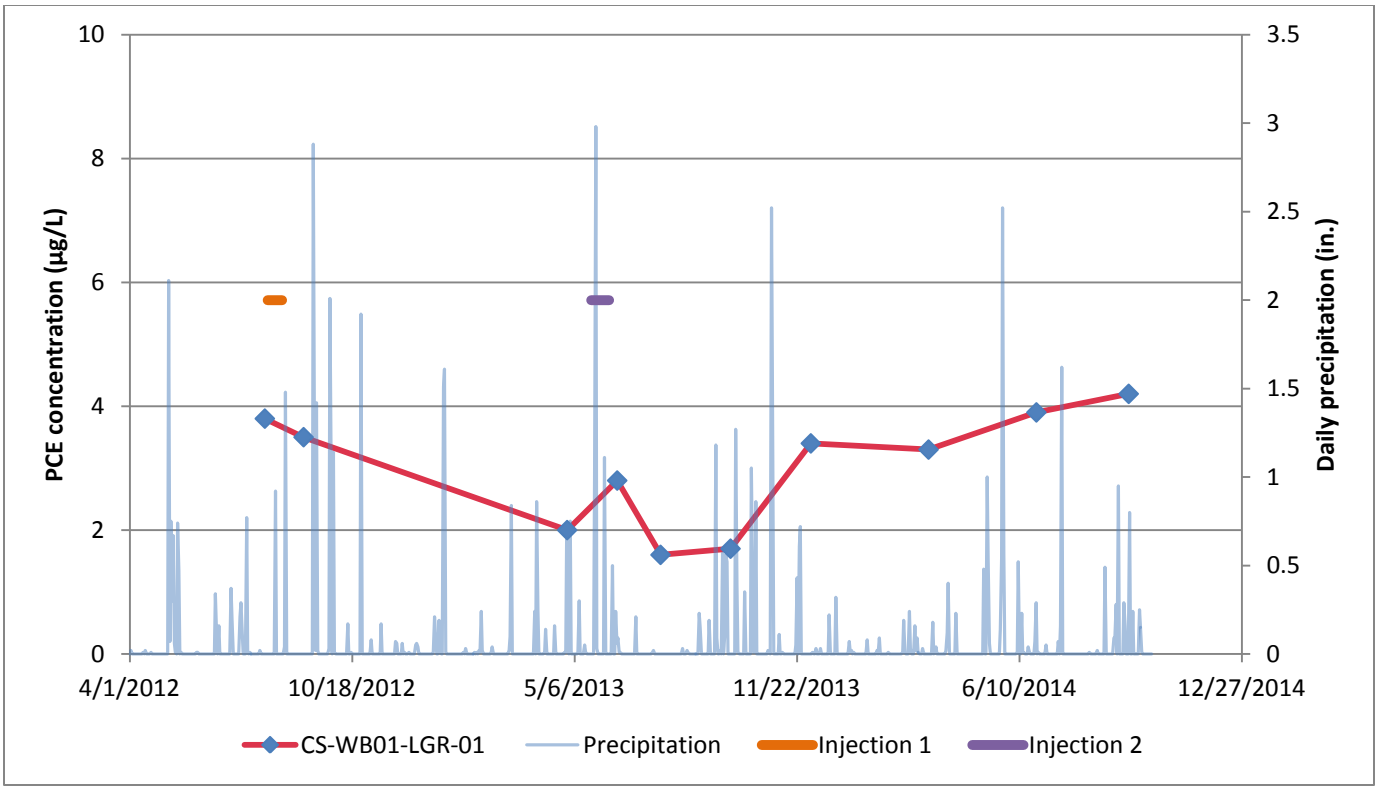

500
400
300
200
100
0
PCE concentration (µg/L)
3.5
3
2.5
2
1.5
1
0.5
0
Daily precipitation (in.)
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
VEW-25
Precipitation
Injection 1
Injection 2

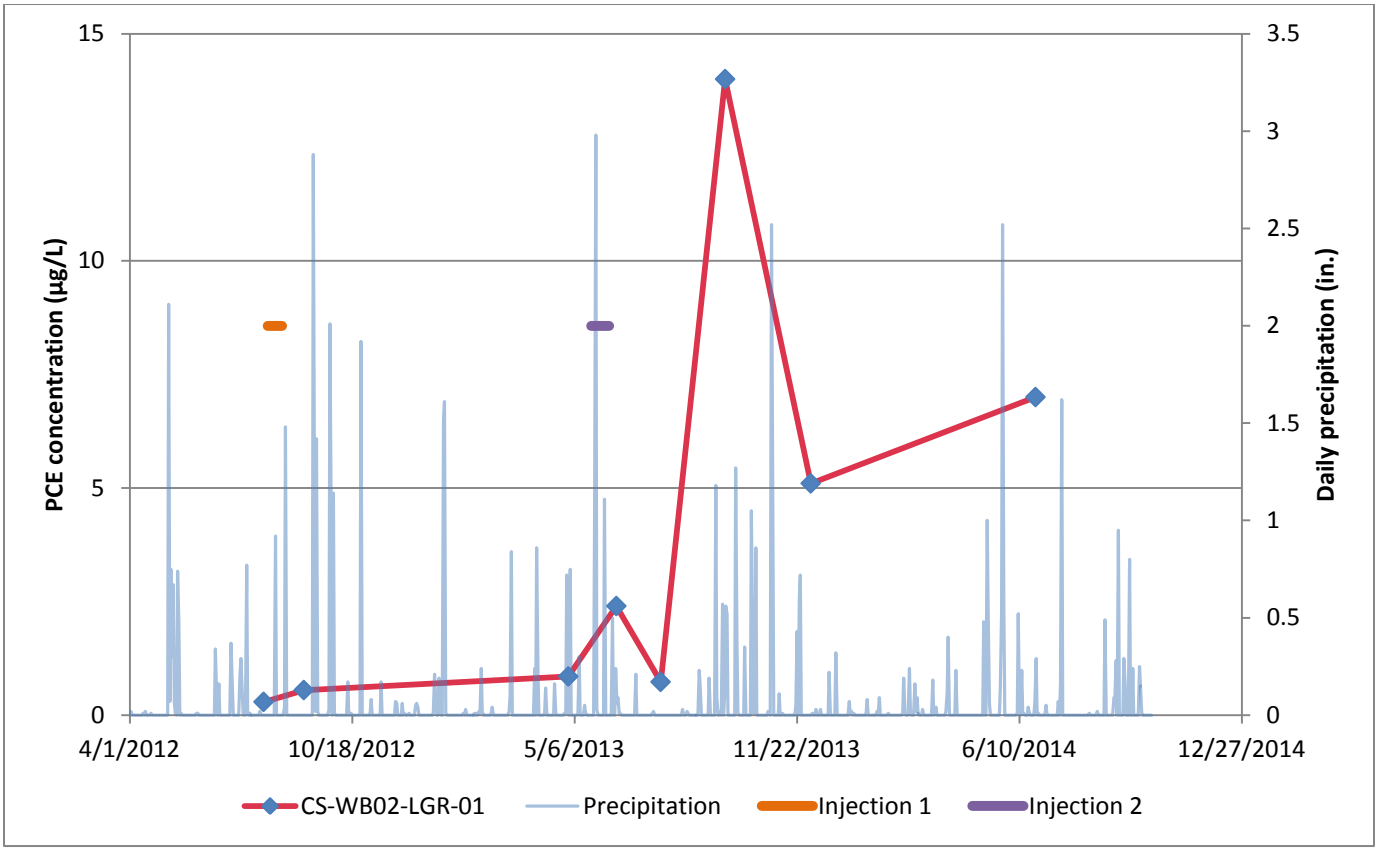

5000
4000
3000
2000
1000
0
PCE concentration (µg/L)
3.5
3
2.5
2
1.5
1
0.5
0
Daily precipitation (in.)
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
VEW-27
Precipitation
Injection 1
Injection 2

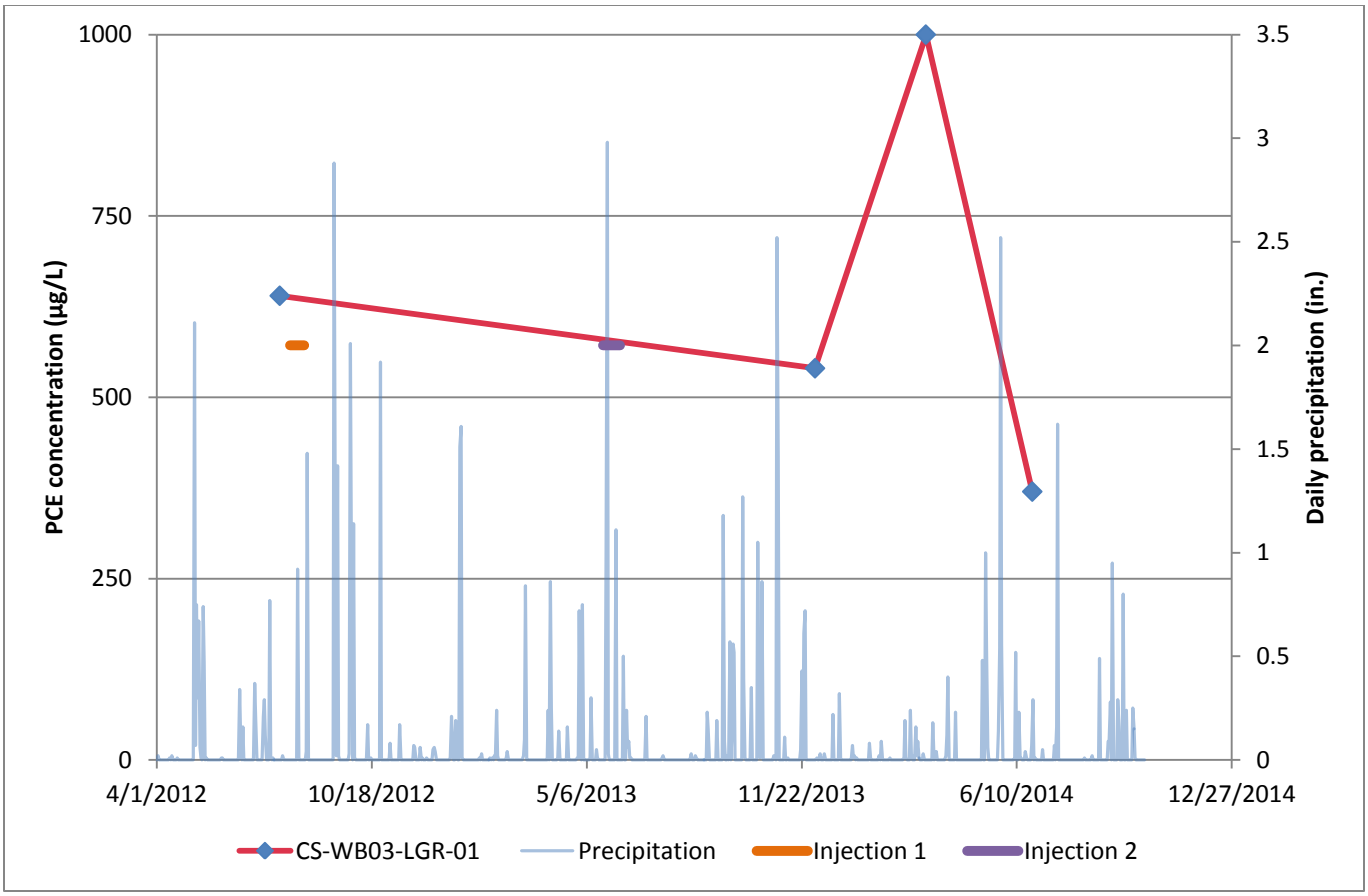

15000
12000
9000
6000
3000
0
PCE concentration (µg/L)
3.5
3
2.5
2
1.5
1
0.5
0
Daily precipitation (in.)
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
VEW-32
Precipitation
Injection 1
Injection 2

West Bay Lower Glen Rose Wells

- CS-WB01-LGR-01
- CS-WB02-LGR-01
- CS-WB03-LGR-01

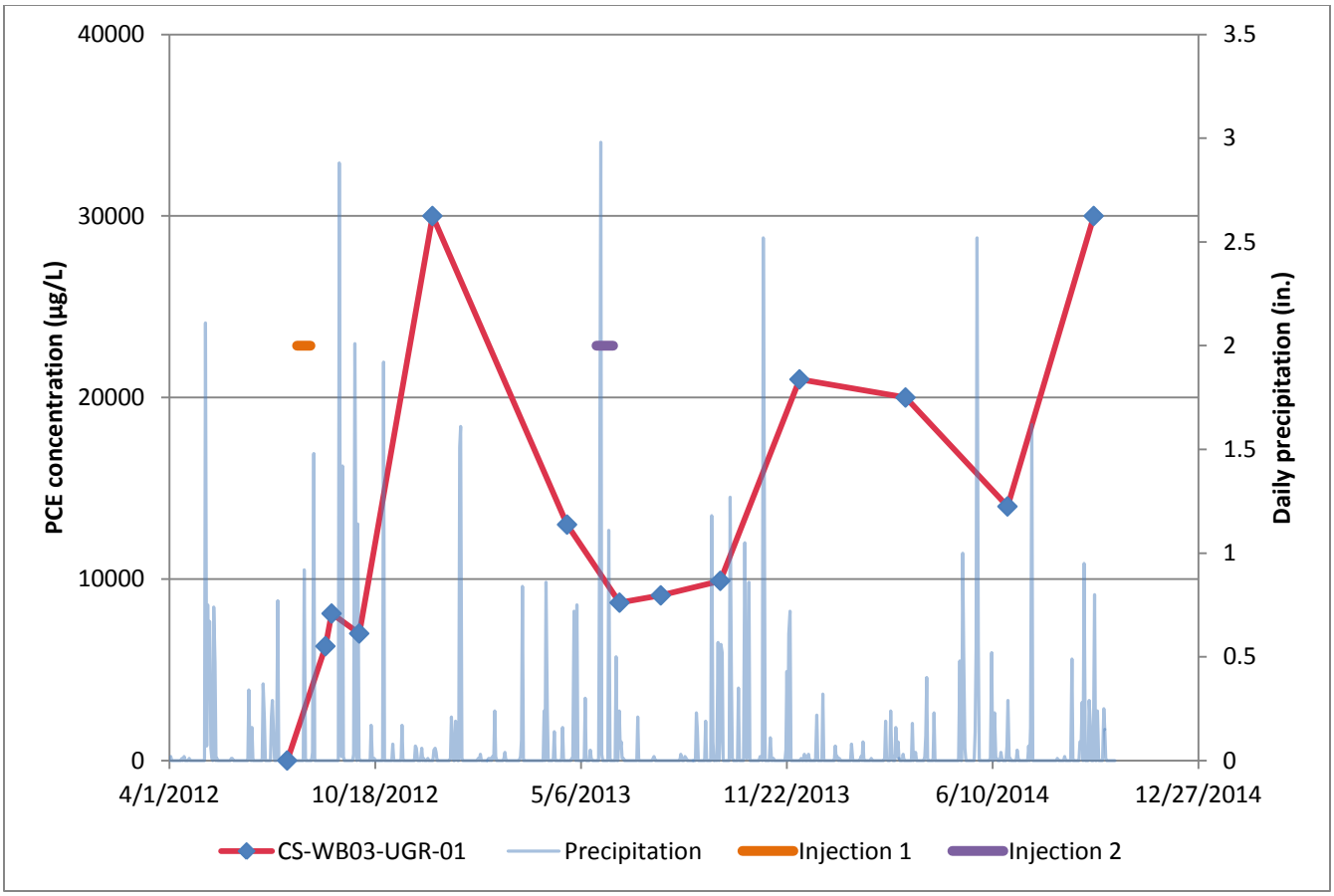

PCE concentration (µg/L)
Daily precipitation (in.)
10
8
6
4
2
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
CS-WB01-LGR-01
Precipitation
Injection 1
Injection 2


PCE concentration (µg/L)
Daily precipitation (in.)
15
10
5
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
CS-WB02-LGR-01
Precipitation
Injection 1
Injection 2


1000
750
500
250
0
PCE concentration (µg/L)
3.5
3
2.5
2
1.5
1
0.5
0
Daily precipitation (in.)
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
CS-WB03-LGR-01
Precipitation
Injection 1
Injection 2

West Bay Upper Glen Rose Wells

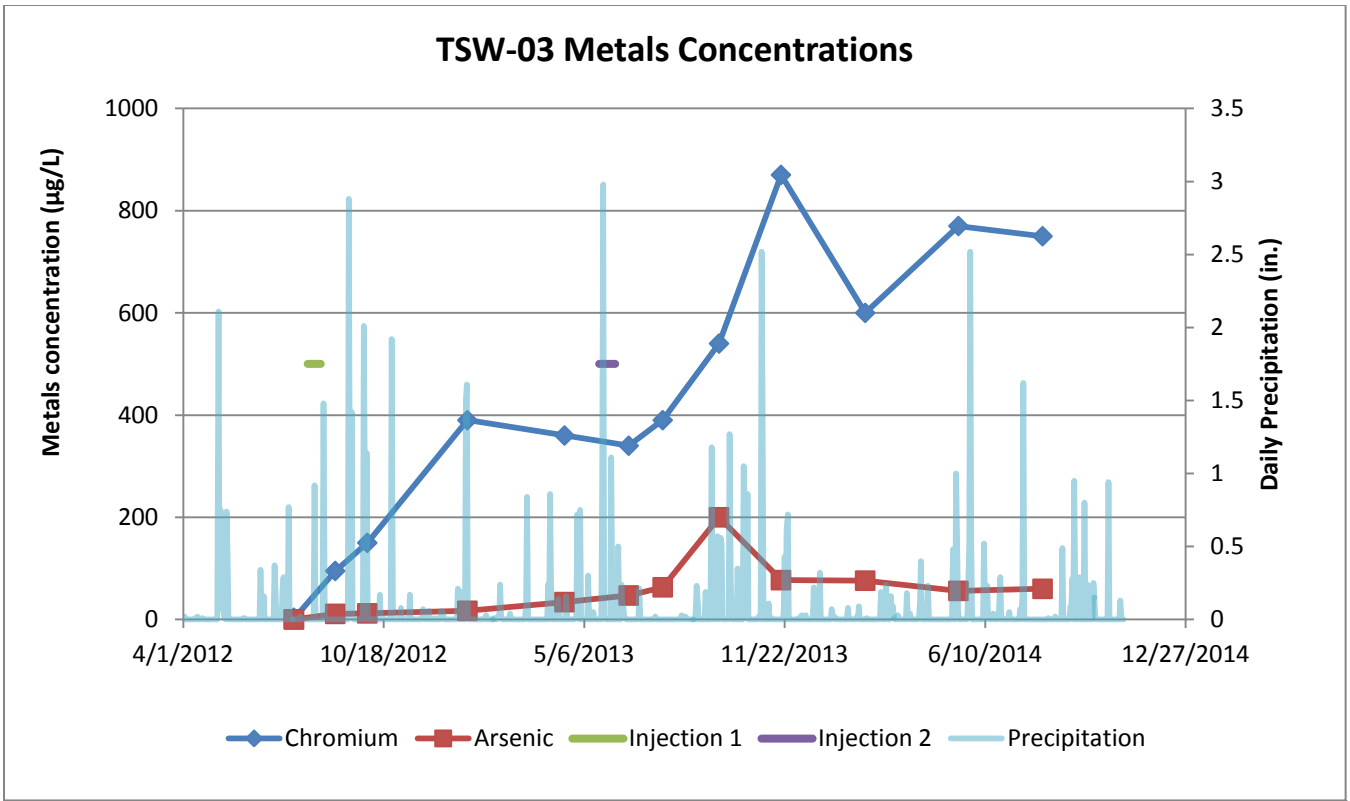
- CS-WB03-UGR-01

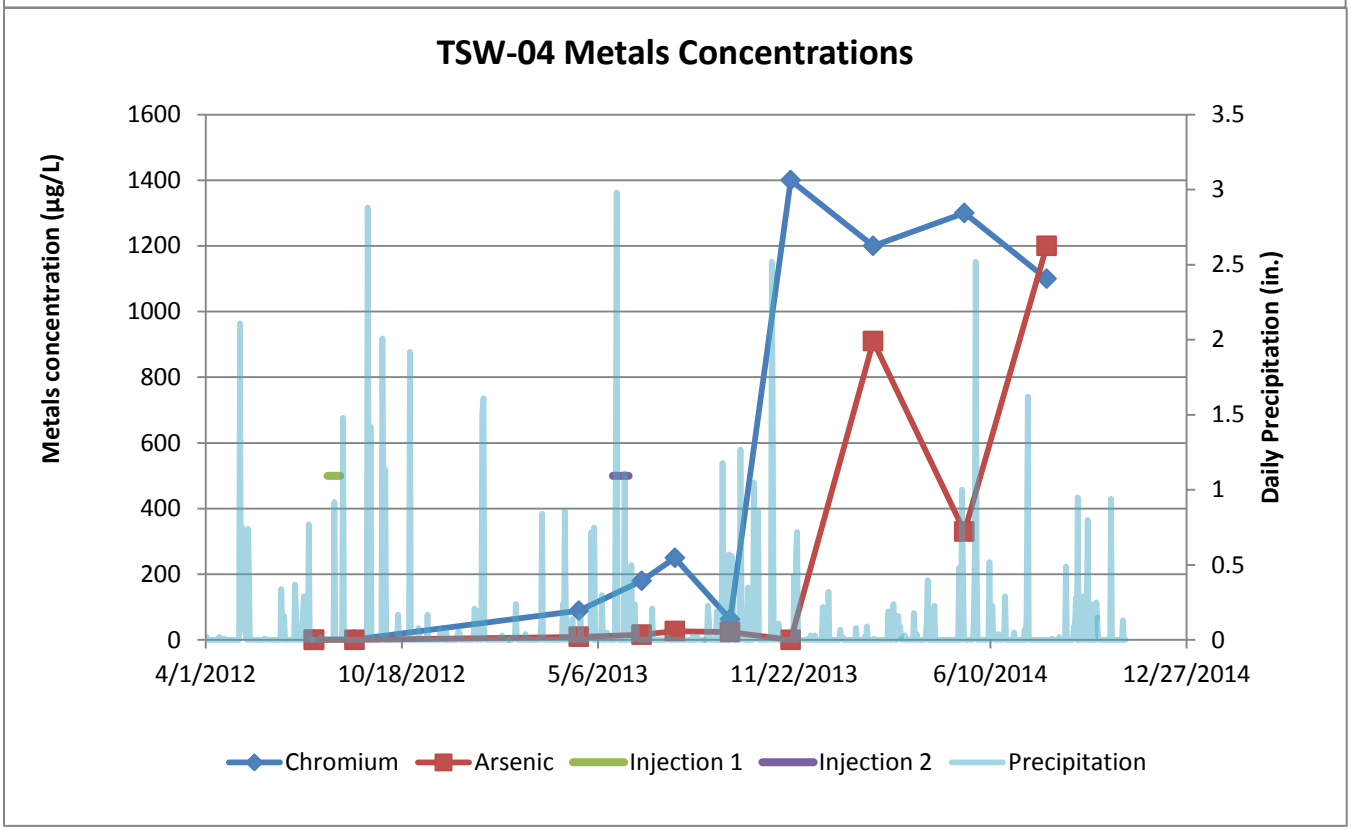

40000
30000
20000
10000
0
3.5
3
2.5
2
1.5
1
0.5
0
PCE concentration (µg/L)
Daily precipitation (in.)
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
CS-WB03-UGR-01
Precipitation
Injection 1
Injection 2

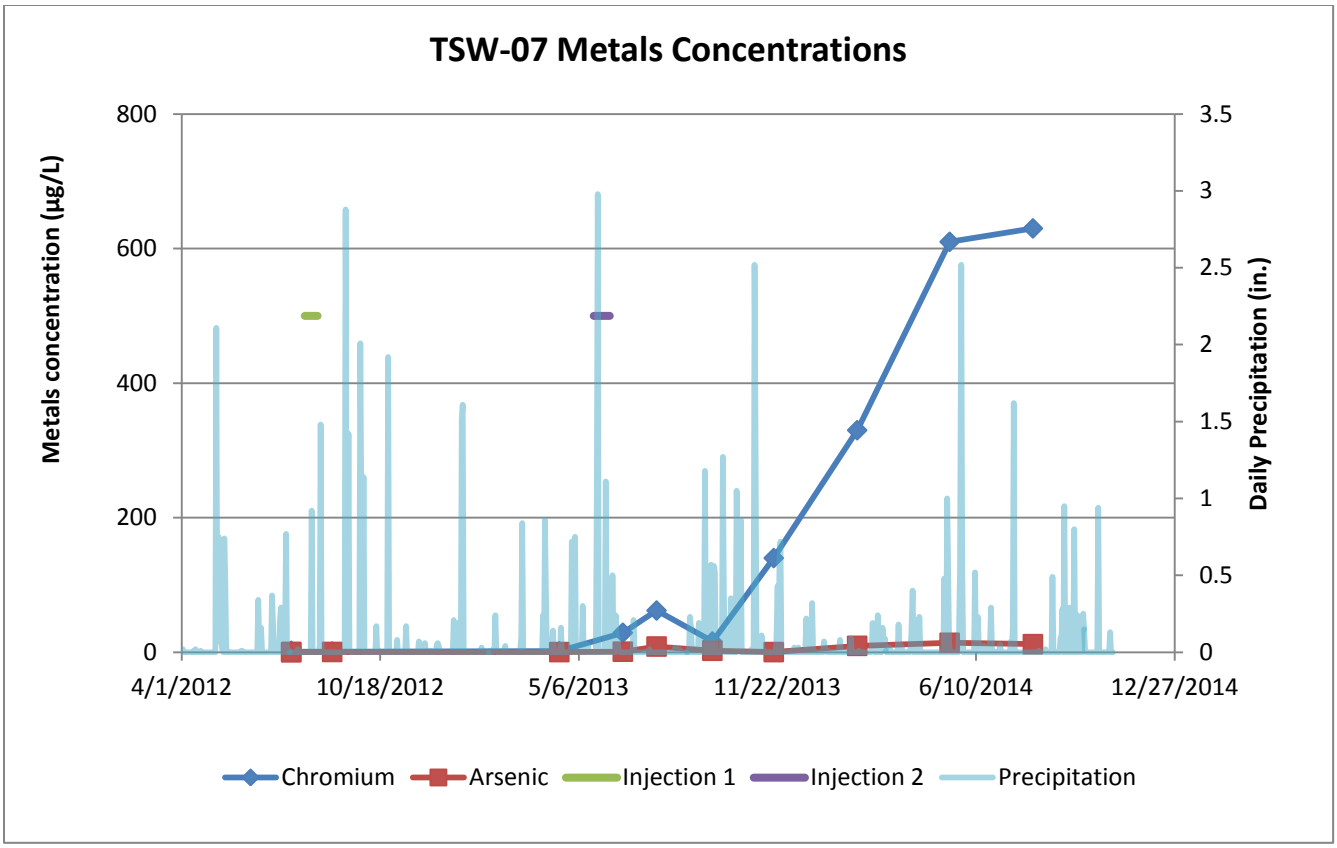
Metal Concentration Graphs

Treatability Study Wells (TSW)

- TSW-03
- TSW-04
- TSW-07

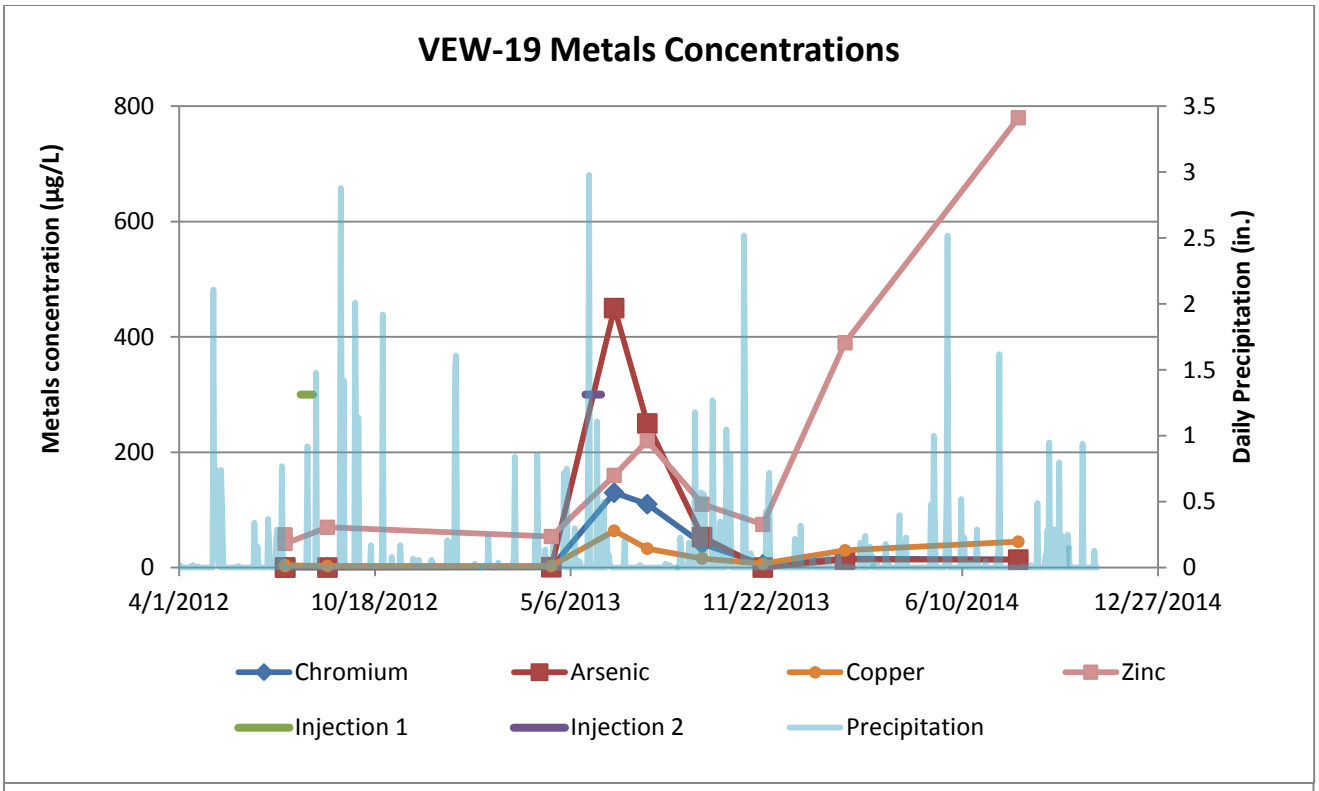

TSW-03 Metals Concentrations
Metals concentration (µg/L)
Daily Precipitation (in.)
1000
800
600
400
200
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chromium
Arsenic
Injection 1
Injection 2
Precipitation

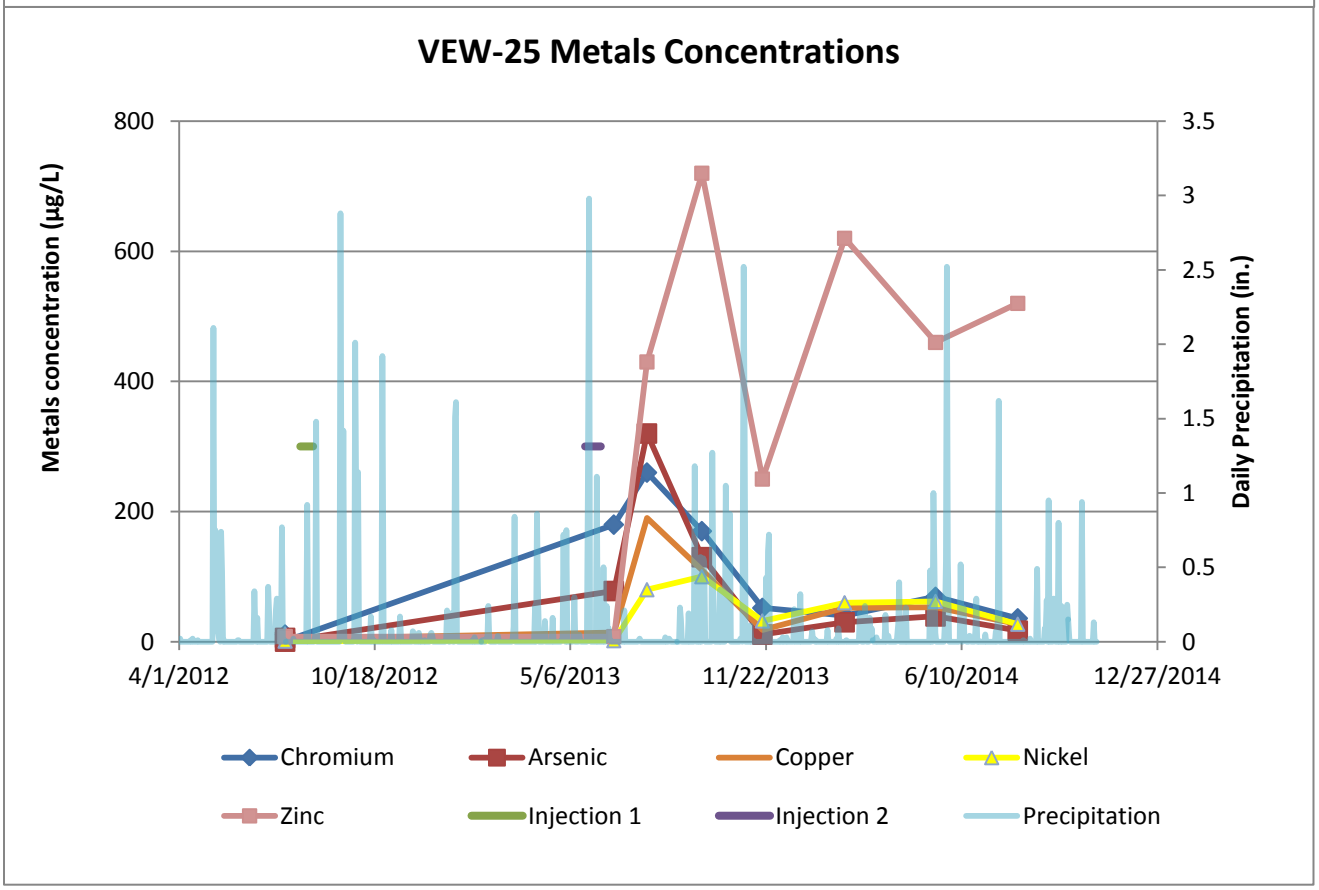

TSW-04 Metals Concentrations
Metals concentration (µg/L)
Daily Precipitation (in.)
1600
1400
1200
1000
800
600
400
200
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chromium
Arsenic
Injection 1
Injection 2
Precipitation

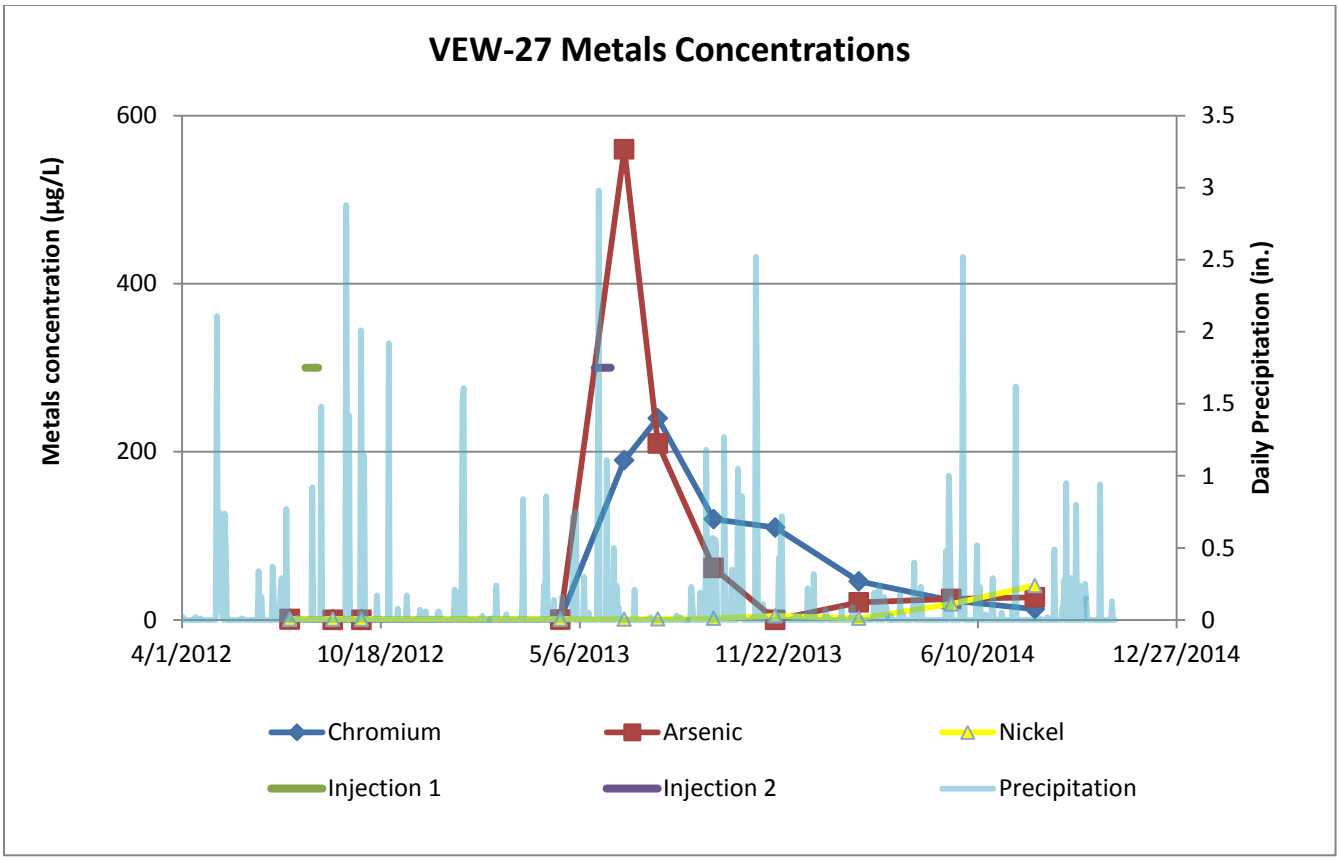

TSW-07 Metals Concentrations
Metals concentration (µg/L)
Daily Precipitation (in.)
800
600
400
200
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chromium
Arsenic
Injection 1
Injection 2
Precipitation

Vapor Extraction Wells (VEW)

- VEW-19
- VEW-25
- VEW-27

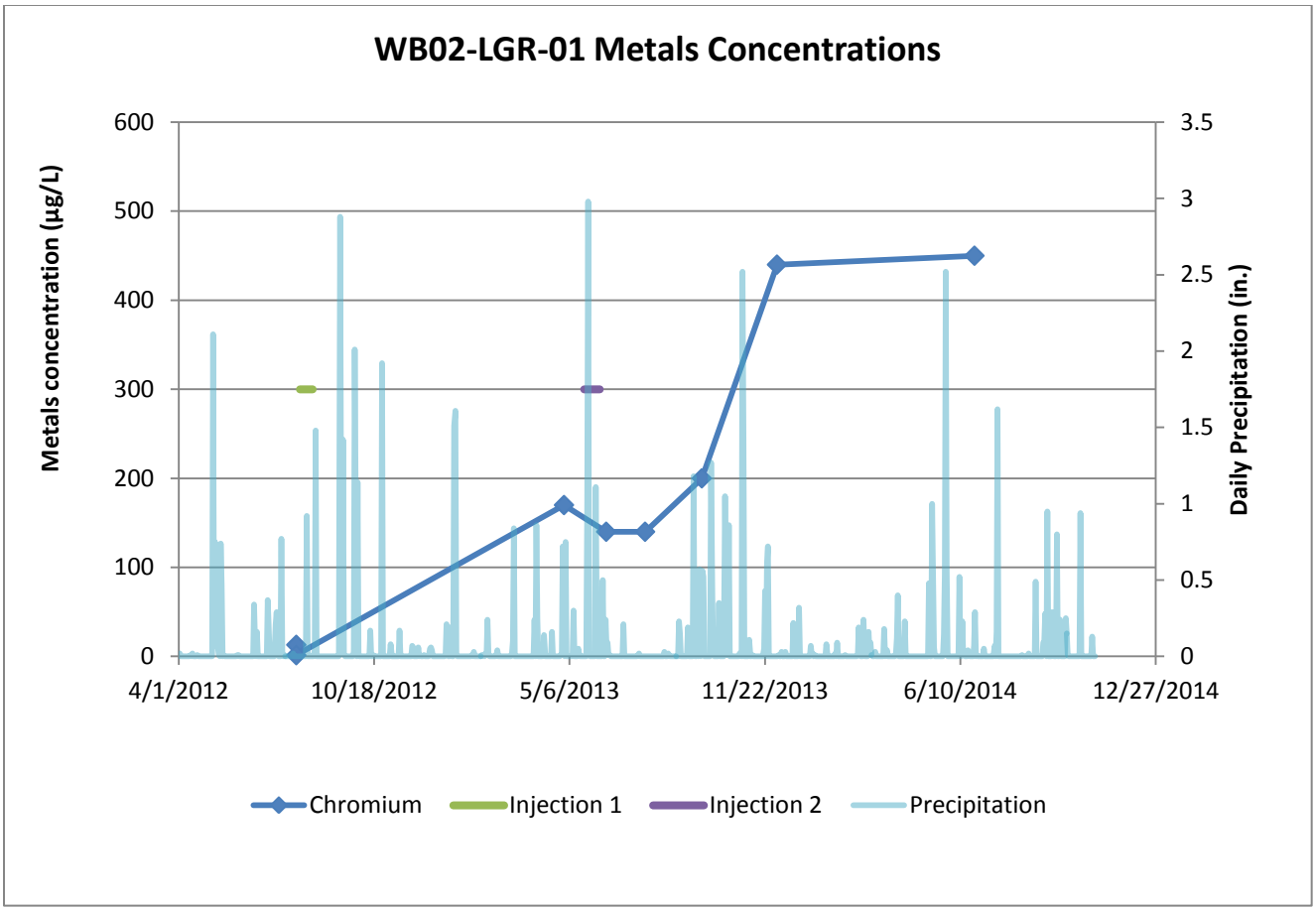

VEW-19 Metals Concentrations
Metals concentration (µg/L)
Daily Precipitation (in.)
800
600
400
200
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chromium
Arsenic
Copper
Zinc
Injection 1
Injection 2
Precipitation


VEW-25 Metals Concentrations
Metals concentration (µg/L)
Daily Precipitation (in.)
800
600
400
200
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chromium
Arsenic
Copper
Nickel
Zinc
Injection 1
Injection 2
Precipitation


VEW-27 Metals Concentrations
Metals concentration (µg/L)
Daily Precipitation (in.)
600
400
200
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chromium
Arsenic
Nickel
Injection 1
Injection 2
Precipitation

West Bay Lower Glen Rose Wells

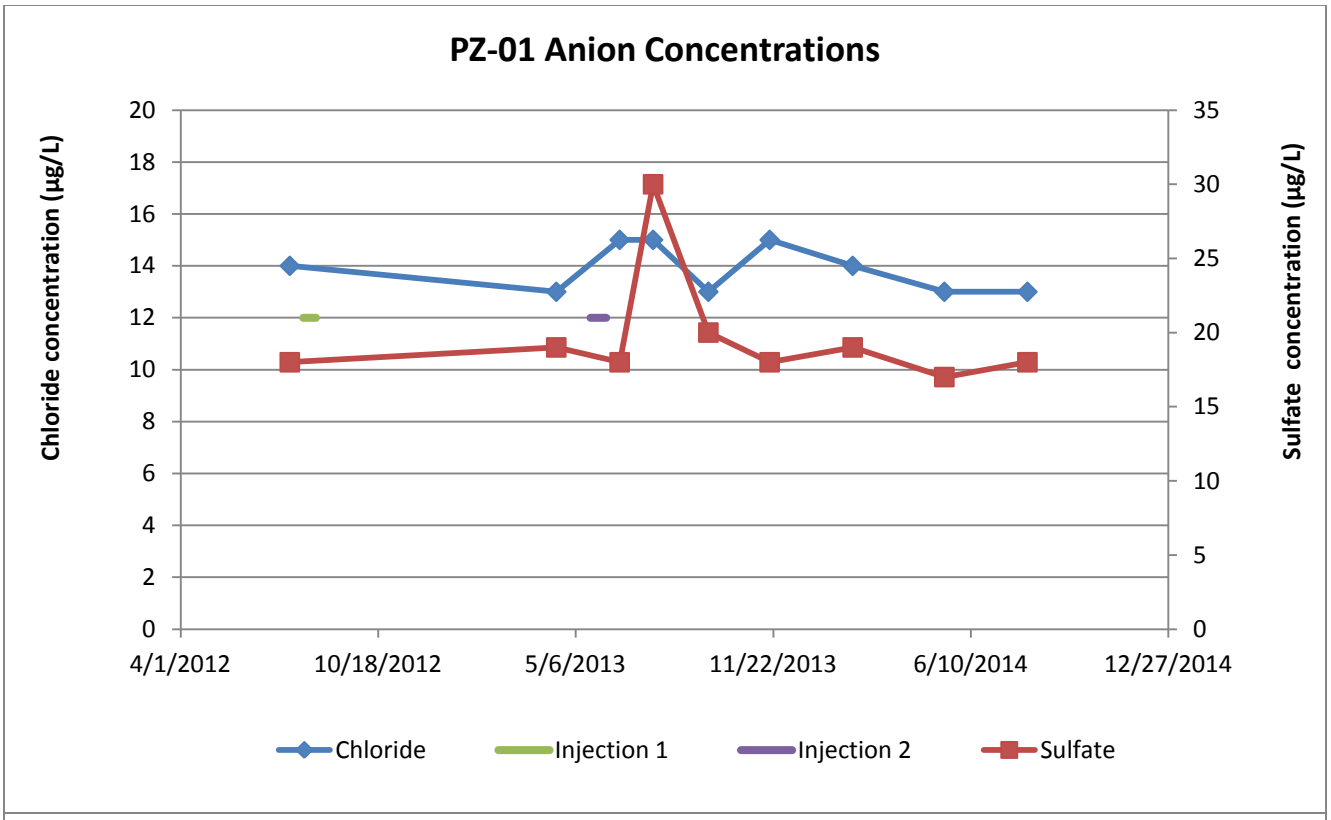
- CS-WB02-LGR-01

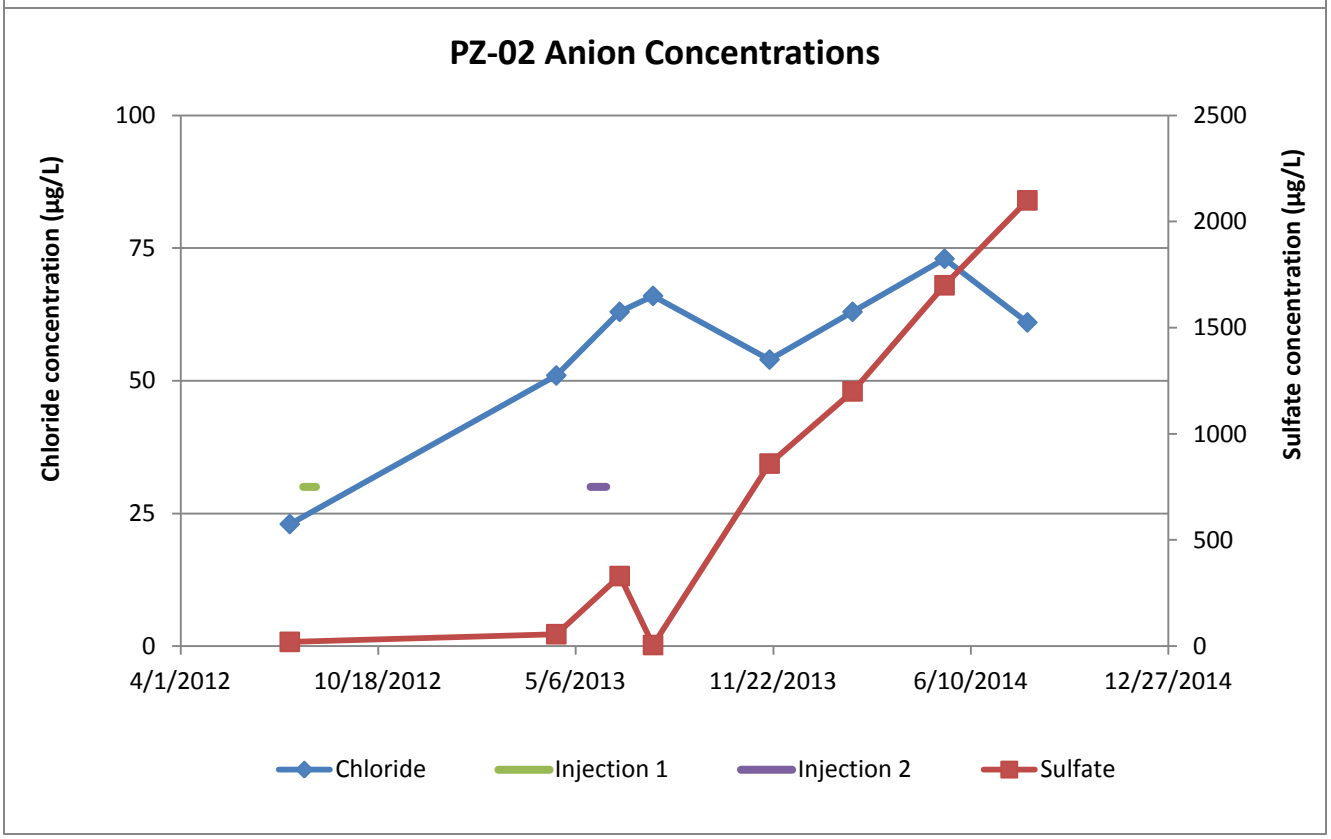

WB02-LGR-01 Metals Concentrations
Metals concentration (µg/L)
Daily Precipitation (in.)
600
500
400
300
200
100
0
3.5
3
2.5
2
1.5
1
0.5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chromium
Injection 1
Injection 2
Precipitation

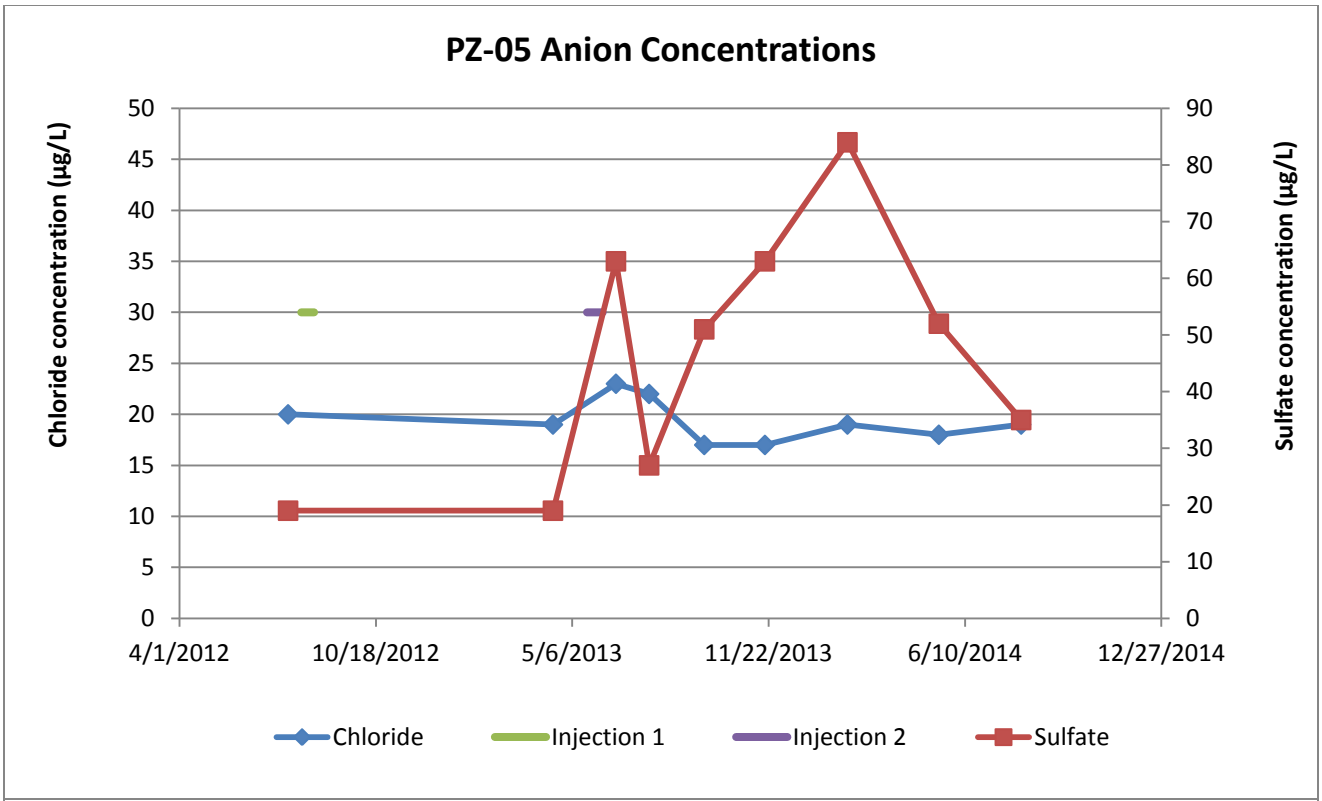
Anion Concentration Graphs

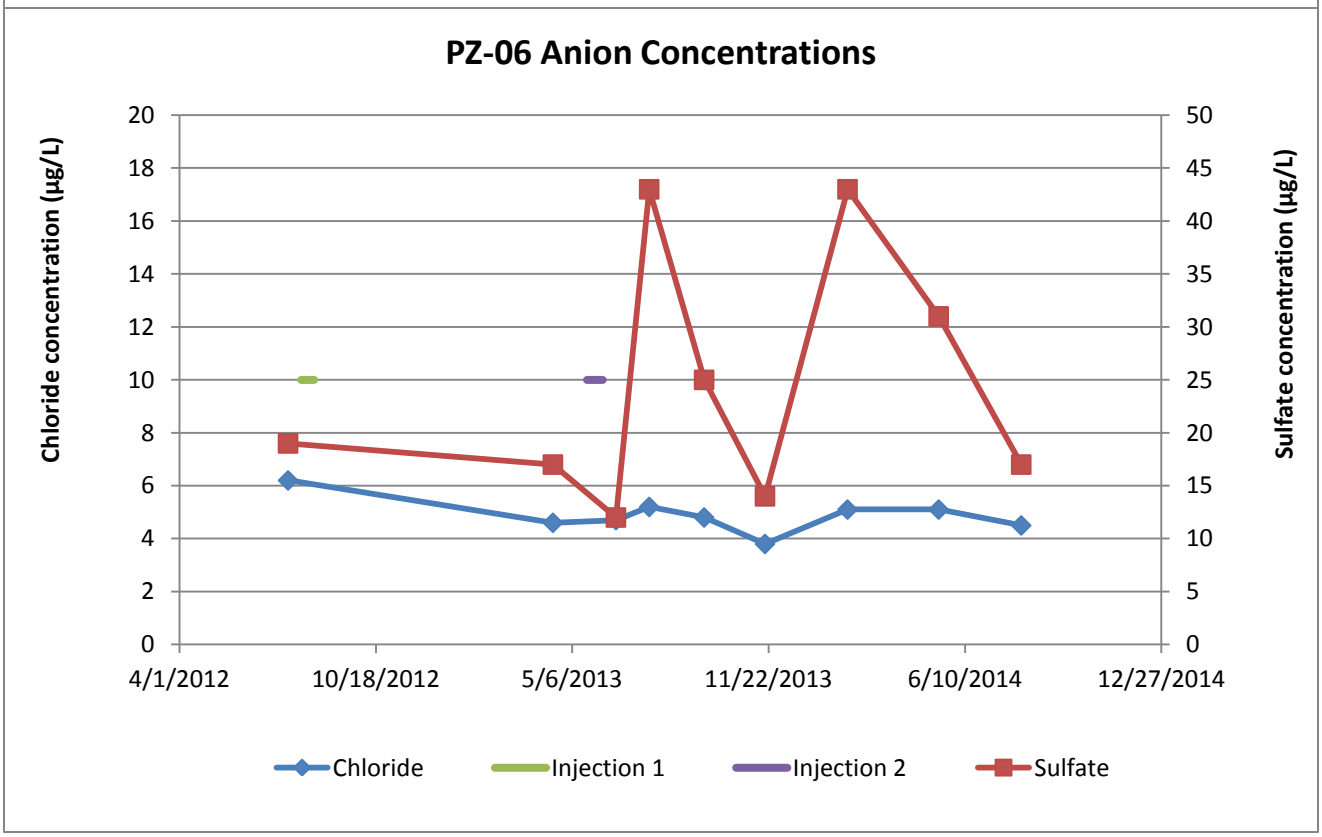
Piezometer Monitoring Wells (PZ)

- PZ-01
- PZ-02
- PZ-05
- PZ-06


PZ-01 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentration (µg/L)
0
2
4
6
8
10
12
14
16
18
20
0
5
10
15
20
25
30
35
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

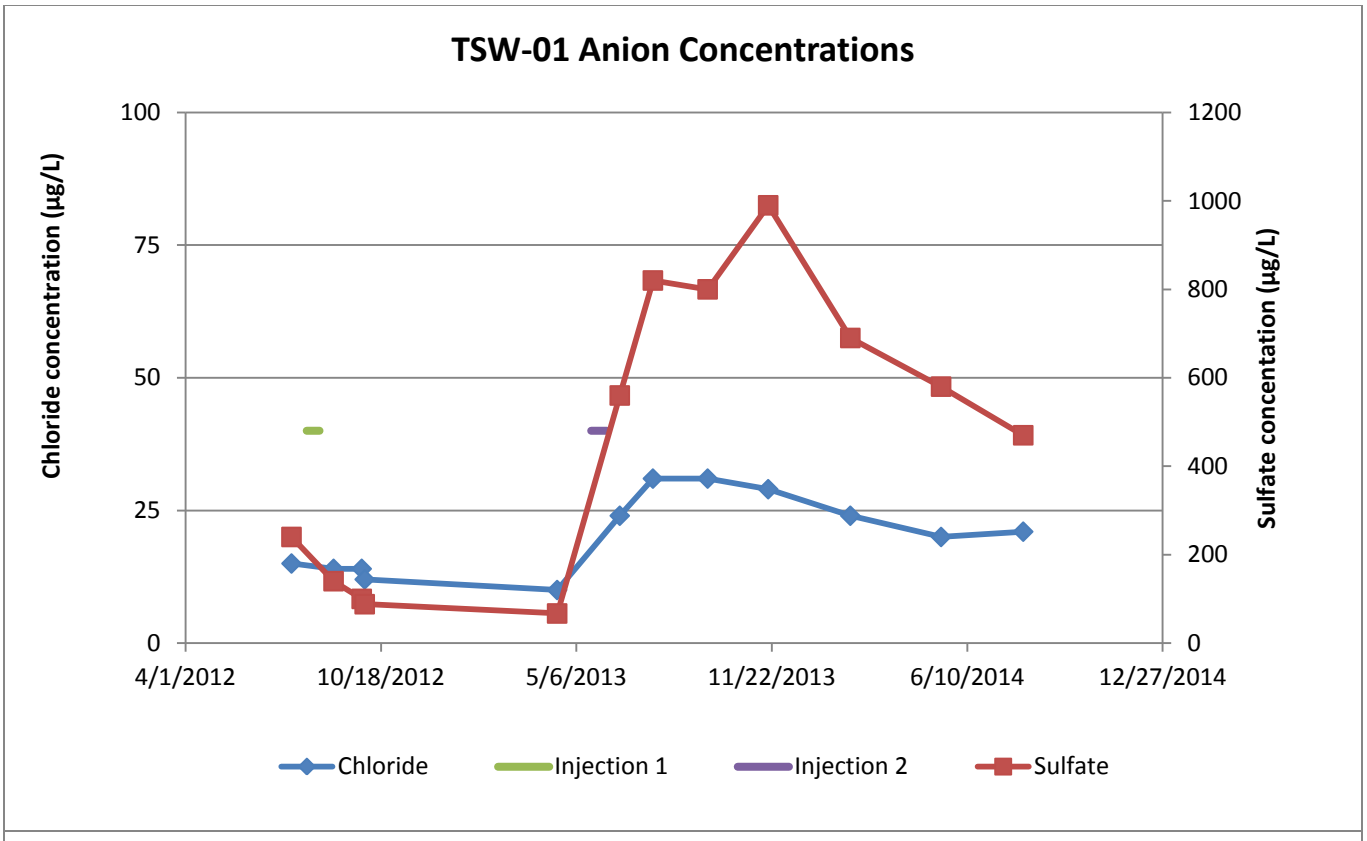

PZ-02 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentration (µg/L)
0
25
50
75
100
0
500
1000
1500
2000
2500
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

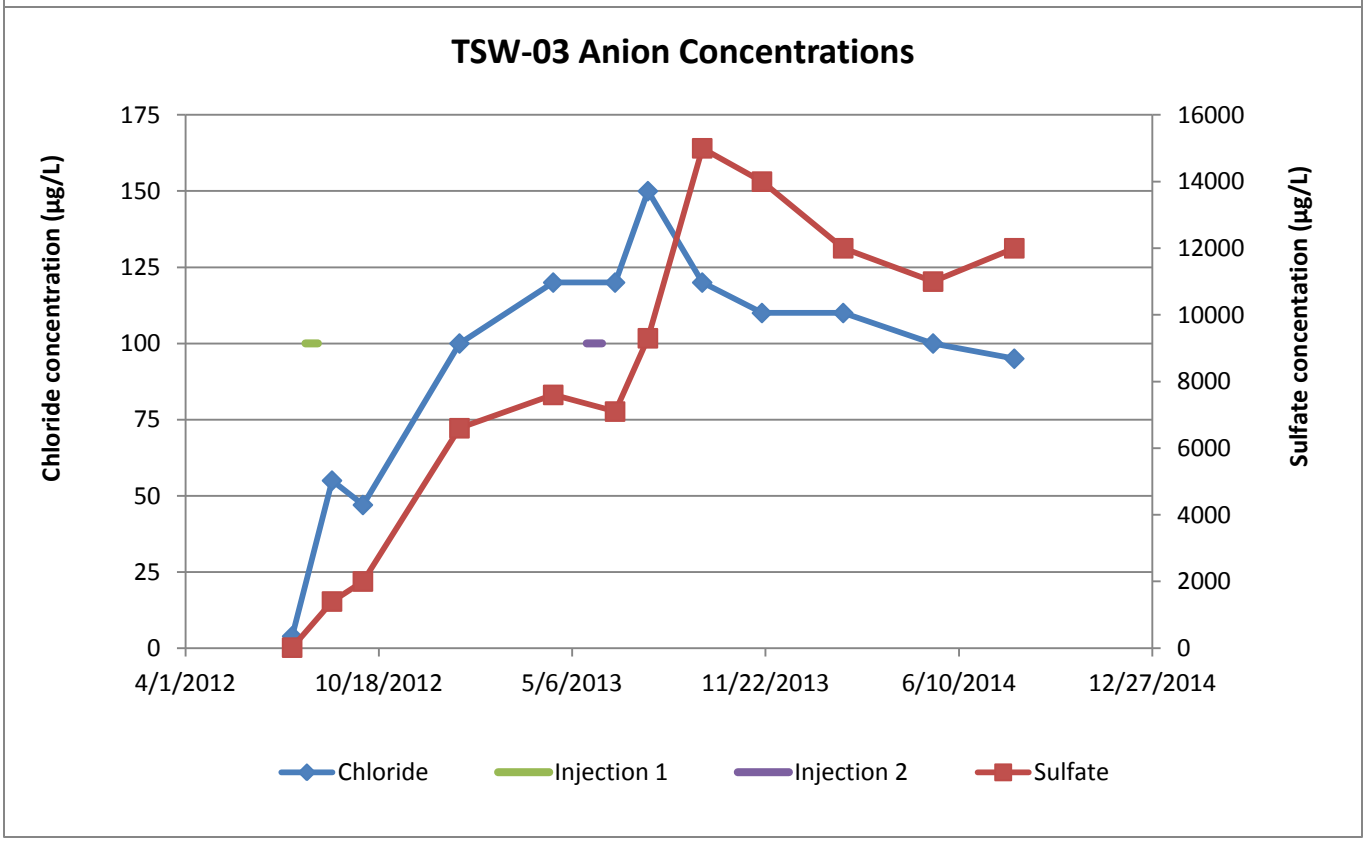

PZ-05 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentration (µg/L)
0
5
10
15
20
25
30
35
40
45
50
0
10
20
30
40
50
60
70
80
90
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

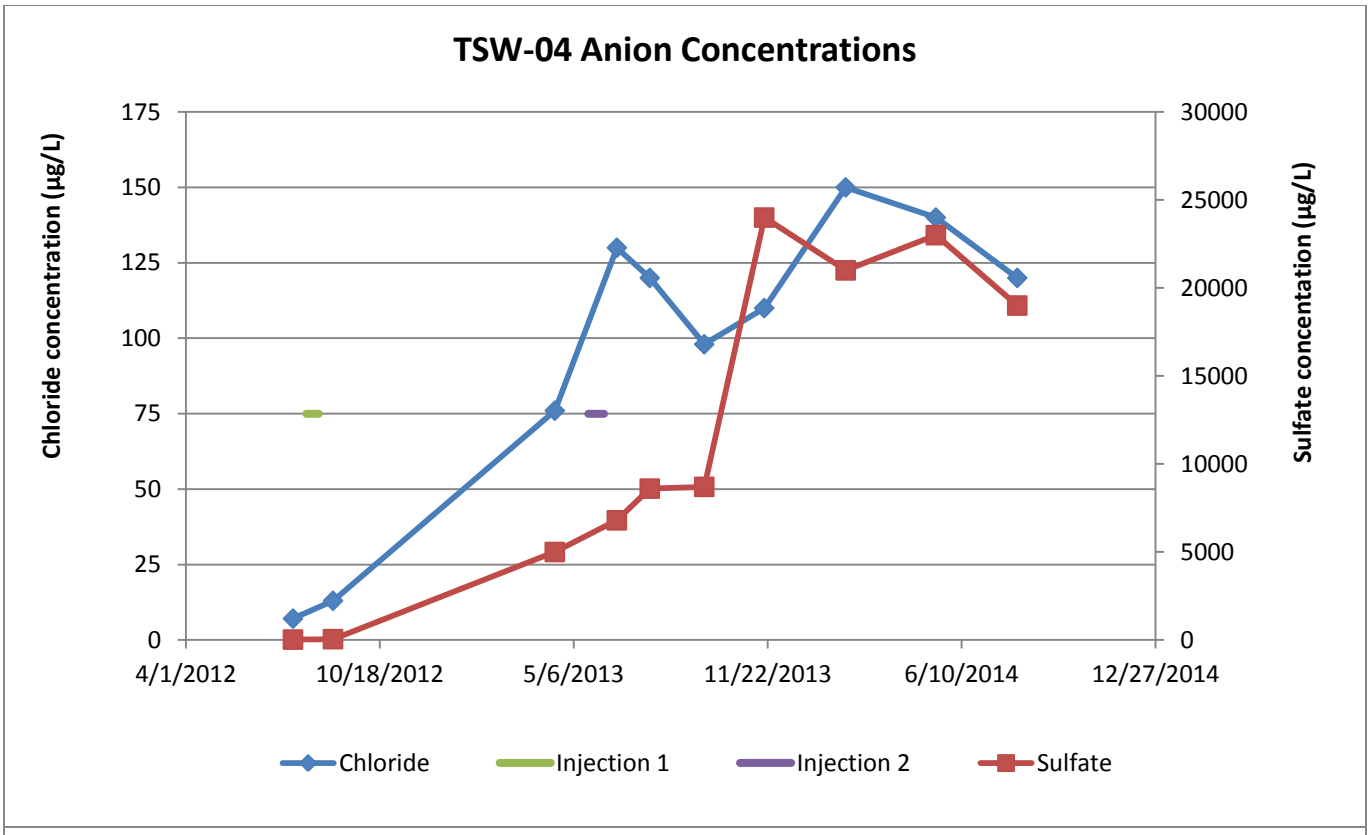

PZ-06 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentration (µg/L)
0
2
4
6
8
10
12
14
16
18
20
0
5
10
15
20
25
30
35
40
45
50
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

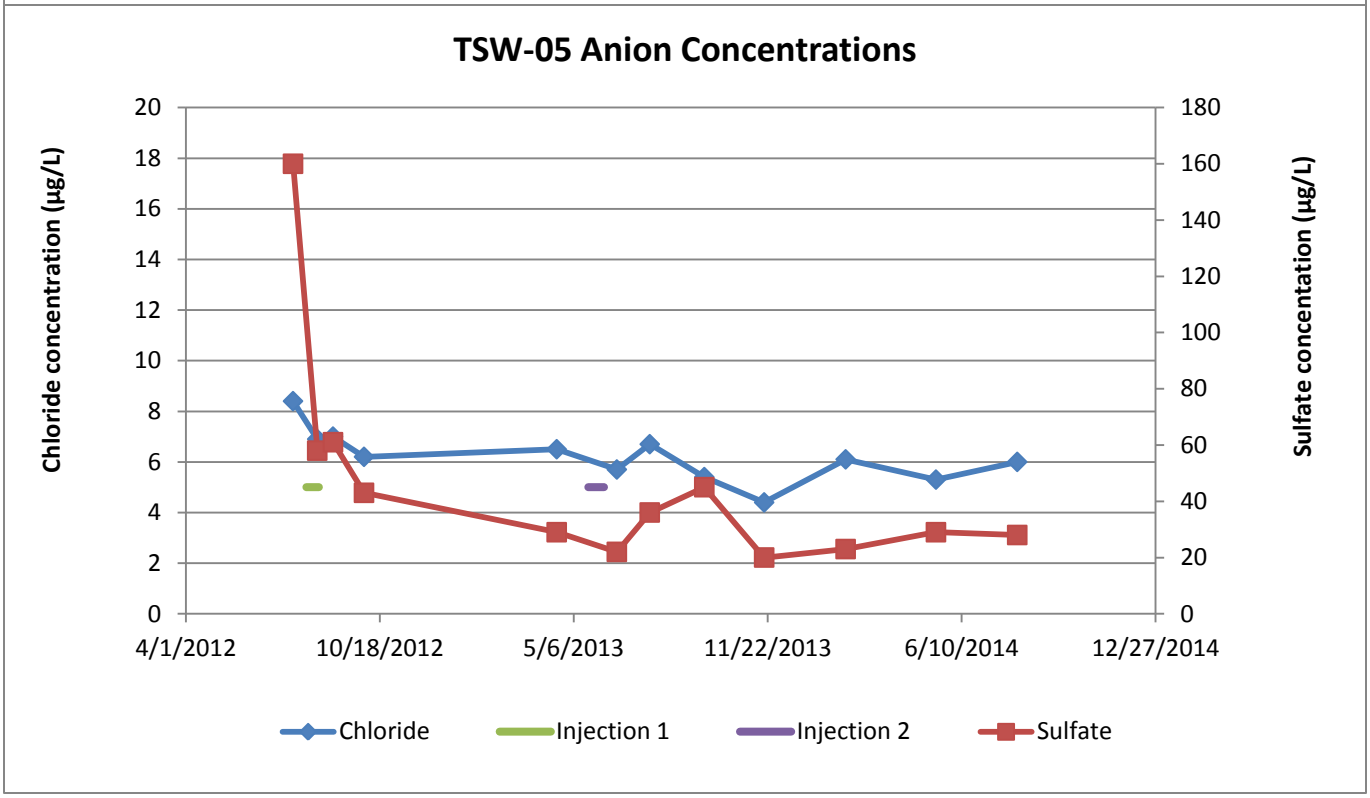
Treatability Study Wells (TSW)

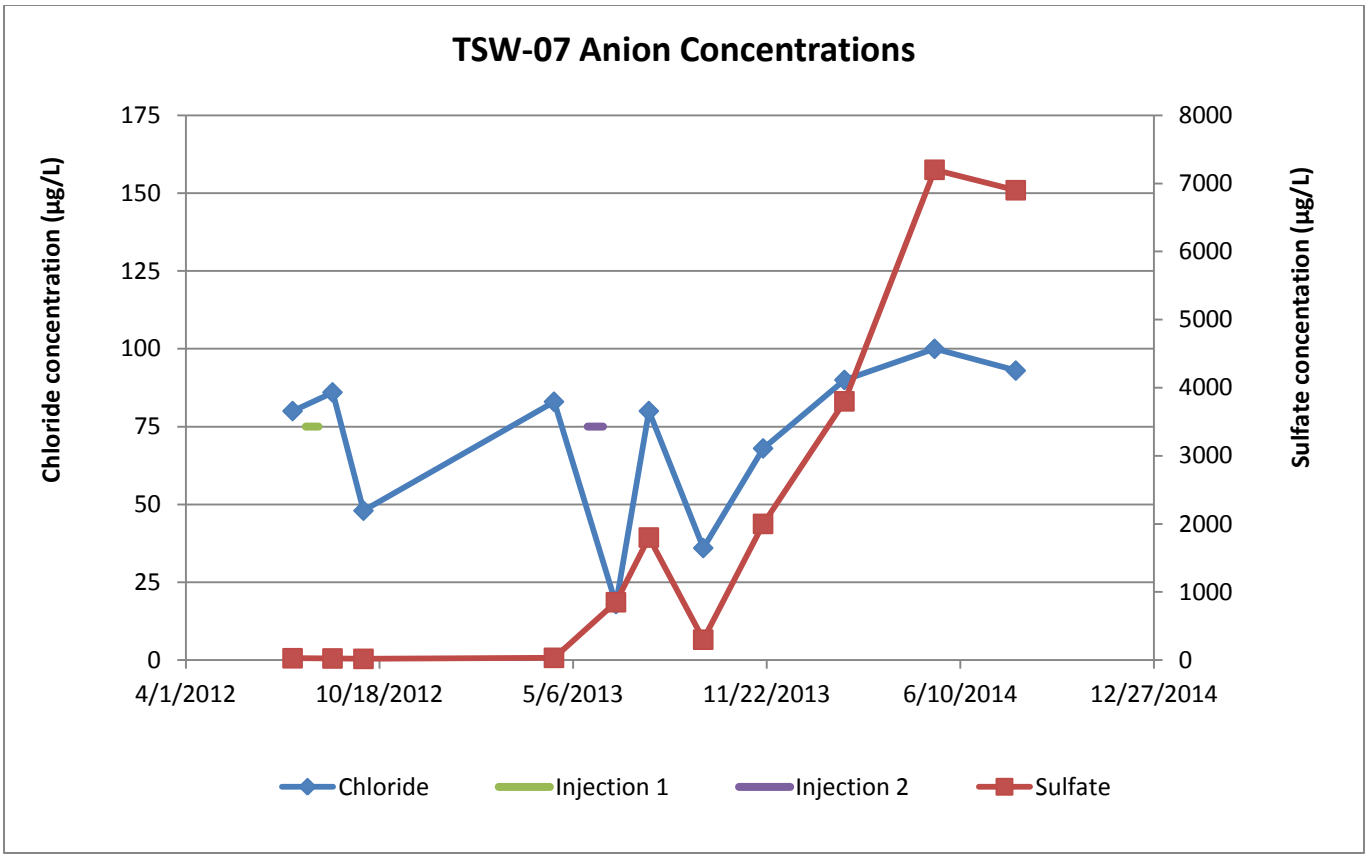
- TSW-01
- TSW-03
- TSW-04
- TSW-05
- TSW-07


TSW-01 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
100
75
50
25
0
1200
1000
800
600
400
200
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate


TSW-03 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
175
150
125
100
75
50
25
0
16000
14000
12000
10000
8000
6000
4000
2000
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

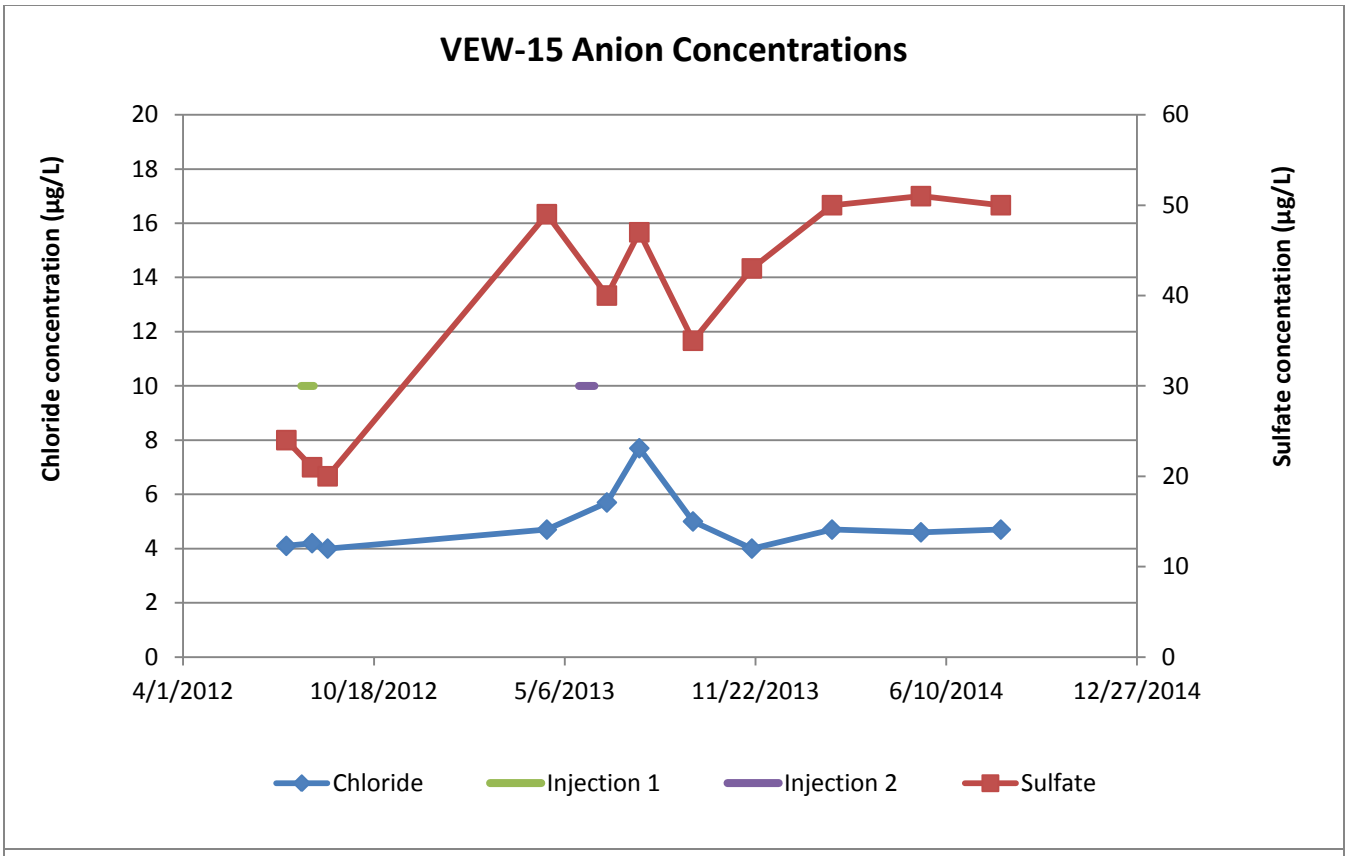

TSW-04 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
175
150
125
100
75
50
25
0
30000
25000
20000
15000
10000
5000
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

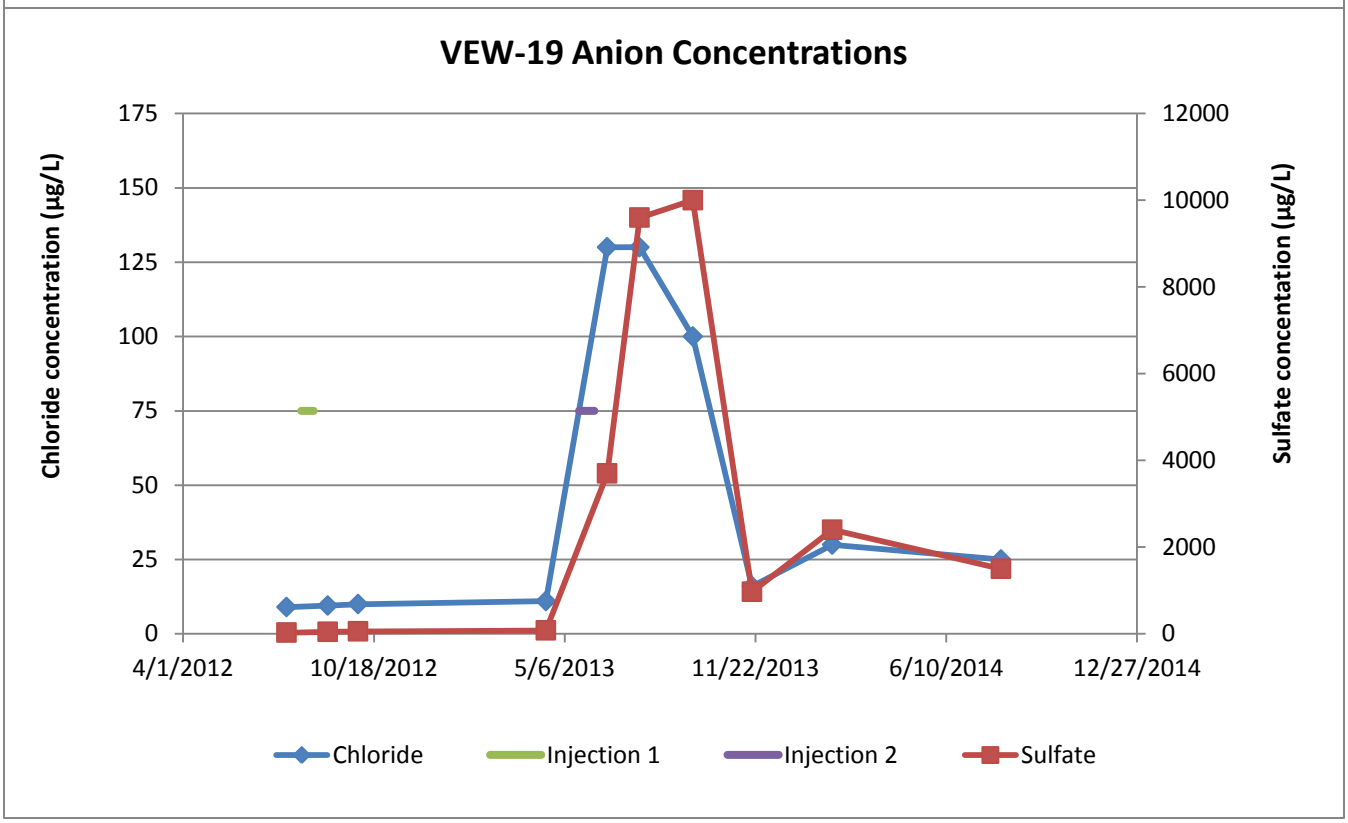

TSW-05 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
20
18
16
14
12
10
8
6
4
2
0
180
160
140
120
100
80
60
40
20
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

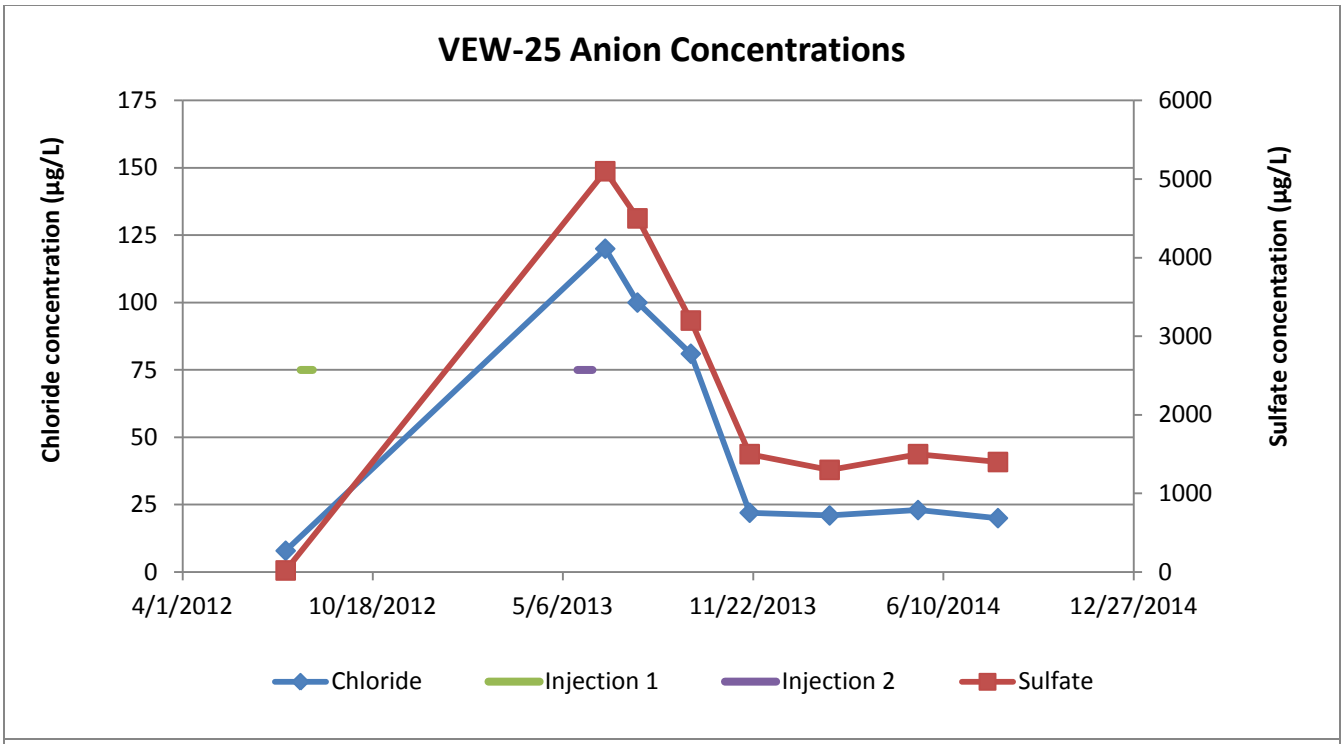

TSW-07 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
175
150
125
100
75
50
25
0
8000
7000
6000
5000
4000
3000
2000
1000
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

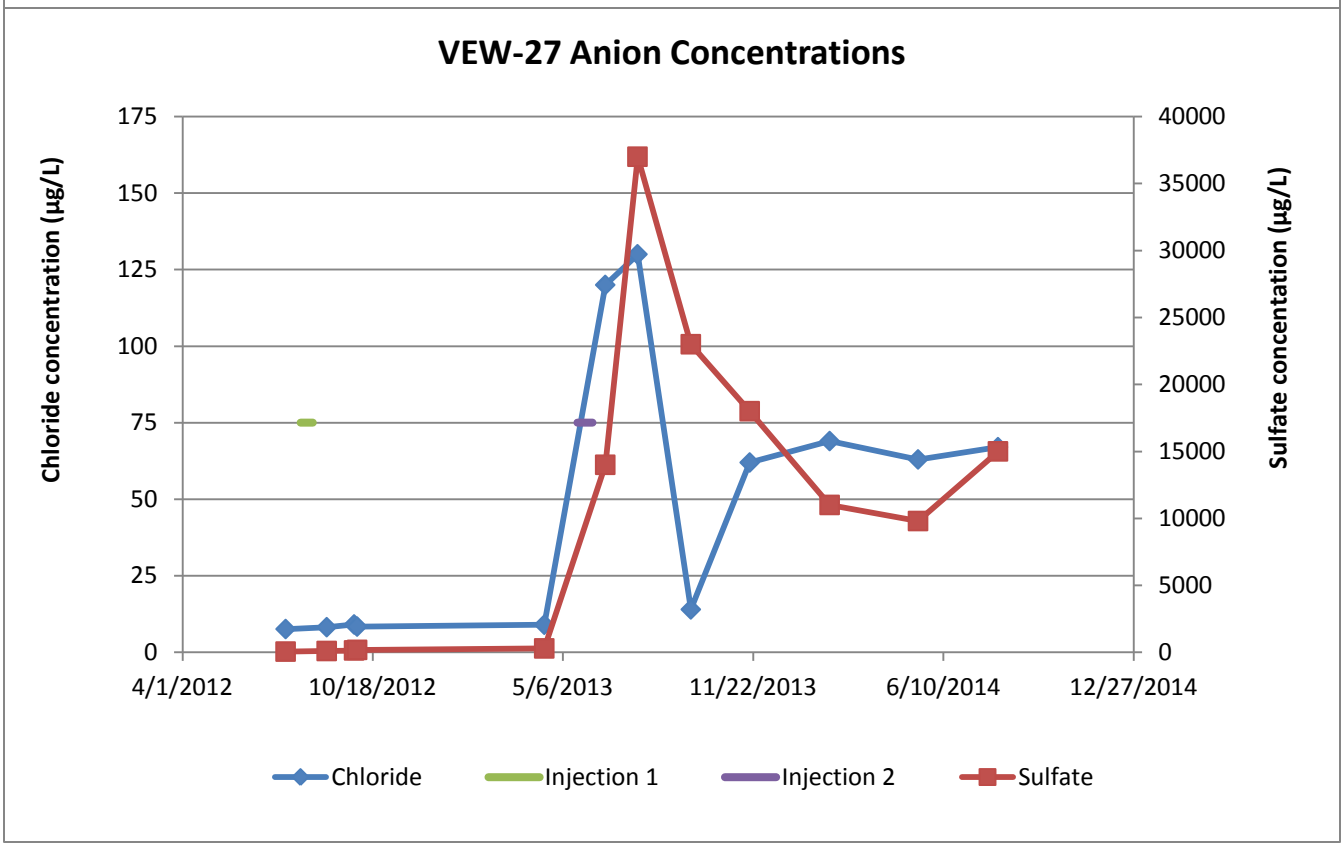
Vapor Extraction Wells (VEW)

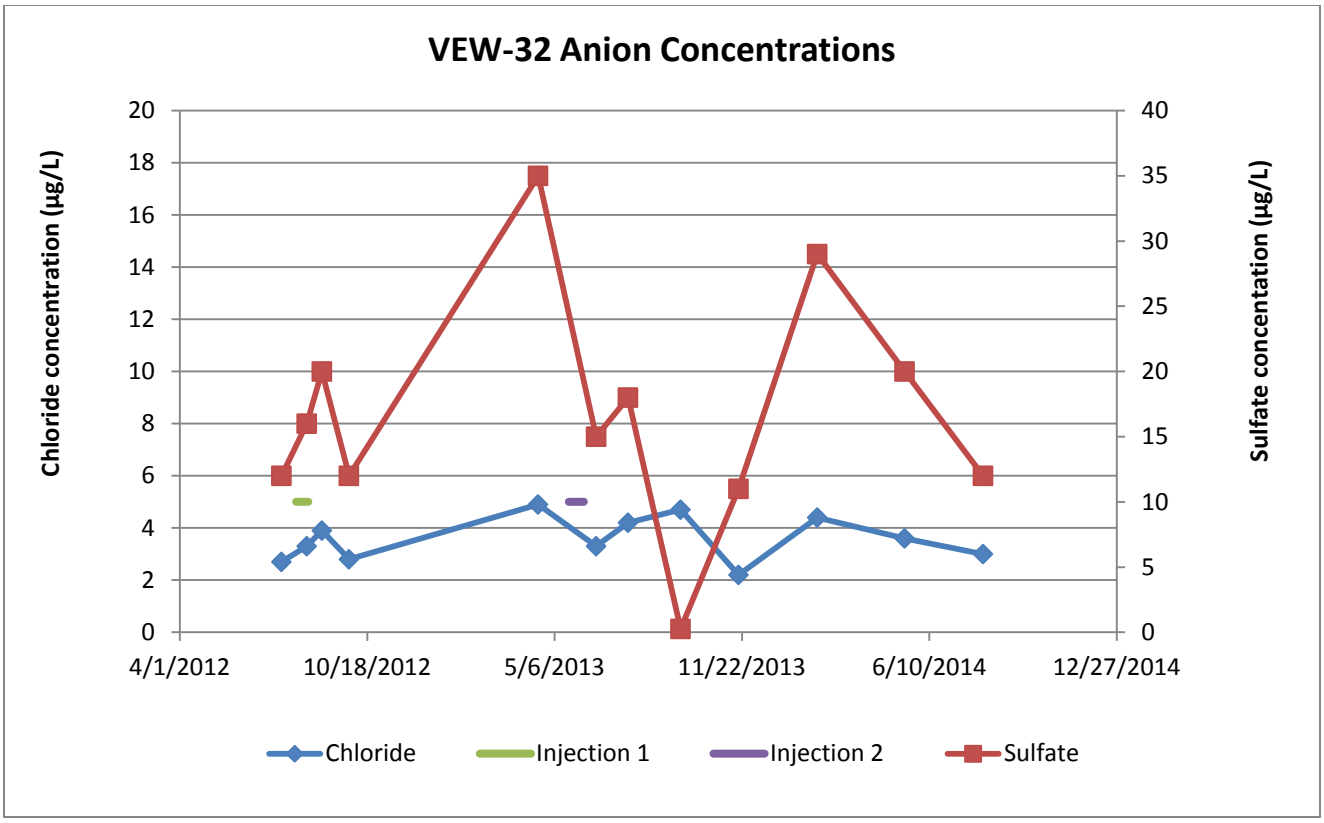
- VEW-19
- VEW-25
- VEW-27
- VEW-32


VEW-15 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
20
18
16
14
12
10
8
6
4
2
0
60
50
40
30
20
10
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate


VEW-19 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
175
150
125
100
75
50
25
0
12000
10000
8000
6000
4000
2000
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

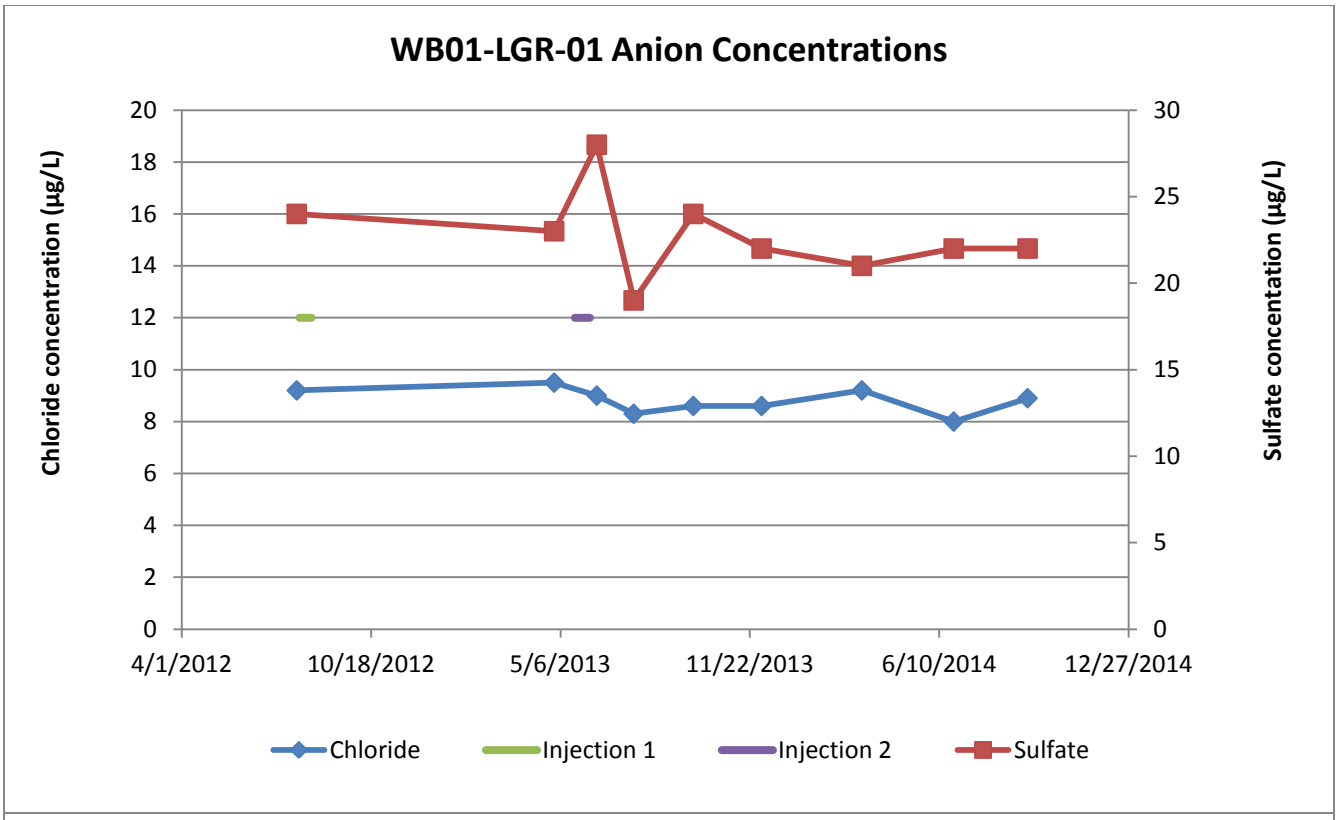

VEW-25 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
175
150
125
100
75
50
25
0
6000
5000
4000
3000
2000
1000
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

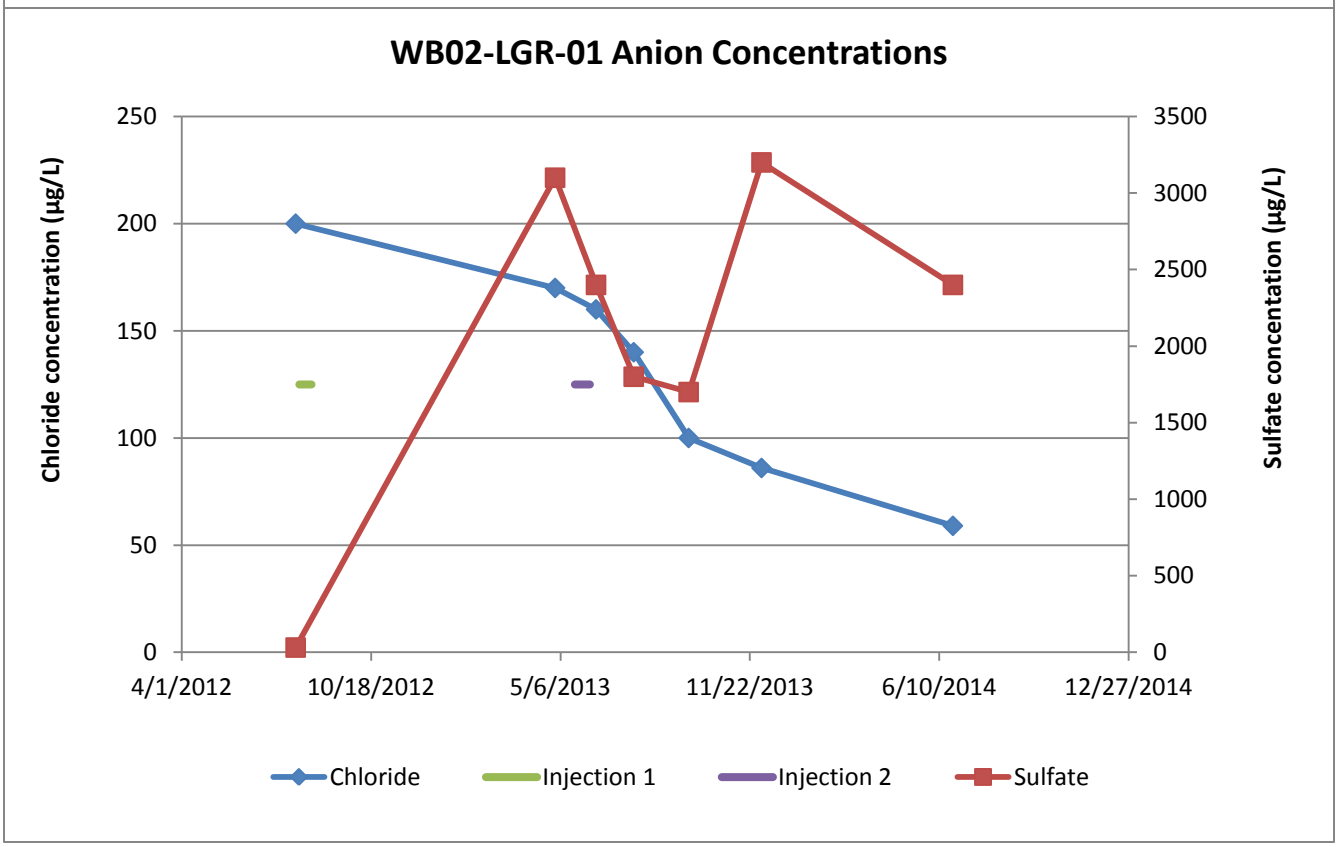

VEW-27 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
175
150
125
100
75
50
25
0
40000
35000
30000
25000
20000
15000
10000
5000
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

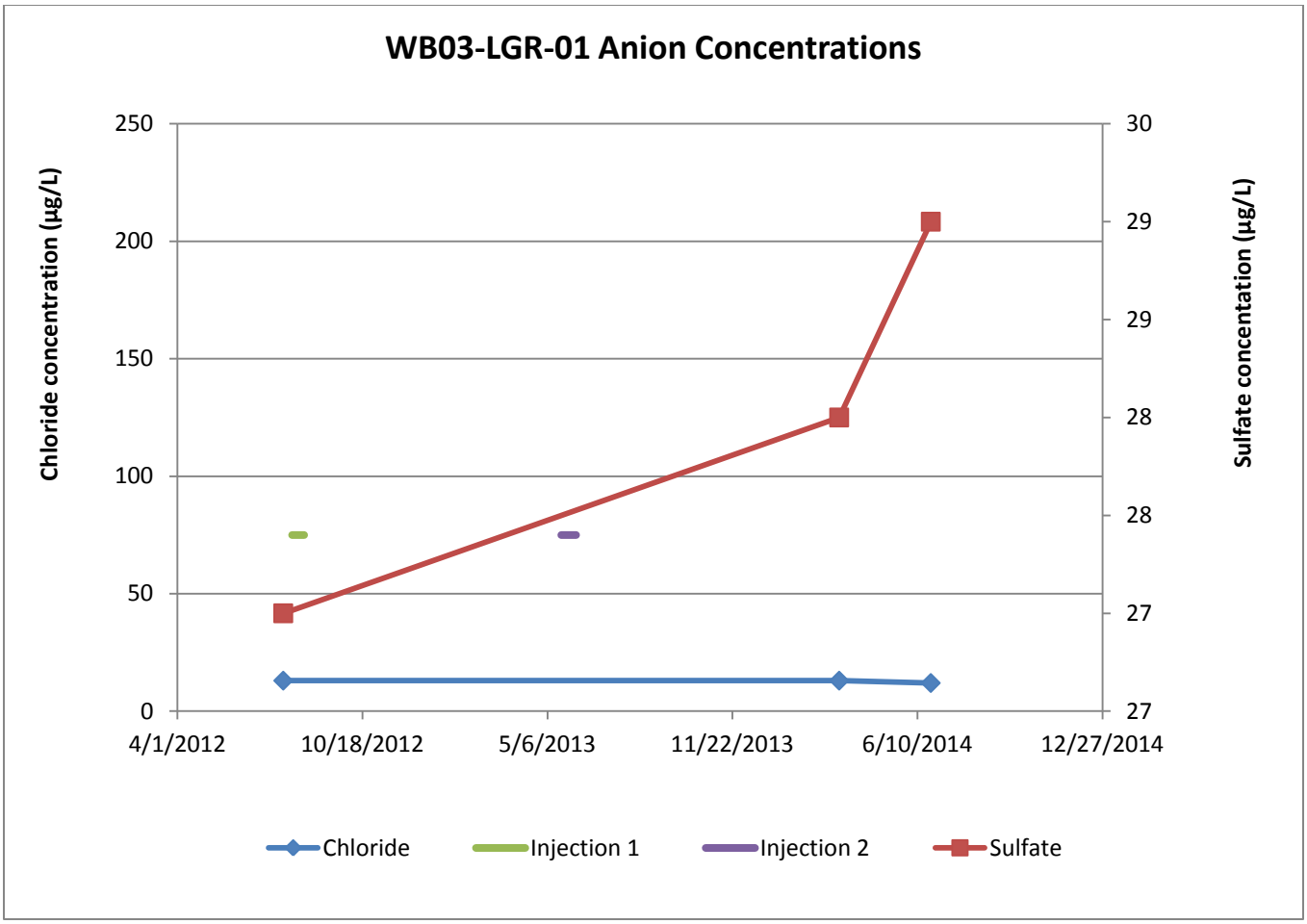

VEW-32 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
20
18
16
14
12
10
8
6
4
2
0
40
35
30
25
20
15
10
5
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

West Bay Lower Glen Rose Wells

- CS-WB01-LGR-01
- CS-WB02-LGR-01
- CS-WB03-LGR-01

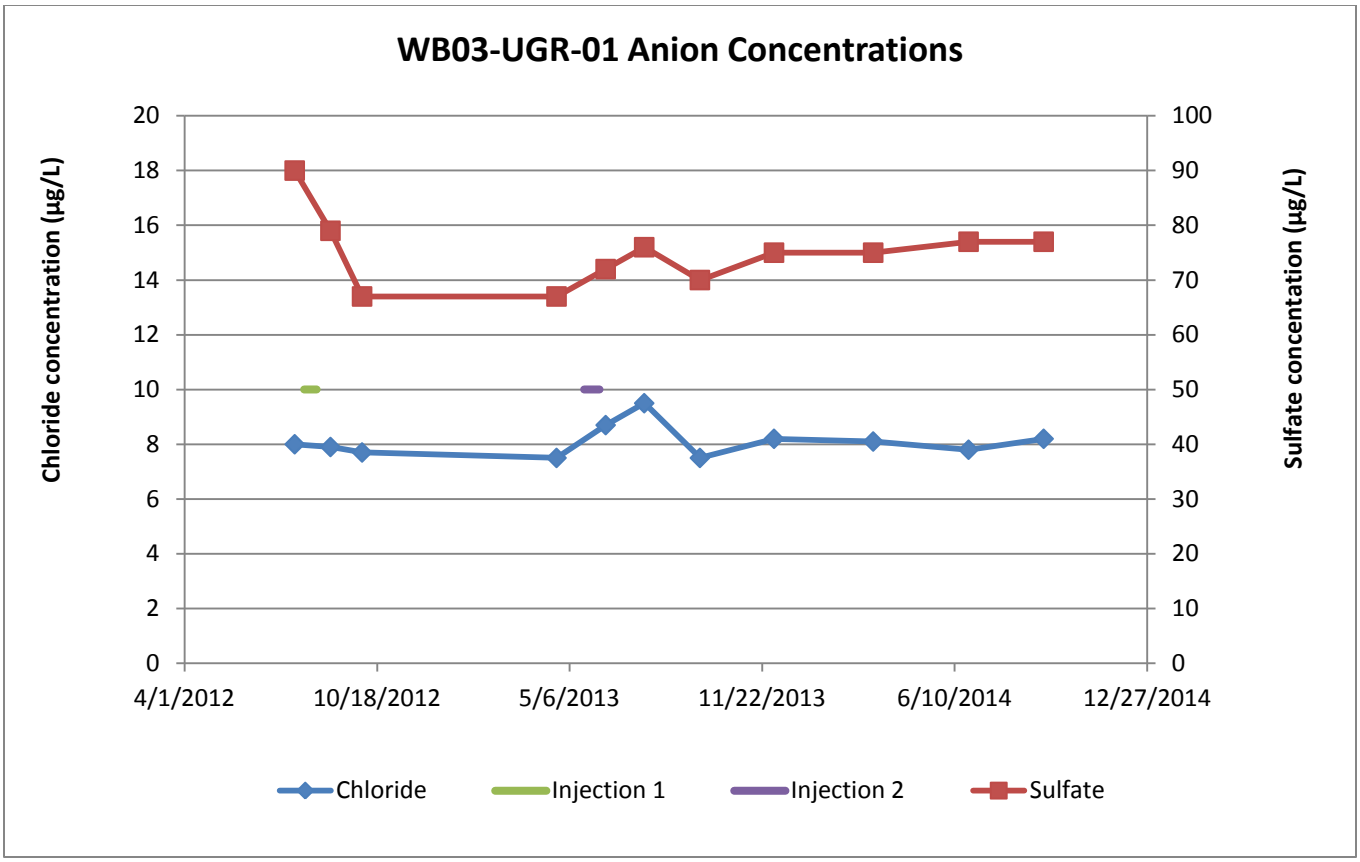

WB01-LGR-01 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
0
2
4
6
8
10
12
14
16
18
20
0
5
10
15
20
25
30
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate


WB02-LGR-01 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
0
50
100
150
200
250
0
500
1000
1500
2000
2500
3000
3500
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate


WB03-LGR-01 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
250
200
150
100
50
0
30
29
29
28
28
27
27
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate

West Bay Upper Glen Rose Wells

- CS-WB03-UGR-01


WB03-UGR-01 Anion Concentrations
Chloride concentration (µg/L)
Sulfate concentation (µg/L)
20
18
16
14
12
10
8
6
4
2
0
100
90
80
70
60
50
40
30
20
10
0
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
Chloride
Injection 1
Injection 2
Sulfate