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FINAL SITE INVESTIGATION REPORT FOR BUILDING 398 NCBC GULFPORT MS

6/1/2016

RESOLUTION CONSULTANTS

FINAL
SITE INVESTIGATION REPORT

BUILDING 398 FUEL SPILL
NAVAL CONSTRUCTION BATTALION CENTER GULFPORT
GULFPORT, MISSISSIPPI

Revision: 1

Prepared For:

Department of the Navy
Naval Facilities Engineering Command Southeast
Building 135 North, P.O. Box 30
Jacksonville, Florida 32212-0030

Prepared By:

Resolution Consultants
A Joint Venture of AECOM & EnSafe
1500 Wells Fargo Building
440 Monticello Avenue
Norfolk, Virginia 23510

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CTO JM35

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List of Acronyms

Aerostar	Aerostar Environmental Services, Inc.
AST	Aboveground storage tank
AFVR	Aggressive Fluid Vapor Recovery
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, xylenes
DPT	Direct Push Technology
DRO	Diesel range organics
GCAL	Gulf Coast Analytical Laboratory
GRO	Gasoline range organics
JP	Jet Propulsion Fuel Grade
mg/kg	Milligrams per kilograms
MTBE	Methyl tert-butyl ether
MDEQ	Mississippi Department of Environmental Quality
NCBC	Naval Construction Battalion Center
ORC	Oxygen Release Compound
PAH	Polynuclear Aromatic Hydrocarbon
PID	Photoionization detector
PRP	Petroleum Remediation Product
PSI	Preliminary Subsurface Investigation
PVC	Polyvinyl chloride
QA/QC	Quality assurance/quality control
SI	Site Investigation
SOP	Standard Operating Procedure
TRGs	Target Remediation Goals
UFP-SAP	Uniform Federal Policy Sampling and Analysis Plan
UST	Underground storage tank

1.0 INTRODUCTION

Resolution Consultants has prepared this Site Investigation (SI) Report, Revision 1, for the Building 398 Fuel SI, Naval Construction Battalion Center (NCBC) Gulfport, Gulfport, Mississippi, under Contract No. N62470-11-D-8013, Comprehensive Long-term Environmental Action Navy, Contract Task Order JM35. The *Site Investigation Report*, *Revision 0,* was prepared in May 2014 by Resolution Consultants.

All previous work conducted at this site was conducted by Aerostar Environmental Services, Inc. (Aerostar). The focus of the SI is soil and groundwater surrounding two aboveground storage tank (AST) systems at Building 398.

The SI was approached in three phases, with the initial phase focusing on obtaining a complete understanding of the source area as well as a complete round of groundwater samples from existing wells. The second phase involved conducting a remediation pilot test in an area determined to have soil exceedances above Mississippi Department of Environmental Quality (MDEQ) Underground Storage Tank (UST) Cleanup Levels and Target Remediation Goals (TRGs). The results of these phases were detailed in the *Site Investigation Report*, *Revision 0*, and are duplicated for this revision.

The third phase focused on collecting a one-year, post-injection groundwater samples from existing wells. Due to changes in the regulatory landscape for this site, a new version of the SI Report, Revision 1, has been prepared. The regulatory landscape is discussed further in Section 1.4

1.1 Site Setting

NCBC Gulfport comprises approximately 1,100 acres in Harrison County, approximately one mile west of Gulfport, Mississippi. The 1.4-acre Building 398 site (site property) lies on the north portion of the NCBC Gulfport facility at the intersection of 9th Street and Brown Avenue. The site property is accessed from 9th Street to the south and is bordered by 10th Street to the north. Geographical coordinates for the site property are 30° 22' 56.72" north latitude and 89° 7' 20.81" west longitude.

The site property is developed with a service station building (Building 398), propane AST, and a canopy and dispenser island on the south portion near 9th Street; and two 12,000-gallon ASTs and associated dispenser island in the middle portion.

Prior to the one-year, post-injection groundwater sampling event, in late 2014 and early 2015, the AST area underwent a series of upgrades including installation of new underground piping from the ASTs to the dispensers at Building 398, installing a canopy over the bulk fuel dispenser island, installing new AST fill ports, paving the access roads, and installing fencing. Resolution Consultants inspected the existing wells several times during the upgrades and found that most wells would require redevelopment and re-surveying due to removed and then re-installed surface completions.

The ASTs are used to store diesel and Jet Propulsion Fuel Grade (JP)-8 fuels. Both ASTs are within a single secondary containment pad. In 2006, separate JP-8 and diesel releases from subsurface piping were reported by NCBC Gulfport only months apart. The cause of the releases was improperly installed piping, which was subsequently replaced. The releases resulted in petroleum product impacts to soil and groundwater. Since 2006, the site has been the subject of a soil excavation and several investigation phases, discussed further in Section 1.3.

Figure 1 is the Site Location Map, which depicts the location of the site on NCBC Gulfport. Figure 2 is the Site Vicinity Map, which shows the Building 398 site area and surrounding properties. Both figures are based on a January 2015 aerial photograph. This photograph shows the site area during the upgrade process.

1.2 Ownership and Operational History

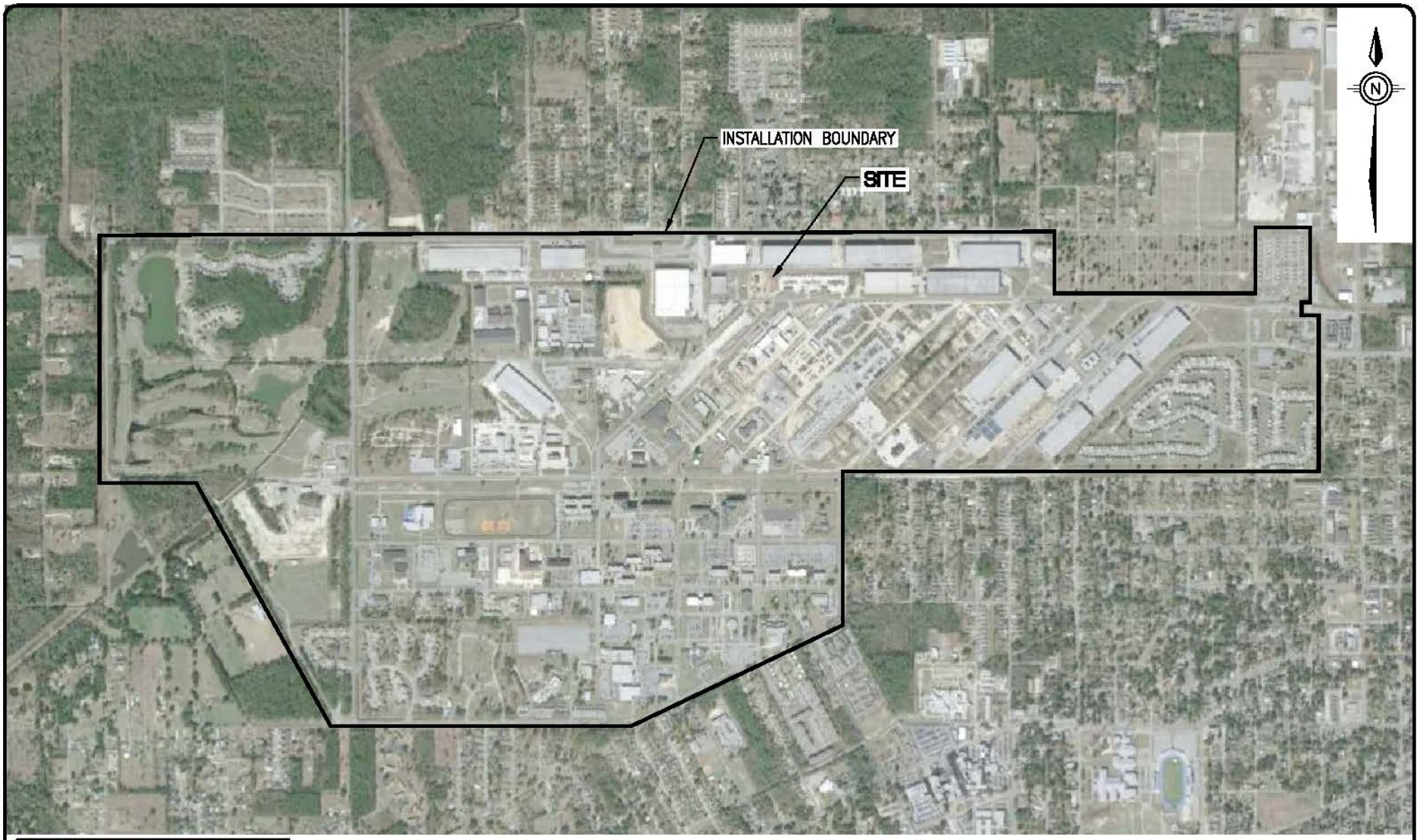
Historical records indicate that the Navy acquired the NCBC Gulfport installation property in April 1942. Prior to construction, the facility was undeveloped and sparsely vegetated land. Land use at the facility consists of various military housing, training, and support facilities. A review of historical aerial photographs shows that the two 12,000-gallon ASTs and associated dispenser islands at the site property were installed between 1997 and 2003.

1.3 Summary of Previous Investigations

The following discussion of previous investigations is based on text extracted from three reports prepared by Aerostar.

Project Completion Report (Aerostar, June 2008)

Aerostar completed the *Project Completion Report* in June 2008, detailing site assessment activities conducted up to July 2007.



Google earth
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AERIAL DATE: JANUARY 26, 2015

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FIGURE 1
SITE LOCATION MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D.FELTER	DATE: 07/15/15
DRAWN BY: BRONSON	DWG NAME: 12902_B016

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AERIAL DATE: JANUARY 26, 2015

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FIGURE 2
SITE VICINITY MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D.FELTER	DATE: 07/15/15
DRAWN BY: BRONSON	DWG NAME: 12902_B017

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In April 2006, NCBC Gulfport suspected a leak had occurred at the JP-8 AST system. NCBC Gulfport estimated that approximately 50 to 100 gallons of JP-8 had leaked from underground fuel piping that runs from the AST to the dispenser island.

In May 2006, a preliminary investigation was conducted by Aerostar of Mobile, Alabama. Soil and groundwater samples were collected from three temporary wells, TW-1 to TW-3 (Figure 3). The results showed that soil and groundwater had been impacted by benzene, toluene, ethylbenzene, and xylenes (BTEX), and polyaromatic hydrocarbons (PAHs).

In June or July 2006, a smaller diesel release was also reported at the site. The source of the release was also underground fuel piping that runs from the AST to the dispenser island. It was estimated that less than 50 gallons of diesel fuel were released.

In October and November 2006, Aerostar collected soil and groundwater samples from nine additional temporary monitoring wells HA-4/TW-4 to HA-12/TW-12 (Figure 3) and analyzed for BTEX and PAHs.

Based on the groundwater analytical results, monitoring wells MW-1 through MW-3 were installed in November 2006 along the perimeter of the BTEX and PAH plume as defined by TW-1 to TW-12. Groundwater elevation data showed the groundwater flow direction in the site area to be west-southwest.

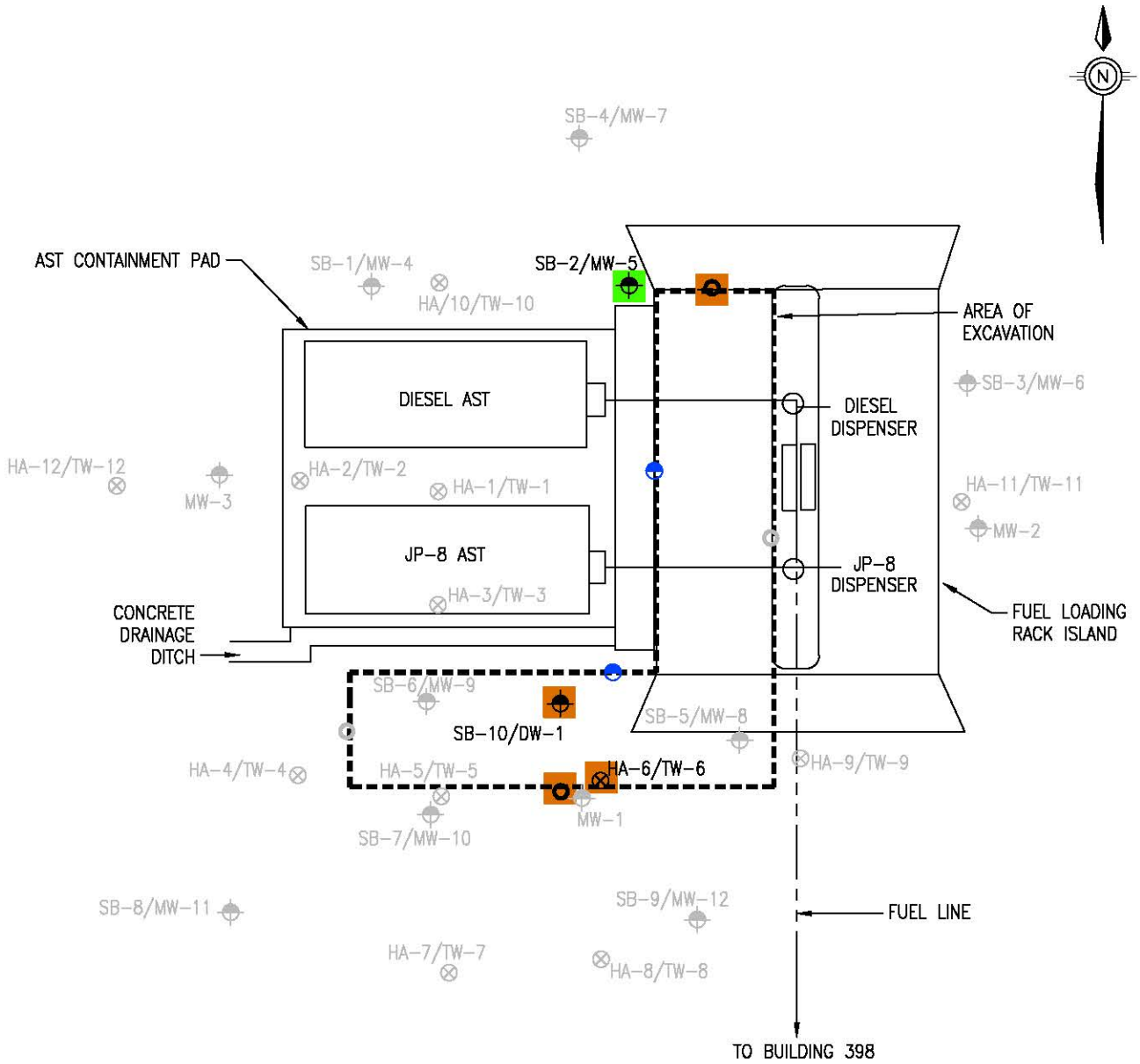
Excavation and Removal of Petroleum Contaminated Soil Report (Aerostar, May 2008)

The source area was excavated in phases between June and July 2007. Excavation activities began near the former JP-8 sump pump, where the fuel line had reportedly failed.

Aerostar removed 500 tons of contaminated soil from the site. All contaminated soil and debris generated during the excavation activities were disposed of at the Waste Management Pecan Grove Landfill in Pass Christian, Mississippi.

Aerostar also subcontracted Aaron Oil Company to remove 16,500 gallons of petroleum-contaminated water and free product, over three events, from the excavation pit.

The final excavation area extended south and east of the JP-8 and diesel ASTs in an “L” shape (Figure 3), and ranged between 5.5 and 6 feet deep.



LEGEND

- ⊗ – SOIL BORING/TEMPORARY WELL LOCATION
- ⊕ – SOIL BORING/MONITOR WELL LOCATION
- ○ – EXCAVATION SIDEWALL SAMPLING LOCATION
- ■ – SOIL CONCENTRATION EXCEEDED MDEQ TIER 1 AND UST REGULATORY LIMITS
- ■ – WELL WITH FREE PRODUCT ON GROUNDWATER
- ◒ – PROPOSED TEMPORARY WELL LOCATIONS

NOTE: SOIL SAMPLE LOCATIONS SHOWN IN BACKGROUND GRAY HAD NO DETECTIONS EXCEEDING TIER 1 TRGs OR UST REGULATORY LIMITS.

NOT TO SCALE

SOURCE:
HISTORICAL SAMPLING LOCATIONS AND DATA COMPILED FROM REPORTS PREPARED BY AEROSTAR ENVIRONMENTAL SERVICES, INC.

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FIGURE 3
AEROSTAR SAMPLE LOCATION MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D.FELTER	DATE: 07/15/15
DRAWN BY: BRONSON	DWG NAME: 12902_B010

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Four confirmatory sidewall soil samples were collected from the excavation. A sample of the floor of the excavation was not collected due to the accumulation of free product at the bottom of the excavation pit. Soil samples were analyzed for BTEX and PAHs. Analytical results showed BTEX and PAH concentrations exceeded MDEQ TRGs and/or UST Cleanup Levels in the samples collected from the north and south walls.

On 27 July 2007, all excavated areas were back-filled with clean gravel and soil. Approximately 1.5 feet of gravel was placed on the bottom of the pit. A layer of 10-mil visqueen was placed above the gravel to separate the clean backfill soil from the underlying contaminated soil. Once the visqueen was placed over the gravel, the remaining excavation was backfilled with approximately 570 tons of clean soil.

Preliminary Subsurface Investigation Report, Command Building 398 (Aerostar, December 2009)

The *Preliminary Subsurface Investigation Report, Command Building 398* describes site activities including installing ten additional monitoring wells and collecting soil and groundwater samples between June and July 2009. The PSI Report also summarizes all previous documents.

Preliminary Subsurface Investigation Soil Discussion

In June 2009, Aerostar advanced ten soil borings, SB-1 to SB-10, to a depth of approximately 15 feet below ground surface (bgs), except for SB-10, which was advanced to approximately 25 feet bgs. Figure 3 depicts Aerostar soil boring and monitoring well locations.

Soil samples were collected at all soil boring locations at 2-foot intervals from the ground surface to the top of the water table, which was approximately 6 feet bgs throughout the site. One sample from each boring with the highest flame ionization detector reading was submitted for BTEX, methyl tert-butyl ether (MTBE), PAHs, gasoline range organics (GRO), and diesel range organics (DRO) analyses.

Laboratory analytical results of soil samples collected from borings SB-1 through SB-9 showed all BTEX, MTBE, PAH, GRO, and DRO concentrations either below detection limits or below MDEQ TRGs. The soil sample from SB-10, collected at a depth of 2 to 4 feet bgs, exceeded the MDEQ TRGs.

Preliminary Subsurface Investigation Groundwater Discussion

Borings SB-1 to SB-10 were converted to permanent groundwater monitoring wells MW-4 to MW-12, and DW-1. The nine shallow wells were installed to a depth of approximately 15 feet bgs and the deep well was installed to a depth of approximately 25 feet bgs. MW-1 to MW-3 were previously installed in 2006.

Depth-to-water measurements were collected from MW-1 through MW-4, MW-6 through MW-12, and DW-1 on two separate occasions. Approximately two inches of free product was detected in monitor well MW-5 during both events. The groundwater flow direction was shown to be southwest, which is consistent with the 2006 data.

Groundwater samples were collected from all site monitoring wells except MW-5, which had approximately two inches of free product. Groundwater samples were submitted for BTEX, MTBE, PAHs, GRO, and DRO analyses. Aerostar compared results to the MDEQ TRGs; based on those standards, results showed a groundwater plume centered on the ASTs, with BTEX, naphthalene, GRO, and DRO exceedances at various wells.

1.4 Regulatory Framework

The *Site Investigation Report*, *Revision 0* was prepared using MDEQ UST Cleanup Levels for comparison to soil and groundwater results. Based on discussions with activity personnel, Resolution Consultants understands that the MDEQ was notified when the releases occurred. However, this site has not been entered into an MDEQ program. At the time initial sampling was conducted for this investigation, the Mississippi State Legislature was in the process of debating whether or not MDEQ should begin an AST Program, possibly in 2014.
A link to information on the AST Bill is:

http://legiscan.com/MS/bill/HB713/2013

It was understood that the AST Program, if started, would use either the same, or similar standards as the MDEQ UST Program. In general, UST Program standards are less stringent than TRGs, which are used by the MDEQ Voluntary Cleanup (Brownfield) Program. Based on this, Resolution Consultants recommended that the Navy wait until the fate of the AST Program became clearer. However, Resolution Consultants learned in 2015 that the AST Bill had no hope of passing and that as a result, determined that TRGs would be the standards best suited for comparison.

As a result, all text, tables, and figures presented in the *Site Investigation Report*, *Revision 0*, were prepared referencing UST Program standards. This SI Report, Revision 1, has been prepared with all text, tables, and figures referencing TRGs.

2.0 GEOLOGY AND HYDROGEOLOGY

2.1 Site Soils

According to U.S. Department of Agriculture Web Soil Survey information, surficial soil at the site property is composed of Plummer loamy sand. The Plummer series consists of poorly drained soils that have a thick, sandy surface layer over loamy materials. In a representative profile, the surface layer is very dark, gray loamy sand about five inches thick. The underlying layer is loamy sand about 38 inches thick. It is mottled dark gray and very dark gray in the upper 11 inches and is gray, mottled with shades of brown, in the lower part. The subsoil is sandy loam about 21 inches thick. It is gray with mottles in shades of brown in the upper part, and mottled grayish and brownish in the lower part. The underlying material, between depths of 64 and 72 inches, is loamy sand mottled in shades of yellow, brown, and gray.

Plummer loamy sand is strongly acid or very strongly acid. Permeability of the surface and subsurface layers is rapid, and permeability of the subsoil is moderate. The available water capacity is low. Runoff is slow or very slow.

2.2 Regional Geology and Hydrogeology

The site property is located within the Southeastern Coastal Plain section of the Coastal Plain physiographic province, which encompasses more than 120,000 square miles in Mississippi, Alabama, Georgia, South Carolina, and adjacent parts of southeastern North Carolina and northern Florida, and is drained by streams flowing to the Gulf of Mexico, and the Atlantic Ocean. The Cape Fear River in North Carolina, and the Mississippi River in the central Gulf Coastal Plain, respectively, is the easternmost and westernmost streams that drain the area. The Southeastern Coastal Plain includes the Sea Island and East Gulf Coastal Plain sections and a small part of the Mississippi Alluvial Plain section of the Coastal Plain physiographic province. The Southeastern Coastal Plain extends southward to the Atlantic Ocean and the Gulf of Mexico from the Fall Line, a physiographic boundary that marks the inner margin; it is bounded to the north by the Piedmont, Valley and Ridge, Appalachian Plateaus, and Interior Low Plateaus physiographic provinces.

The topography of the Coastal Plain varies from low-lying flat plains to rounded hills with long, gentle slopes and broad valleys to ridges with steep slopes separated by narrow valleys. The elevation of the plain varies from sea level along the coastline to as great as 1,000 feet along the inner edge of the plain in Mississippi. Some of the most permeable clastic rocks rim the northern edge of the plain as smoothly rounded hills of low relief to hills and ridges of

200 feet relief. These rocks form the foothills to the adjacent Piedmont, Valley and Ridge, Appalachian Plateaus, and Interior Low Plateaus provinces. Southeastern Coastal Plain rocks are commonly, but not exclusively, non-marine to marginal marine at their landward-most extent; they grade to deeper marine deposits, forming a thick sedimentary wedge as they extend coastward, or westward in Mississippi, into the subsurface.

The Southeastern Coastal Plain aquifer system is made up of clastic sedimentary rocks of Cretaceous and Tertiary age in the Coastal Plain of Mississippi, Alabama, Georgia, and South Carolina, and adjacent areas of northern Florida and southeastern North Carolina. This system is one of 28 regional aquifer systems identified in the United States that collectively provide most of the nation's groundwater supplies. Seven hydrogeologic units (four regional aquifers consisting of fine- to coarse-grained, feldspathic, glauconitic, quartz sand and minor sandstone, gravel, and occasional limestone beds, separated by three confining units of chalk, clay, mudstone, and shale) crop out in adjacent bands, except where they are covered by younger strata.

Tertiary rocks of the Southeastern Coastal Plain aquifer system are largely of Paleocene to Eocene age. Except in Mississippi, most of the younger Tertiary and Quaternary beds are part of the overlying Floridan aquifer system or its upper confining unit or the surficial aquifer. A widespread carbonate platform sequence covered much of southern Alabama, Georgia, and South Carolina, during Paleocene, Eocene, and Oligocene time. Clastic deposition was restricted to up-dip and mid-dip areas of these states. In Mississippi, however, clastic non-marine and marginal-marine deposits were more extensive. The Chickasawhay River aquifer, the uppermost regional aquifer of the Southeastern Coastal Plain aquifer system, extends only across southern Mississippi, and southwestern Alabama. It consists of a thick sequence of Oligocene and Miocene sand, clay, and minor limestone deposits of marine to fluvial origin. It is underlain in this area by the clay and marl deposits of the Pearl River confining unit. Both of these regional hydrogeologic units extend westward into Louisiana, and grade by facies, change eastward to the Floridan aquifer system and its upper confining unit.

In terms of overall thickness, Pliocene strata are poorly represented in the eastern Gulf and South Atlantic Coastal Plain. The thickest Pliocene deposits are found in Mississippi, where the Graham Ferry Formation and the Citronelle Formation combine to attain a thickness of 400 feet near Pascagoula in Jackson County, and exceed 1,000 feet near Gulfport in Harrison County.

2.3 Site Geology and Hydrogeology

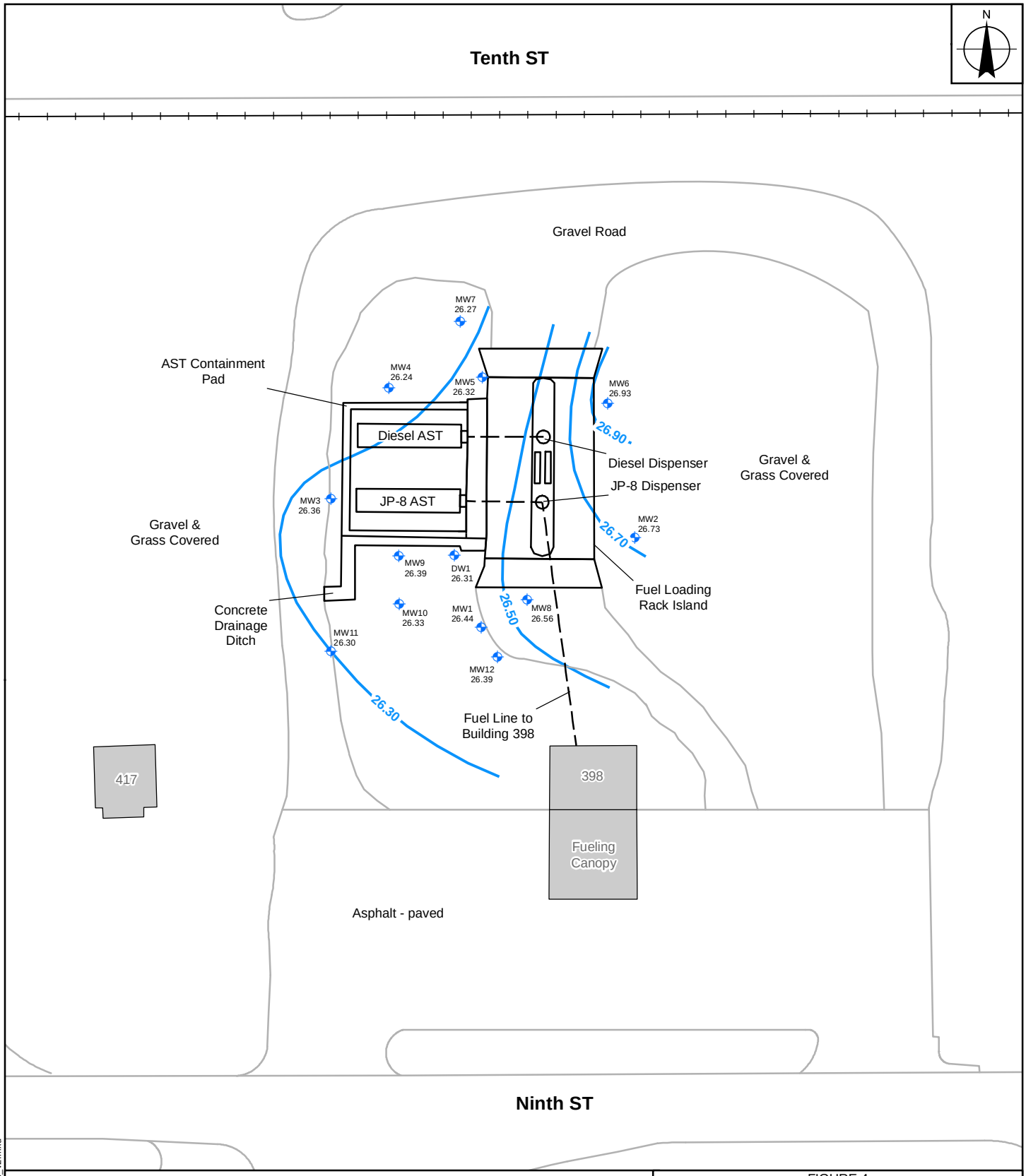
Lithology encountered at the site during SI activities was predominantly silty sand, which becomes saturated at approximately 6 feet bgs. Resolution Consultants used Aerostar's 2009 survey data and 2013 depth-to-groundwater measurements to prepare Figure 4, the 24 July 2013 Potentiometric Surface Map. The map shows the groundwater surface in this area to be relatively flat, with a gradient of at most 0.63 feet over approximately 125 feet (0.005 feet per foot); flow direction is west to southwest. Table 1 provides groundwater elevation data.

Table 1
Groundwater Elevation Data
24 July 2013

Monitoring Well Number	Aerostar Top of Casing Elevation	Depth to Water from the Top of Casing (feet)	Groundwater Elevation (feet)
MW01	29.12	2.68	26.44
MW02	29.86	3.13	26.73
MW03	28.99	2.63	26.36
MW04	29.4	3.16	26.24
MW05	29.46	3.14	26.32
MW06	30.06	3.13	26.93
MW07	29.7	3.43	26.27
MW08	29.49	2.93	26.56
MW09	28.98	2.59	26.39
MW10	28.71	2.38	26.33
MW11	28.94	2.64	26.3
MW12	29.48	3.09	26.39
DW01	28.91	2.6	26.31

Resolution Consultants used the new survey data, collected in April 2015, to generate Figure 5, the 21 April 2015 Potentiometric Surface Map. The map continues to show the groundwater surface in this area to be relatively flat, with a gradient of at most 0.71 feet over approximately 125 feet (0.005 feet per foot); flow direction is west to southwest. The surveyor deliverable is included as Appendix A. Table 2 provides groundwater elevation data.

Available Aerostar well logs and SI boring logs are presented in Appendix B.



Legend

- Monitoring Well
- Approximate Location of Underground Fuel Line
- Potentiometric Surface Contour
- Railroad
- Building

0 45 90 Feet

FIGURE 4
24 JULY 2013
POTENTIOMETRIC SURFACE MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

NAVFAC Naval Facilities Engineering Command
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REQUESTED BY: D. FELTER	DATE: 7/10/2015
DRAWN BY: N. RINEHART	TASK ORDER NUMBER: JM70

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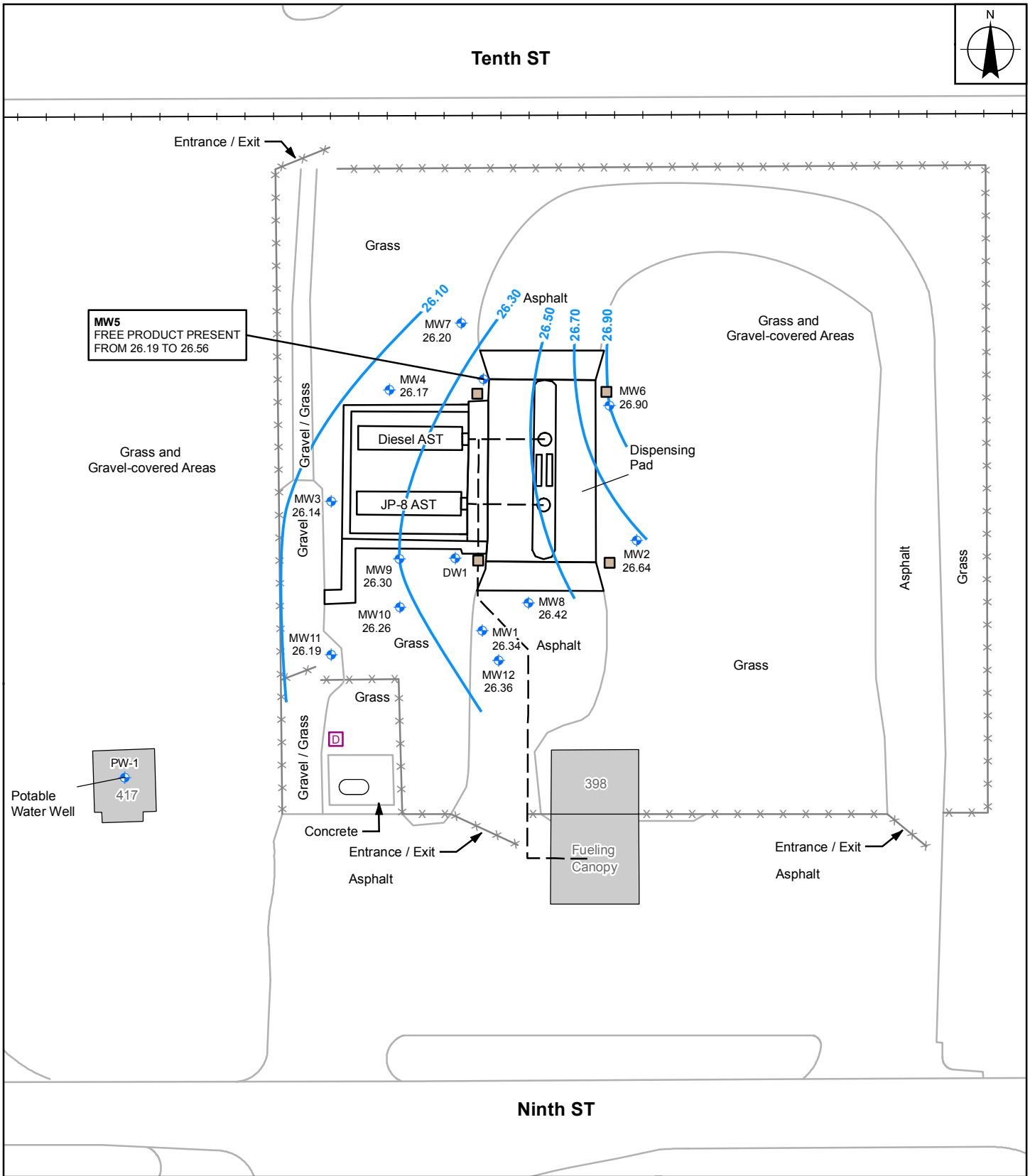
Buildings, Curb lines, Railroads, and some sample locations were previous data from Tetra Tech. Some data have been edited by EnSafe.



Legend

- Monitoring Well
- Canopy Supports
- Dumpster
- Propane Tank
- Building
- Approximate Location of Underground Fuel Line
- Potentiometric Surface Contour
- Curb Line
- Fence Line
- Railroad

0 45 90 Feet

Groundwater TRGs:
TPH-DIESEL RANGE: 650
TPH-GASOLINE RANGE C6-C10: 350
BENZENE: 5
ETHYLBENZENE: 700
TOLUENE: 1000
BENZO[A]ANTHRACENE: 0.0917
BENZO[A]PYRENE: 0.2
BENZO[B]FLUORANTHENE: 0.0917
2-METHYLNAPHTHALENE: 122
NAPHTHALENE: 6.2

*For DW01 the higher of the standard and duplicate results are presented here.
*TRG = Target Remediation Goal
*All results are in micrograms per liter (µg/L).

FIGURE 5
21 APRIL 2015
POTENTIOMETRIC SURFACE MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D. FELTER	DATE: 7/16/2015
DRAWN BY: N. RINEHART	TASK ORDER NUMBER: JM70

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Buildings, Curb lines, Railroads, and some sample locations were previous data from Tetra Tech. Some data have been edited by EnSafe.

Table 2
Groundwater Elevation Data
21 April 2015

Monitoring well Number	Resolution Consultant Top of Casing Elevation	Depth to Water from the Top of Casing (feet)	Groundwater Elevation (feet)
MW01	28.65	2.31	26.34
MW02	29.44	2.80	26.64
MW03	28.52	2.38	26.14
MW04	29.05	2.88	26.17
MW05	29.01	Free Product Present from 2.54 to 2.82	—
MW06	29.56	2.66	26.90
MW07	29.32	3.12	26.20
MW08	29.10	2.68	26.42
MW09	28.56	2.26	26.30
MW10	28.37	2.11	26.26
MW11	28.57	2.38	26.19
MW12	28.86	2.50	26.36
DW01	28.57	2.35	26.22

Harding Lawson Associates provided a base-wide discussion of geology and hydrogeology in their 1999 *Groundwater Monitoring Report*:

> "NCBC Gulfport is underlain by several thick, unconsolidated aquifer systems. These systems are Holocene (uppermost), underlain by the Pleistocene, and the Miocene aquifers. The (Holocene) alluvium at NCBC Gulfport is the primary unit of focus for this investigation because contaminants of concern are not likely to migrate vertically into the Pliocene or Miocene aquifer units up to 100 feet bgs. At the surface, the Holocene alluvium deposits consist of discontinuous layers of sand, silt, clay, and minor amounts of gravel. Depth to groundwater is variable depending on precipitation, but generally ranges from 4 to 7 feet bgs. The thickness of these alluvial deposits is up to approximately 80 feet.
>
> A clay-bearing zone comprised of varying amounts of silt and sand was observed at the base of the alluvial deposits. The depth to the clay-bearing zone ranged from 17 feet to nearly 50 feet and dipped slightly in the direction of the Gulf. Two deep borings were drilled, and within these borings, the thickness of the clay-bearing zone was at least 150 feet.

Below the Holocene alluvial deposits, Pleistocene terrace deposits consisting of thick lenticular sand and gravel layers separated by thinner clay layers, range for approximately another 100 feet. The Citronelle aquifer is part of this geologic section and is used extensively for domestic water supplies around the base. Water levels vary depending on proximity to surface water bodies and amount of groundwater production from water supply wells.

The aquifer of greatest importance to the area lies below the Pleistocene terrace deposits. These Miocene units consist of thick beds of sand and gravel with minor clay layers. These units are generally lenticular and discontinuous over the area. The contacts of the Miocene units are often difficult to distinguish from one another, which is the reason they have been collectively referred to as the "Miocene" aquifers. These units include the Graham Ferry, Pascagoula, Hattiesburg, and Catahoula. These aquifers are the primary source for municipal and industrial water supplies, including NCBC Gulfport."

3.0 SAMPLING AND ANALYSIS METHODOLOGY

All work described in this SI Report was conducted in accordance with the approved *Uniform Federal Policy Sampling and Analysis Plan*, *Site Investigation Work Plan*, and the approved *Accident Prevention Plan*, which includes the *Resolution Consultants Site Safety and Health Plan*. All Standard Operating Procedures (SOPs) cited in this document are presented in the *Uniform Federal Policy Sampling and Analysis Plan*, and are not duplicated here.

Resolution Consultants conducted SI activities at this site from 22 to 25 July 2013 (initial sampling event), and again from 14 to 22 April 2015 (one-year, post-injection sampling event). Pilot test activities are discussed in Section 6. All Resolution Consultant sample points are presented on Figure 6.

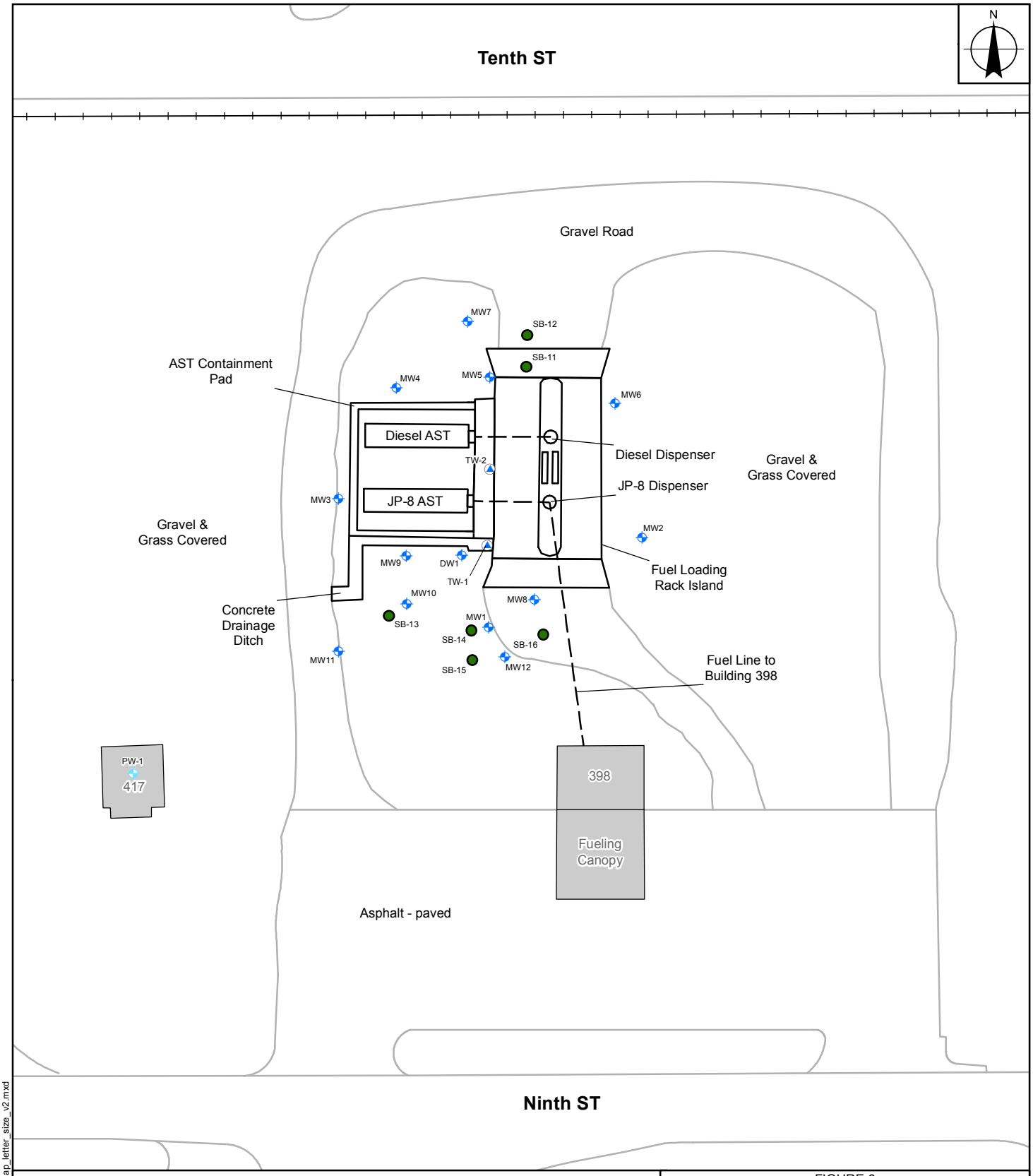
3.1 July 2013 and April 2015 Scopes of Work

The July 2013 scope of work included the following:

- Installation of eight soil borings, two of which were converted to temporary wells. Direct push technology (DPT) services were contracted from Sample Solutions, LLC of Hattiesburg, Mississippi.
- Gauging all available monitoring wells, including the two temporary wells, for the presence of free product.
- Sampling all existing permanent monitoring wells and a nearby potable water well. No new permanent monitoring wells were installed for this effort.

The April 2015 scope of work included the following:

- Gauging all available monitoring wells for the presence of free product.
- Re-developing all monitoring wells after the disturbances cause by the AST area upgrades.
- Re-surveying all monitoring wells, after they were repaired, after the disturbances caused by the AST area upgrades. Surveying services were contracted from Digital Engineering of Waveland, Mississippi.
- Sampling all existing permanent monitoring wells. The nearby potable water well was not resampled for this effort. No new permanent monitoring wells were installed for this effort.



Legend

- Pre-existing Monitoring Well
- Public Water Supply Well
- July 2013 Soil Boring
- July 2013 Temporary Well
- Approximate Location of Underground Fuel Line
- Railroad
- Building

0 45 90 Feet

FIGURE 6
JULY 2013 AND APRIL 2015
SAMPLE LOCATION MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D. FELTER	DATE: 7/10/2015
DRAWN BY: N. RINEHART	TASK ORDER NUMBER: JM70

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Buildings, Curb lines, Railroads, and some sample locations were previous data from Tetra Tech. Some data have been edited by EnSafe.

3.2 Analytical Services

All soil and groundwater samples, from both events, were sent by overnight delivery to Gulf Coast Analytical Laboratory (GCAL) of Baton Rouge, Louisiana, to be analyzed for BTEX, MTBE, PAHs, GRO, and DRO.

3.3 July 2013 Drilling and Soil Sampling

Resolution Consultants conducted soil sampling to determine if any soils remained in the source area that were impacted with contaminants above regulatory levels. Four locations were proposed based on a review of all previously collected data, with possible step-out locations based on observations made during installation of the first four.

Resolution Consultants performed soil sampling using a Geoprobe 54DT track-mounted DPT rig. Soil borings were advanced at six locations to the north and south of the excavated area in accordance with SOP 3-17, *Direct Push Sampling Techniques* and SOP 3-21, *Surface and Subsurface Soil Sampling*, as well as other SOPs included in SOP 3-17 and SOP 3-21 by reference.

One boring, SB-11, was advanced to a terminal depth of 6 feet bgs, and five borings, SB-12 through SB-16, were advanced to a terminal depth of 8 feet bgs. A continuous core was removed from each boring using 4-foot steel barrels fitted with acetate liners. The cores were inspected for staining and odor and the lithology recorded on boring logs using the Unified Soil Classification System. Soil was screened for volatile organic compounds at 2 foot intervals using a MiniRae 3000 handheld photoionization detector. Two soil samples were collected for analyses from each boring based on the highest photoionization detector (PID) reading or signs of staining. If no field indications of contamination were encountered, samples were collected at approximately 2 feet bgs and near the boring termination. Soil samples were placed in pre-cleaned containers supplied by the laboratory and immediately placed on ice.

Following sample collection, soil borings were filled with granular bentonite from the bottom of the hole to ground surface and hydrated. SB-11 was patched with concrete to match the existing ground cover.

3.4 July 2013 Temporary Well Installation

Resolution Consultants installed two temporary wells within the source zone. No groundwater sampling was proposed for the temporary wells, only gaging for the presence of free product to determine the extent of free product previously identified on groundwater at MW-5. The wells were installed using a Geoprobe 54DT track-mounted DPT rig in accordance with applicable portions of SOP 3-12, *Monitoring Well Installation*.

Each well was installed to a depth of 12 feet bgs and was constructed of 10 feet of one-inch diameter, polyvinyl chloride (PVC), 0.010-factory-slotted well screen straddling the water table surface, and 2 feet of threaded PVC riser pipe to ground surface. Each temporary well was installed through DPT outer casing equipped with an expendable point.

Temporary well TW-1 was installed in the concrete-lined drainage ditch southeast of the ASTs near the drain valve for the unloading area. Temporary well TW-2 was installed on a concrete slab east of the product line sumps, near the edge of the unloading area. The wells were allowed to stabilize for approximately 6 hours and then checked for free product using a Solinst Model 122 interface meter. Water from the wells was also visually checked for sheen using a bailer. No measurable free product or sheen was observed.

The PVC well pipes were removed and the boreholes were filled with granular bentonite from the bottom of the hole to approximately 6 inches from ground surface, and then hydrated. The boreholes were then patched with concrete that was brought level with the surrounding surface.

3.5 Free Product Assessment

July 2013 Assessment

In addition to temporary wells TW-1 and TW-2, Resolution Consultants checked existing monitoring wells DW-1 and MW-1 through MW-12 for free product using an interface meter; no measurable free product was detected.

Resolution Consultants observed three temporary wells from a previous investigation still in place at the site. The temporary wells were identified as TW-10, TW-11, and TW-12 (Figure 3). No measurable free product was detected in TW-10 and TW-11; TW-12 would not accept the interface meter probe due to damage or blockage, and therefore, could not be checked for free product.

April 2015 Assessment

Resolution Consultants checked existing monitoring wells DW-1 and MW-1 through MW-12 for free product using an interface meter. Free product was measured on MW-5, the well that Aerostar had reported approximately 2 inches of free product on. Free product was measured from 2.45 to 2.82 feet below top of casing, a thickness of 0.37 foot or 4.44 inches. No measurable free product was detected on any of the other monitoring wells.

3.6 April 2015 Re-Development

Groundwater purged from wells in April 2015 was observed to be highly turbid. As a result, well sampling was postponed one week while all monitoring wells were re-developed. Monitoring well development forms are included in Appendix C. A petroleum odor was detected at most monitoring wells.

3.7 Monitoring Well Sampling

For both sampling events, with the exception of MW-5 in April 2015 due to the presence of free product, samples were collected from all existing monitoring wells using low-flow purging/sampling methods, a peristaltic pump, and disposable Teflon tubing in accordance with SOP 3-14, *Monitoring Well Sampling*.

Monitoring well purging was performed using the "Tubing-in-Screened-Interval" method specified in the United States Environmental Protection Agency, Region 4 Science and Ecosystem Support Division, *Field Branches Quality System and Technical Procedures, Groundwater Sampling*. The peristaltic pump was equipped with dedicated, pre-cleaned 0.25-inch outside-diameter Teflon tubing. The tubing was lowered to the middle of the screened interval of each well and a low purge rate was initiated to minimize turbidity in the wells. Field parameters consisting of pH, specific conductivity, oxidation-reduction potential, temperature, turbidity, and dissolved oxygen were recorded during purging using a field-calibrated Horiba U-22 water quality meter equipped with a flow-through cell.

Purging was concluded when stabilization occurred, which is defined as three consecutive measurements in which the pH remains constant within 0.1 Standard Units; specific conductance varies no more than approximately 5%; dissolved oxygen measures 0.2 micrograms per liter or 10% saturation, whichever is greater; and turbidity has stabilized, or is below 10 Nephelometric Turbidity Units. Temperature and oxidation-reduction potential were not used as purge stabilization parameters, but were measured during purging to obtain a measurement of record for the sampling event. Field sampling forms are included as Appendix C.

At the conclusion of purging, groundwater samples were collected from each well using a peristaltic pump and disposable Teflon tubing. The samples were placed directly in pre-cleaned containers supplied by the laboratory and immediately placed on ice. Groundwater samples were collected in the following order:

- BTEX, MTBE, and GRO
- DRO and PAHs

3.8 July 2013 Potable Water Well Sampling

One of NCBC's potable water supply wells is approximately 140 feet southwest of the ASTs. The well was installed in 1978 and has a total depth of 722 feet bgs. Well screening depth was not reported; no well log has been found for this well to date.

Resolution Consultants collected a water sample from the potable water well in July 2013. NCBC Gulfport Public Works Department personnel provided access to a valve near the wellhead. The valve was located immediately downstream of the pump, where it was unaffected by any treatment or mixing with other water in the water supply system. The pump was switched on and the valve opened for approximately 10 minutes prior to sample collection. Pre-cleaned containers supplied by the laboratory were then filled from the valve and immediately placed on ice.

3.9 Quality Assurance/Quality Control

The following Quality Assurance/Quality Control (QA/QC) samples were collected in accordance with UFP-SAP Worksheet #20:

- Two duplicate samples, an equipment blank, and a trip blank with soil samples
- Two duplicate samples, a matrix spike/matrix spike duplicate, and a trip blank with water samples

A cursory review of the QA/QC data shows that data received from GCAL is suitable for use in this report. All QA/QC data is presented in Appendix D.

3.10 Decontamination

All sampling activities were conducted in accordance with SOP 3-06, *Equipment Decontamination*, to reduce the potential for cross-contamination. Sampling equipment was decontaminated prior to arrival onsite and throughout sampling activities. Decontamination procedures consisted of using a laboratory-grade detergent (Liquinox) and potable water wash, rinsing with distilled water, and allowing the equipment to air dry.

3.11 Investigative-Derived Waste

Investigative-derived waste generated included soil cuttings from DPT drilling and groundwater purged from wells prior to sampling. 55-gallon drums were properly labeled and set by the west side of Building 398. Resolution Consultants coordinated investigative-derived waste characterization and disposal with the NCBC Gulfport Public Works Department; drums from both sampling events were processed through the hazardous waste disposal system as unregulated waste.

4.0 SOIL SAMPLING RESULTS

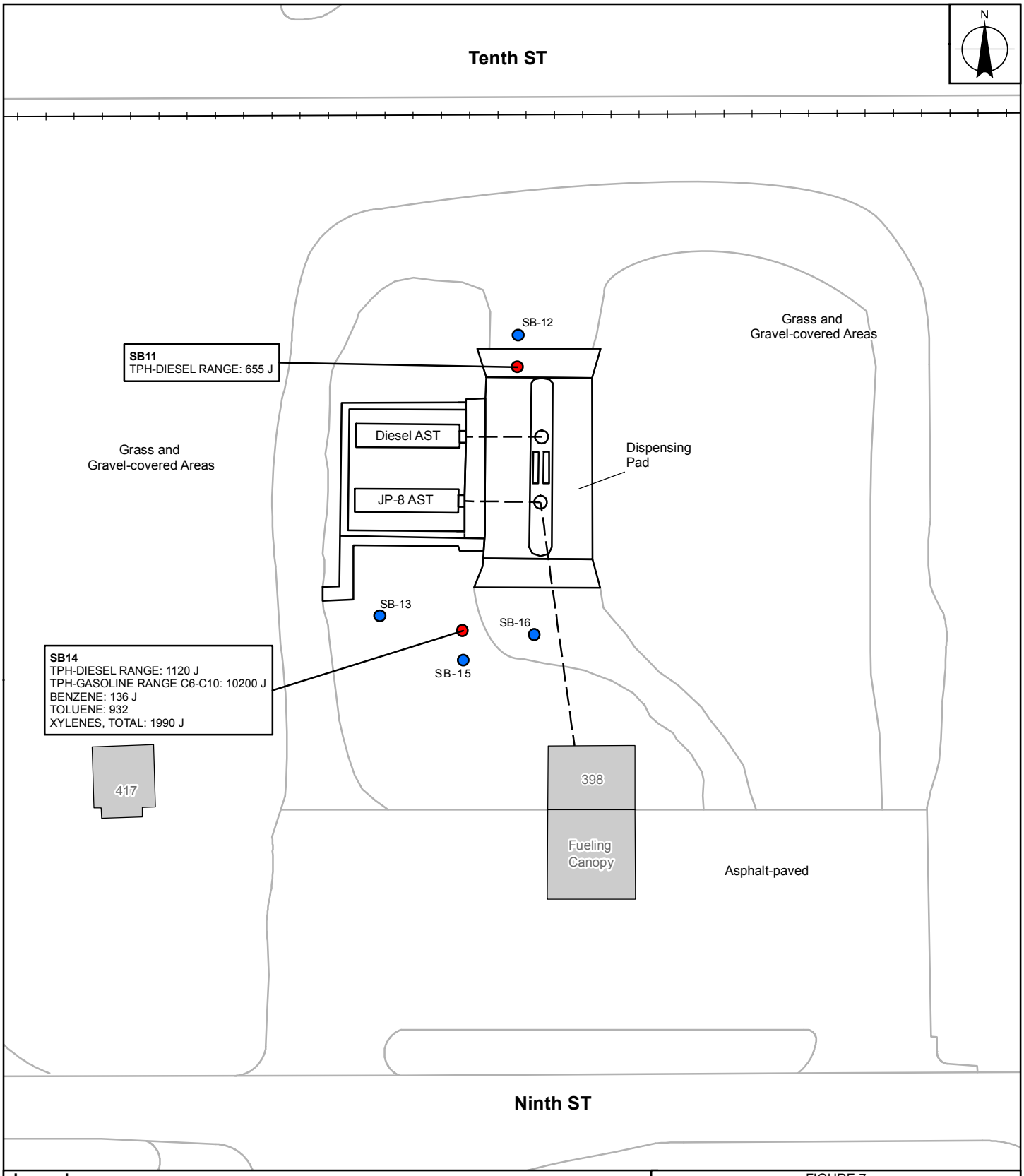
All Resolution Consultant soil sample results, from GCAL, are presented in Appendix D. Figure 7 presents the July 2013 Restricted (Industrial) TRG Soil Exceedance Map. The 2013 soil analytical results are summarized on Table 3.

4.1 July 2013 Soil Sampling Results

Two of twelve samples submitted had results that exceed one or more of the MDEQ TRGs: SB-11 and SB-14; SB-14 also had results exceeding a UST Cleanup Level. These samples were noted to have high PID hits in the field, so step-out borings SB-12 and SB-15 were installed to provide horizontal delineation. Figure 7 shows soil borings with TRG exceedances.

The TRG exceedance at SB-11 is for DRO detected at a concentration of 655 milligrams per kilogram (mg/kg) in the upper of two soil samples; the restricted (industrial) TRG for DRO is 350 mg/kg. There were no exceedances reported in the deeper soil sample collected at SB-11 or either sample from step-out boring SB-12. Because the exceedance appears confined to a small area and is within the same order of magnitude as its TRG, no further work was recommended in the *Site Investigation Report*, *Revision 0*.

TRG exceedances at SB-14 are for DRO, GRO, and BTX. Additionally, the UST Cleanup Level of 100 mg/kg for total BTEX was exceeded. However, there were no exceedances reported in the deeper soil sample collected at SB-14 or either sample from step-out boring SB-15. Although the exceedances appear confined to a small area around SB-14, results were well above standards, suggesting this soil may be a contributing source to ongoing groundwater contamination. As a result, soil at SB-14 was the subject of a soil pilot test, which is discussed further in Section 6.0.



Legend

- No Exceedances
- One or More Exceedances
- Approximate Location of Underground Fuel Line
- Railroad
- Building

0 45 90 Feet

Restricted Soil TRGs:
TPH-DIESEL RANGE: 350
TPH-GASOLINE RANGE C6-C10: 300
BENZENE: 1.36
TOLUENE: 38
XYLENES, TOTAL: 318

*For SB14 the higher of the standard and duplicate results are presented here.
*TRG = Target Remediation Goal
*All results are in milligrams per kilogram.

FIGURE 7
JULY 2013 RESTRICTED (INDUSTRIAL) TRG SOIL EXCEEDANCE (MG/KG) MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D. FELTER	DATE: 7/10/2015
DRAWN BY: N. RINEHART	TASK ORDER NUMBER: JM70

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Buildings, Curb lines, Railroads, and some sample locations were previous data from Tetra Tech. Some data have been edited by EnSafe.

Table 3
July 2013 Soil Results
NCBC Gulfport — Building 398 — mg/kg

Analyte	Restricted TRG	Unrestricted TRG	UST	SB11 (2')	SB11 (6')	SB12 (2')	SB12 (6')	SB13 (2')	SB13 (6')	SB14 (5')	SB14 (5' dup)	SB14 (8')	SB15 (4')	SB15 (8')	SB16 (6')	SB16 (8')	SB16 (8' dup)
TPH-DIESEL RANGE	350	300		**655 J**	**2.25 J**	**88.1**	**9.41**	**4.03 J**	1.53 U	**483 J**	**1120 J**	1.53 U	1.43 U	1.57 U	**15.4**	**3.65 J**	**8.76**
TPH-GASOLINE RANGE C6-C10	300	200		**20.2**	0.436 U	**35.1 J**	**1.21 J**	0.405 U	0.47 U	**5850 J**	**10200 J**	**1.23 J**	**2.07 J**	**2.6 J**	**3.46 J**	**1.69 J**	**0.946 J**
BTEX and MTBE																	
BENZENE	1.36	0.887		0.0021 U	**0.00093 J**	0.00466 U	5E-05 U	4E-05 U	5E-05 U	**136 J**	**94 J**	**0.0069**	**0.0832 J**	0.00255 U	0.00259 U	**0.175 J**	**0.118**
ETHYLBENZENE	395	395		**0.0913 J**	0.00017 U	0.0168 U	0.00018 U	0.00015 U	0.00018 U	**349 J**	**220 J**	**0.00323 J**	0.00787 U	**0.161 J**	**0.0649 J**	**0.1 J**	**0.0121**
TOLUENE	38	38		0.00442 U	**0.00065 J**	0.00983 U	0.0001 U	9E-05 U	0.00011 U	**932**	**769**	**0.00662**	0.0046 U	0.00539 U	0.00546 U	0.0055 U	0.0001 U
XYLENES, TOTAL	318	318		0.0102 U	**0.00227 J**	0.0227 U	0.00024 U	0.00021 U	0.00025 U	**1990 J**	**1280 J**	**0.00817 J**	**0.835**	**0.263 J**	0.0126 U	0.0127 U	**0.00128 J**
METHYL TERT-BUTYL ETHER	84.5	85		0.00252 U	6E-05 U	0.00559 U	6E-05 U	5E-05 U	6E-05 U	0.305 U	0.318 U	6E-05 UJ	0.00262 U	0.00307 U	0.00311 U	0.00313 U	6E-05 UJ
BTEX, TOTAL			100	**0.0913 J**	**0.00385 J**	0.0227 U	0.00024 U	0.00021 U	0.00025 U	**3407 J**	**2363 J**	**0.02492 J**	**0.9182**	**0.424 J**	**0.0649 J**	**0.275 J**	**0.13138 J**
PAHs																	
2-METHYLNAPHTHALENE	40900	1560		**1.68**	0.00078 U	**0.535**	0.00079 U	0.00075 U	0.00082 U	**4.38 J**	**10.2 J**	**0.0175**	0.00077 U	0.00084 U	**0.252**	**0.0183 J**	**0.00937 J**
ACENAPHTHENE	123000	4690	28	0.00117 U	0.00122 U	0.00122 U	0.00124 U	0.00118 U	0.00128 U	0.00127 U	0.0013 U	0.00127 U	0.0012 U	0.00131 U	0.00121 U	0.00121 U	0.00129 U
ACENAPHTHYLENE	123000	4690	40	0.00141 U	0.00147 U	0.00146 U	0.00149 U	0.00142 U	0.00154 U	0.00153 U	0.00157 U	0.00153 U	0.00144 U	0.00157 U	0.00146 U	0.00145 U	**0.00833**
ANTHRACENE	613000	23500	0.66	0.00029 U	0.0003 U	0.0003 U	0.0003 U	0.00029 U	0.00032 U	**0.00672 J**	**0.0245 J**	0.00031 U	0.00029 U	0.00032 U	0.0003 U	0.0003 U	0.00032 U
BENZO[A]ANTHRACENE	7.84	0.875	7.9	**0.0133**	0.00173 U	0.00172 U	0.00175 U	0.00167 U	0.00181 U	**0.0147**	**0.0178**	0.0018 U	0.00169 U	0.00185 U	0.00171 U	0.0017 U	0.00183 U
BENZO[A]PYRENE	0.784	0.0875	1.7	**0.0219**	0.00035 U	0.00035 U	0.00035 U	0.00034 U	0.00036 U	0.00036 U	0.00037 U	0.00036 U	0.00034 U	0.00037 U	0.00035 U	0.00034 U	0.00037 U
BENZO[B]FLUORANTHENE	7.84	0.875	8.1	**0.0202**	0.00111 U	0.0011 U	0.00112 U	0.00107 U	0.00116 U	0.00115 U	**0.0236**	0.00115 U	0.00108 U	0.00118 U	0.0011 U	0.00109 U	0.00117 U
BENZO[G,H,I]PERYLENE	61300	2350	1.1	0.00064 U	0.00067 U	0.00066 U	0.00068 U	0.00064 U	0.0007 U	0.00069 U	0.00071 U	0.00069 U	0.00065 U	0.00071 U	0.00066 U	0.00066 U	0.00071 U
BENZO[K]FLUORANTHENE	78.4	8.75	2.4	**0.00394**	0.00044 U	0.00043 U	0.00044 U	0.00042 U	0.00046 U	0.00045 U	**0.00433**	0.00045 U	0.00043 U	0.00046 U	0.00043 U	0.00043 U	0.00046 U
CHRYSENE	784	87.5	0.36	**0.00631**	0.00125 U	0.00124 U	0.00126 U	0.0012 U	0.0013 U	**0.00467**	**0.00964**	0.0013 U	0.00122 U	0.00133 U	0.00124 U	0.00123 U	0.00132 U
FLUORANTHENE	81700	3130	7.9	**0.00718**	0.00041 U	**0.00619**	0.00041 U	0.0004 U	0.00043 U	**0.00897 J**	**0.0187 J**	0.00043 U	0.0004 U	0.00044 U	0.00041 U	0.0004 U	0.00043 U
FLUORENE	81700	3130	12	**0.0952**	0.00046 U	**0.0537**	0.00046 U	0.00044 U	0.00048 U	**0.104 J**	**0.237 J**	0.00048 U	0.00045 U	0.00049 U	0.00045 U	0.00045 U	0.00048 U
INDENO[1,2,3-CD]PYRENE	7.84	0.875	2100	0.00045 U	0.00047 U	0.00047 U	0.00048 U	0.00046 U	0.00049 U	0.00049 U	0.0005 U	0.00049 U	0.00046 U	0.00051 U	0.00047 U	0.00047 U	0.0005 U
NAPHTHALENE	247	194	64	**0.35**	**0.0137**	**0.0382**	0.00042 U	0.0004 U	0.00044 U	**2.92 J**	**6.69 J**	**0.00902**	0.00041 U	**0.0247**	**0.291**	**0.0964 J**	**0.04 J**
PHENANTHRENE	61300	2350	23	**0.137**	0.00053 U	**0.0477**	0.00054 U	0.00051 U	0.00056 U	**0.054 J**	**0.127 J**	0.00055 U	0.00052 U	0.00057 U	0.00053 U	0.00052 U	0.00056 U
PYRENE	61300	2350	6.1	**0.0102**	0.00062 U	**0.0064**	0.00063 U	0.0006 U	0.00065 U	**0.0152 J**	**0.0347 J**	0.00064 U	0.00061 U	0.00066 U	0.00062 U	0.00061 U	0.00065 U

Notes:

TRG	=	MDEQ Tier 1 Target Remediation Goals, Feb. 2002
UST	=	MDEQ Underground Storage Tank Program Soil Cleanup Levels at 50 feet, April 2008
Dup	=	Duplicate Sample
BTEX	=	Benzene, Toluene, Ethyl Benzene, Total Xylene
MTBE	=	Methyl tert-Butyl Ether
PAHs	=	Polyaromatic Hydrocarbons
mg/kg	=	Milligrams per Kilogram
J	=	Estimated Value
U	=	Undetected Value
bold	=	Detected Value
Highlighted	=	Exceeds MDEQ Restricted and Unrestricted TRG Values
Highlighted	=	Exceeds MDEQ UST Value

5.0 GROUNDWATER SAMPLING RESULTS

All Resolution Consultant sample results, for both events, from GCAL, are presented in Appendix D. For convenience, the 2009 groundwater analytical results prepared by Aerostar are in Appendix E. The 2013 and 2015 groundwater analytical results are summarized on Table 4.

5.1 Monitoring Well Sample Results

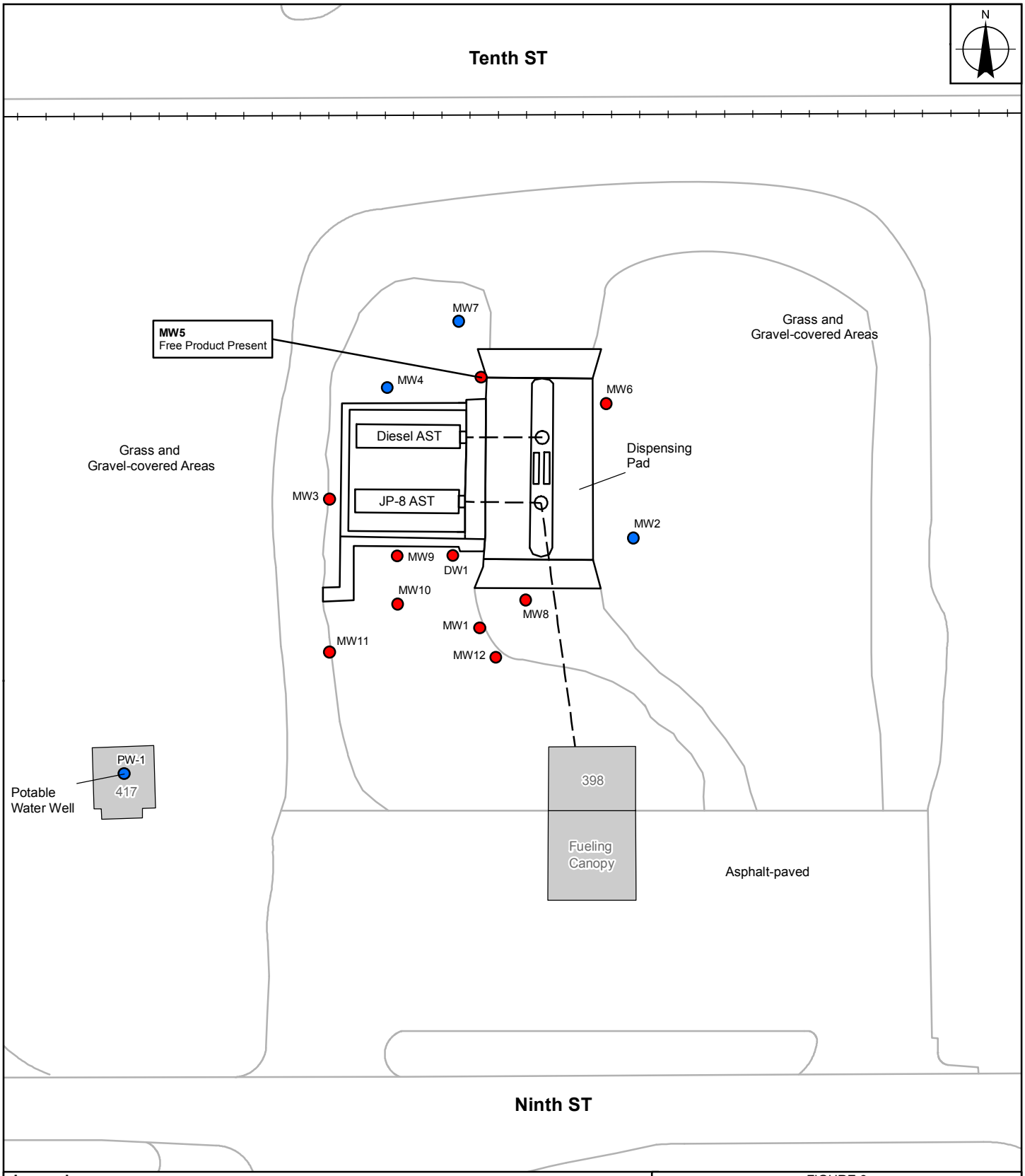
Figure 8 presents the Aerostar 2009 TRG Groundwater Exceedance Map. At that time, MW-5 had free product in it and nine additional wells were found to have one or more TRG exceedances.

Figure 9 presents the July 2013 TRG Groundwater Exceedance Map; six monitoring wells were found to have one or more TRG exceedances, predominantly in the hydraulically downgradient direction. Comparing 2009 to 2013 data, the following observations were made. Benzene concentrations have decreased in all wells, with a majority now below detection limits; only three wells exceed the TRG for benzene, compared to nine in 2009. Naphthalene concentrations, however, are fluctuating: decreases were observed in two wells, while three increased and one remained relatively unchanged. Six wells currently exceed the TRG for naphthalene, the same as 2009. These results appeared to show that groundwater quality at this site had improved since 2009, but with remaining TRG exceedances

Figure 10 presents the April 2015 TRG Groundwater Exceedance Map; in addition to the free product detected at MW-5, eight monitoring wells were found to have one or more TRG exceedances, predominantly in the hydraulically downgradient direction. Comparing 2013 data to 2015 data, the following observations were made. Benzene concentrations appear to have increased in all wells, with four detected above its TRG. Naphthalene concentrations, however, are fluctuating: decreases were observed in six wells, while six increased and one remained relatively unchanged. These results appeared to show that overall groundwater quality at this site has degraded since 2013.

5.2 Potable Water Well Sampling Results

There were no detections of any analytes in 2013. As a result, the potable water well was not re-sampled in 2015.



Legend

- No Exceedances
- One or More Exceedances
- Approximate Location of Underground Fuel Line
- Railroad
- Building

0 45 90 Feet

FIGURE 8
AEROSTAR 2009 TRG GROUNDWATER
EXCEEDANCE (µg/L) MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D. FELTER	DATE: 7/10/2015
DRAWN BY: N. RINEHART	TASK ORDER NUMBER: JM70

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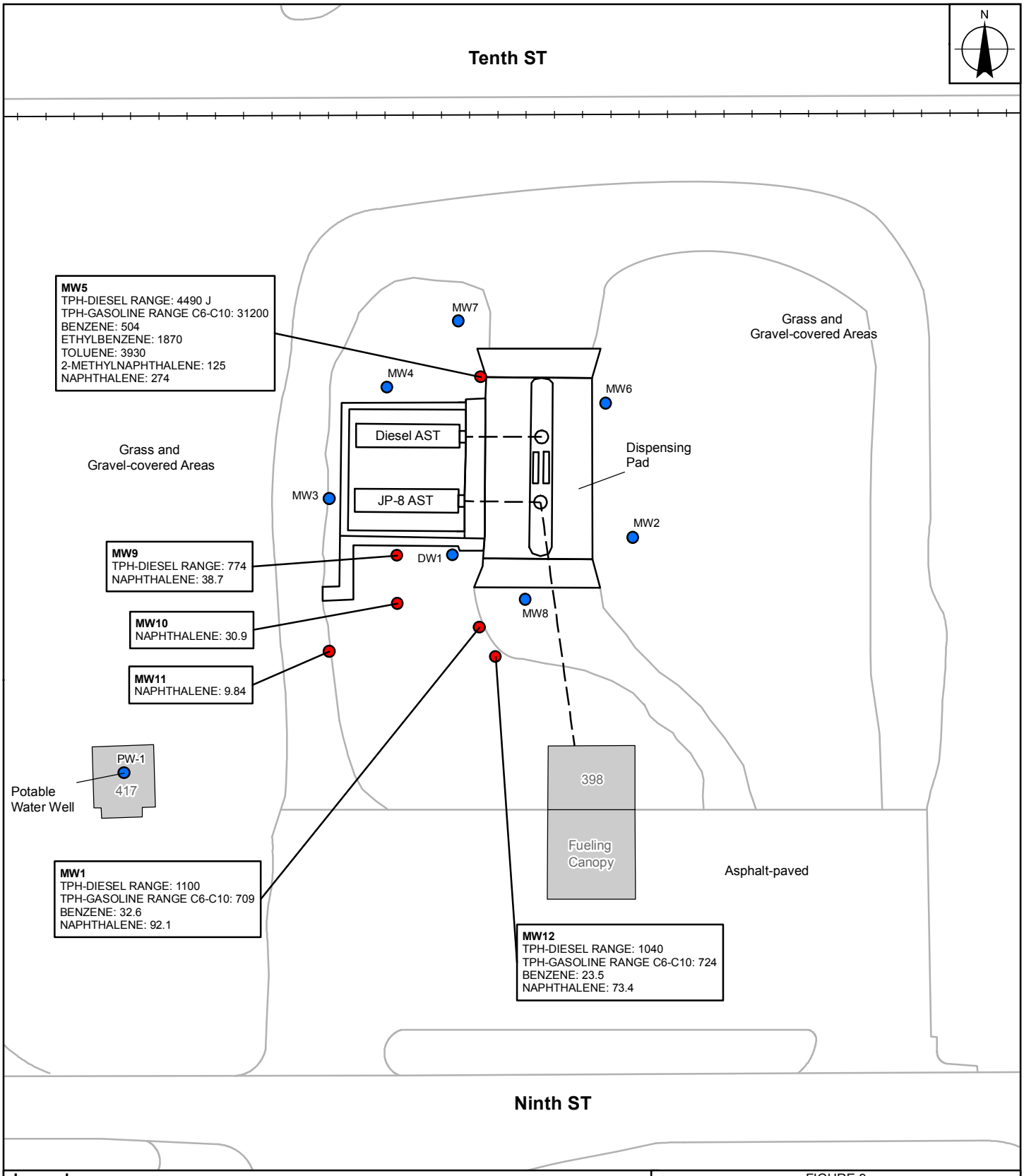
Buildings, Curb lines, Railroads, and some sample locations were previous data from Tetra Tech. Some data have been edited by EnSafe.



Legend

- No Exceedances
- One or More Exceedances
- Approximate Location of Underground Fuel Line
- Railroad
- Building

0 45 90 Feet

Groundwater TRGs:
TPH-DIESEL RANGE: 650
TPH-GASOLINE RANGE C6-C10: 350
BENZENE: 5
ETHYLBENZENE: 700
TOLUENE: 1000
2-METHYLNAPHTHALENE: 122
NAPHTHALENE: 6.2

*For MW5 the higher of the standard and duplicate results are presented here.
*TRG = Target Remediation Goal
*All results are in micrograms per liter.

FIGURE 9
JULY 2013 TRG GROUNDWATER
EXCEEDANCE (µg/L) MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D. FELTER	DATE: 7/10/2015
DRAWN BY: N. RINEHART	TASK ORDER NUMBER: JM70

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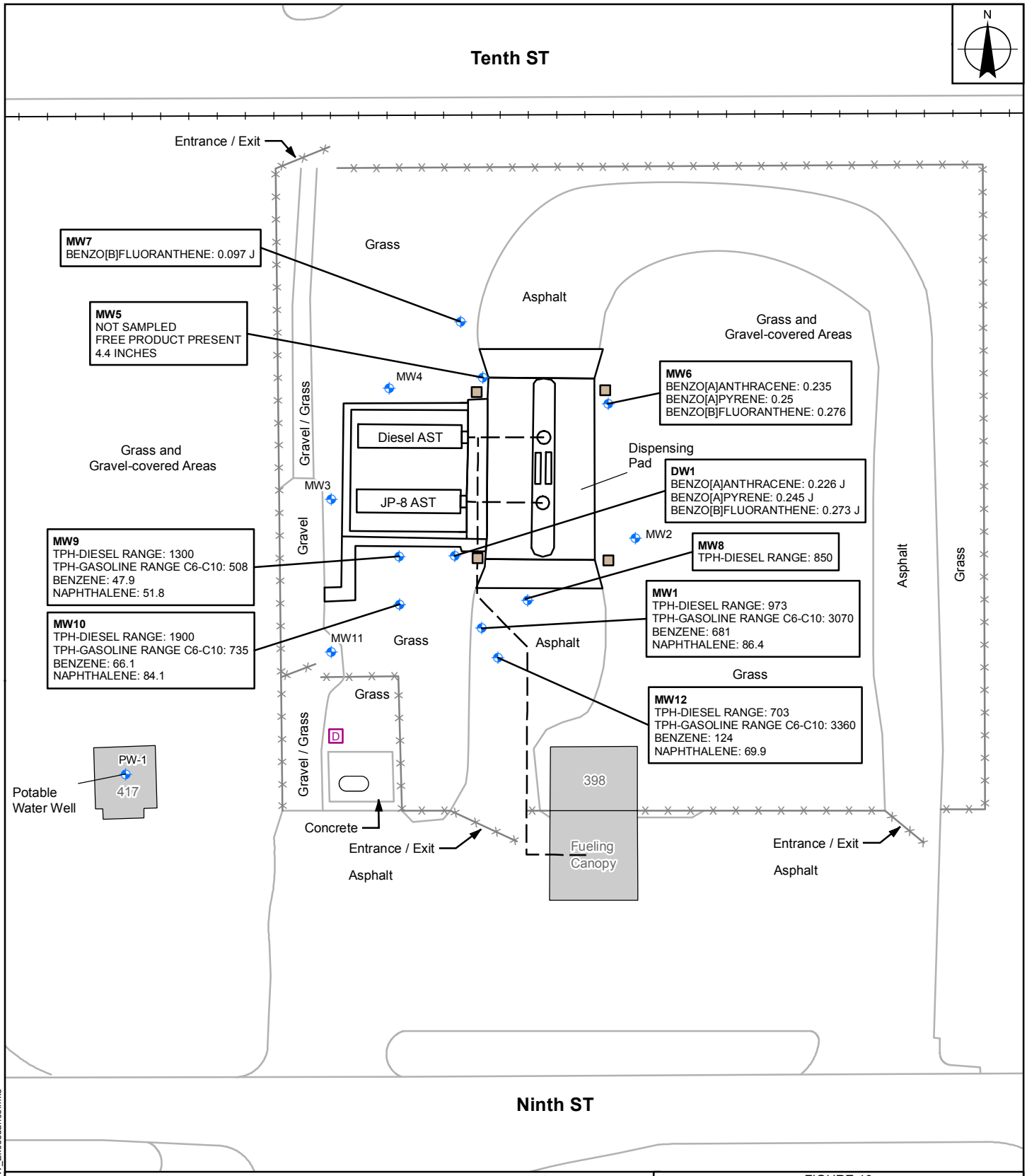
Buildings, Curb lines, Railroads, and some sample locations were previous data from Tetra Tech. Some data have been edited by EnSafe.



Legend

- Monitoring Well
- Canopy Supports
- Dumpster
- Propane Tank
- Building
- Approximate Location of Underground Fuel Line
- Curb Line
- Fence Line
- Railroad

0 45 90 Feet

Groundwater TRGs:
TPH-DIESEL RANGE: 650
TPH-GASOLINE RANGE C6-C10: 350
BENZENE: 5
ETHYLBENZENE: 700
TOLUENE: 1000
BENZO[A]ANTHRACENE: 0.0917
BENZO[A]PYRENE: 0.2
BENZO[B]FLUORANTHENE: 0.0917
2-METHYLNAPHTHALENE: 122
NAPHTHALENE: 6.2

*For DW01 the higher of the standard and duplicate results are presented here.
*TRG = Target Remediation Goal
*All results are in micrograms per liter (µg/L).

FIGURE 10
APRIL 2015 TRG GROUNDWATER
EXCEEDANCE (µg/L) MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D. FELTER	DATE: 7/10/2015
DRAWN BY: N. RINEHART	TASK ORDER NUMBER: JM70

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Buildings, Curb lines, Railroads, and some sample locations were previous data from Tetra Tech. Some data have been edited by EnSafe.

Table 4
July 2013 and April 2015 Groundwater Results
NCBC Gulfport – Building 398 (µg/L)

			DW01	DW01 (duplicate)	DW01	DW01 (dulicate)	MW01	MW01	MW02	MW02	MW03	MW03	MW04	MW04	MW05*	MW05 (duplicate)*	MW06	MW06
Analyte	**TRG**	**UST**	**07/24/2013**	**07/24/2013**	**04/22/2015**	**04/22/2015**	**07/24/2013**	**04/21/2015**	**07/24/2013**	**04/21/2015**	**07/24/2013**	**04/22/2015**	**07/24/2013**	**04/21/2015**	**07/24/2013**	**07/24/2013**	**07/24/2013**	**04/21/2015**
TPH-DIESEL RANGE	**650**		**270**	**115 J**	**141**	**169**	**1100 a**	**973 a**	**318**	**246**	**60 J**	83.3 U	**72.7 J**	83.3 U	**2880 J a**	**4490 J a**	**510**	**353**
TPH-GASOLINE RANGE C6-C10	**350**		**40.2 J**	**36.7 J**	**23.5 J**	**28.6 J**	**709 a**	**3070 a**	**178**	**152**	5.5 U	40 U	5.5 U	40 U	**31200 a**	**30900 a**	**9.6 J**	40 U
BTEX and MTBE																		
BENZENE	**5**		0.111 U	0.111 U	0.5 U	**1.12**	**32.6 a**	**681 a**	0.111 U	0.5 U	0.111 U	0.5 U	0.111 U	0.5 U	**504 a**	**499 a**	0.111 U	0.5 U
BTEX, TOTAL		18000	**1.77 J**	**0.742 J**	1 U	**1.874**	**44.335 J**	**882.59998**	0.179 U	1 U	0.179 U	1 U	0.179 U	1 U	**13954**	**13689**	0.179 U	1 U
ETHYLBENZENE	**700**		0.109 U	0.109 U	0.5 U	**0.754 J**	**11**	**77.6**	0.109 U	0.5 U	0.109 U	0.5 U	0.109 U	0.5 U	**1870 a**	**1850 a**	0.109 U	0.5 U
METHYL TERT-BUTYL ETHER	40		0.078 U	0.078 U	0.5 U	0.5 U	**1.21**	5 U	0.078 U	0.5 U	0.078 U	0.5 U	0.078 U	0.5 U	1.94 U	1.94 U	0.078 U	0.5 U
TOLUENE	**1000**		0.122 U	0.122 U	0.5 U	0.5 U	0.122 U	5 U	0.122 U	0.5 U	0.122 U	0.5 U	0.122 U	0.5 U	**3930 a**	**3900 a**	0.122 U	0.5 U
XYLENES, TOTAL	10000		**1.77 J**	**0.742 J**	1 U	1 U	**0.735 J**	**124**	0.179 U	1 U	0.179 U	1 U	0.179 U	1 U	**7650**	**7440**	0.179 U	1 U
PAHs																		
2-METHYLNAPHTHALENE	**122**		**0.109**	0.03 U	**0.065 J**	0.1 U	**20.6**	**21.8**	0.03 U	0.102 U	0.03 U	0.1 U	0.03 U	0.1 U	**121**	**125 a**	**0.179**	0.1 U
ACENAPHTHENE	365	3900	0.0082 U	0.0082 U	0.051 U	0.05 U	0.0082 U	1 U	**1.75**	**1.2**	0.0082 U	0.05 U	0.0082 U	0.05 U	**1.16**	**1.12**	**1.3**	**0.587**
ACENAPHTHYLENE	2190	3900	0.025 U	0.025 U	0.102 U	0.1 U	0.025 U	2 U	0.025 U	0.102 U	0.025 U	0.1 U	0.025 U	0.1 U	**0.186**	**0.232**	0.025 U	0.1 U
ANTHRACENE	43.4	45	0.041 U	0.041 U	0.102 U	**0.171**	0.041 U	2 U	**0.122**	**0.096 J**	0.041 U	0.1 U	0.041 U	0.1 U	0.041 U	0.041 U	0.041 U	**0.106**
BENZO[A]ANTHRACENE	**0.0917**	5.7	0.02 U	0.02 U	**0.226 J a**	0.05 UJ	0.02 U	1 U	0.02 U	0.051 U	0.02 U	0.05 U	0.02 U	0.05 U	0.02 U	0.02 U	0.02 U	**0.235 a**
BENZO[A]PYRENE	**0.2**	1.6	0.011 U	0.011 U	**0.245 J a**	0.05 UJ	0.011 U	1 UJ	0.011 U	0.051 U	0.011 U	0.05 U	0.011 U	0.05 U	0.011 U	0.011 U	0.011 U	**0.25 a**
BENZO[B]FLUORANTHENE	**0.0917**	15	0.0087 U	0.0087 U	**0.273 J a**	0.05 UJ	0.0087 U	1 U	0.0087 U	0.051 U	0.0087 U	0.05 U	0.0087 U	0.05 U	0.0087 U	0.0087 U	0.0087 U	**0.276 a**
BENZO[G,H,I]PERYLENE	1100	7	0.011 U	0.011 U	**0.199 J**	0.05 UJ	0.011 U	1 UJ	0.011 U	0.051 U	0.011 U	0.05 U	0.011 U	0.05 U	0.011 U	0.011 U	0.011 U	**0.204**
BENZO[K]FLUORANTHENE	0.917	4.3	0.017 U	0.017 U	0.051 U	0.05 U	0.017 U	1 U	0.017 U	0.051 U	0.017 U	0.05 U	0.017 U	0.05 U	0.017 U	0.017 U	0.017 U	**0.044 J**
CHRYSENE	9.17	1.8	0.018 U	0.018 U	**0.325 J**	0.05 UJ	0.018 U	1 U	0.018 U	0.051 U	0.018 U	0.05 U	0.018 U	0.05 U	0.018 U	0.018 U	0.018 U	**0.342**
FLUORANTHENE	1460	210	0.012 U	0.012 U	**0.126**	**0.086 J**	0.012 U	1 U	**0.1**	**0.094 J**	0.012 U	0.05 U	0.012 U	0.05 U	0.012 U	0.012 U	**0.15**	**0.231**
FLUORENE	243	1700	0.04 U	0.04 U	0.102 U	**0.108**	0.04 U	2 U	**0.844**	**0.798**	0.04 U	0.1 U	0.04 U	0.1 U	**0.744**	**0.748**	**0.589**	**0.294**
INDENO[1,2,3-CD]PYRENE	0.0917	62	0.0052 U	0.0052 U	0.051 U	0.05 U	0.0052 U	1 UJ	0.0052 U	0.051 U	0.0052 U	0.05 U	0.0052 U	0.05 U	0.0052 U	0.0052 U	0.0052 U	0.05 U
NAPHTHALENE	**6.2**	31000	**0.56**	**0.611**	**0.106**	**0.106**	**92.1 a**	**86.4 a**	0.0097 U	0.051 U	0.0097 U	**0.181**	0.0097 U	**0.151**	**274 a**	**269 a**	**0.617**	0.05 U
PHENANTHRENE	1100	1600	0.0072 U	0.0072 U	**0.094 J**	**0.387 J**	0.0072 U	1 U	**0.567**	**0.232**	0.0072 U	0.05 U	0.0072 U	0.05 U	**0.602**	**0.641**	**0.206**	**0.186**
PYRENE	183	160	0.015 U	0.015 U	**0.473 J**	0.05 UJ	0.015 U	1 U	**0.1 J**	**0.073 J**	0.015 U	0.05 U	0.015 U	0.05 U	0.015 U	0.015 U	**0.116**	**0.564**

			MW07	MW07	MW08	MW08	MW09	MW09	MW10	MW10	MW11	MW11	MW12	MW12
Analyte	**TRG**	**UST**	**07/24/2013**	**04/21/2015**	**07/24/2013**	**04/21/2015**	**07/24/2013**	**04/22/2015**	**07/24/2013**	**04/22/2015**	**07/24/2013**	**04/22/2015**	**07/24/2013**	**04/21/2015**
TPH-DIESEL RANGE	**650**		**384**	**157**	**644**	**850 a**	**774 a**	**1300 a**	**420**	**1900 a**	**315**	**77.4 J**	**1040 a**	**703 a**
TPH-GASOLINE RANGE C6-C10	**350**		**74.2 J**	**67.3 J**	**269**	**282**	**202**	**508 a**	**195**	**735 a**	**93.1 J**	**76.3 J**	**724 a**	**3360 a**
BTEX and MTBE														
BENZENE	**5**		0.111 U	0.5 U	**0.49 J**	0.5 U	0.111 U	**47.9 a**	**1.26**	**66.1 a**	0.111 U	**1.85**	**23.5 a**	**124 a**
BTEX, TOTAL		18000	0.179 U	**1.59**	**0.49 J**	**7.681**	**1.785 J**	**65.7**	**2.73**	**85.61**	0.179 U	**2.583**	**31.21**	**260.89999**
ETHYLBENZENE	**700**		0.109 U	**1.59**	0.109 U	**0.301 J**	**1.21**	**17.8**	**1.47**	**15.8**	0.109 U	**0.733 J**	**7.71**	**52.8**
METHYL TERT-BUTYL ETHER	40		0.078 U	0.5 U	0.078 U	0.5 U	0.078 U	0.5 U	0.078 U	**10.5**	**10.9**	**5.65**	**0.929 J**	0.5 U
TOLUENE	**1000**		0.122 U	0.5 U	0.122 U	0.5 U	0.122 U	0.5 U	0.122 U	0.5 U	0.122 U	0.5 U	0.122 U	**23.5**
XYLENES, TOTAL	10000		0.179 U	1 U	0.179 U	**7.38**	**0.575 J**	1 U	0.179 U	**3.71**	0.179 U	1 U	0.179 U	**60.6**
PAHs														
2-METHYLNAPHTHALENE	**122**		**0.731**	**0.677**	**13**	**6.56**	**10**	**8.14**	**7.8**	**27.8**	**0.819**	**0.266**	**28**	**24**
ACENAPHTHENE	365	3900	0.0082 U	0.05 U	**1.08**	**0.64**	0.0082 U	0.5 U	**0.302**	0.556 U	0.0082 U	0.05 U	0.0082 U	0.5 U
ACENAPHTHYLENE	2190	3900	0.025 U	0.1 U	**0.214**	0.104 U	0.025 U	1 U	**0.113**	1.11 U	0.025 U	0.1 U	0.025 U	1 U
ANTHRACENE	43.4	45	0.041 U	0.1 U	0.041 U	0.104 U	0.041 U	1 U	0.041 U	1.11 U	0.041 U	0.1 U	0.041 U	1 U
BENZO[A]ANTHRACENE	**0.0917**	5.7	0.02 U	**0.087 J**	0.02 U	0.052 U	0.02 U	**0.028 J**	0.02 U	0.556 U	0.02 U	0.05 U	0.02 U	0.5 U
BENZO[A]PYRENE	**0.2**	1.6	0.011 U	**0.107**	0.011 U	0.052 U	0.011 U	0.05 U	0.011 U	0.556 U	0.011 U	0.05 U	0.011 U	0.5 U
BENZO[B]FLUORANTHENE	**0.0917**	15	0.0087 U	**0.097 J a**	0.0087 U	0.052 U	0.0087 U	**0.025 J**	0.0087 U	0.556 U	0.0087 U	0.05 U	0.0087 U	0.5 U
BENZO[G,H,I]PERYLENE	1100	7	0.011 U	0.05 U	0.011 U	0.052 U	0.011 U	0.05 U	0.011 U	0.556 U	0.011 U	0.05 U	0.011 U	0.5 U
BENZO[K]FLUORANTHENE	0.917	4.3	0.017 U	0.05 U	0.017 U	0.052 U	0.017 U	0.05 U	0.017 U	0.556 U	0.017 U	0.05 U	0.017 U	0.5 U
CHRYSENE	9.17	1.8	0.018 U	**0.125**	0.018 U	0.052 U	0.018 U	**0.03 J**	0.018 U	0.556 U	0.018 U	0.05 U	0.018 U	0.5 U
FLUORANTHENE	1460	210	0.012 U	0.05 U	0.012 U	0.052 U	0.012 U	0.5 U	0.012 U	0.556 U	0.012 U	0.05 U	0.012 U	0.5 U
FLUORENE	243	1700	0.04 U	0.1 U	**1.05**	**1.04**	**0.244**	1 U	**0.317**	1.11 U	0.04 U	0.1 U	0.04 U	1 U
INDENO[1,2,3-CD]PYRENE	0.0917	62	0.0052 U	0.05 U	0.0052 U	0.052 U	0.0052 U	0.05 U	0.0052 U	0.556 U	0.0052 U	0.05 U	0.0052 U	0.5 U
NAPHTHALENE	**6.2**	31000	0.0097 U	**0.204**	0.0097 U	**3.07**	**38.7 a**	**51.8 a**	**30.9 a**	**84.1 a**	**9.84 a**	**2.54**	**73.4 a**	**69.9 a**
PHENANTHRENE	1100	1600	0.0072 U	0.05 U	**0.168**	**0.21**	0.0072 U	0.5 U	**0.151**	0.556 U	0.0072 U	**0.119**	0.0072 U	0.5 U
PYRENE	183	160	0.015 U	**0.154**	0.015 U	0.052 U	0.015 U	**0.049 J**	0.015 U	0.556 U	0.015 U	0.05 U	0.015 U	0.5 U

Notes:

*	=	MW05 was not sampled in 2015 due to the presence of free product.
Tier 1	=	MDEQ TIER 1 Groundwater Values, Feb. 2002
UST	=	MDEQ Underground Storage Tank Groundwater, 100 feet and total BTEX, April 2008
BTEX	=	Benzene, toluene, ethyl benzene, total xylene
UG_L	=	Micrograms per liter
J	=	Estimated value
U	=	Undetected value
bold	=	Detected value
a	=	Exceeds MDEQ Tier 1 values

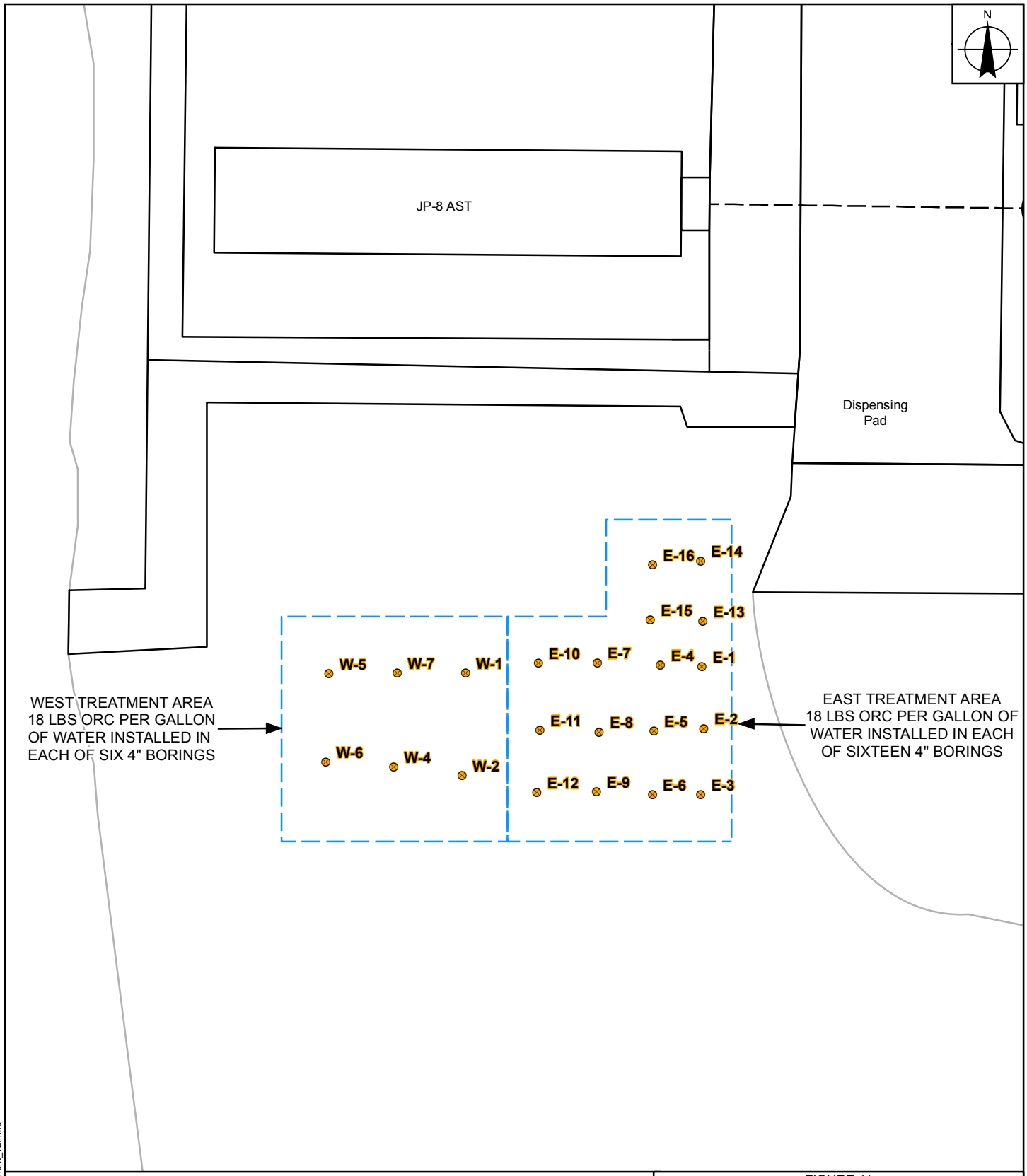
6.0 SOIL PILOT TEST IMPLEMENTATION

Based on July 2013 soil analytical results from SB-14, Resolution Consultants organized and implemented an in-situ injection of Oxygen Release Compound (ORC) Advanced, supplied by Regenesis. ORC Advanced is a proprietary formulation of phosphate-intercalated magnesium peroxide that, when hydrated, produces a controlled release of oxygen for periods of up to 12 months on a single application. ORC Advanced supplies controlled-release molecular oxygen to the subsurface environment, where it accelerates the rate of naturally occurring aerobic biodegradation of soil contaminants. A material safety data sheet for ORC Advanced is included in Appendix F.

ORC Advanced injection in the SB-14 area was based on a 450-square-foot (15 feet by 30 feet) treatment area. The treatment area and injection points are depicted on Figure 11. The treatment area was divided into east and west areas. Based on previous sampling results, the east area was expected to contain higher concentrations of petroleum contaminants than the west area.

On 31 March 2014, Resolution Consultants used a 2-inch diameter stainless steel hand auger to dig trial holes in the treatment area. Trial holes were dug to a depth of 4 feet bgs in 16 locations in the east area and 6 locations in the west area. Soil cuttings were field screened for volatile organic compounds at 1-foot intervals using an Ion Science PhoCheck Tiger PID.

On 1 April 2014, Resolution Consultants used a two-man powered auger equipped with a 4-inch diameter bit to drill 4-inch diameter borings at each injection point. A slurry of ORC Advanced and water was prepared by thoroughly mixing approximately 18 pounds of powdered ORC Advanced with 1 gallon of water for each injection point. The slurry was mixed in a 5-gallon bucket using an electric handheld drill equipped with a mixing paddle. Borings were terminated at 5 feet in borings with a PID reading of zero, or otherwise at the depth of maximum PID readings. The ORC Advanced slurry was injected by gravity using a tremie pipe. Injection depths are provided in Table 5.



Legend

- ORC Advanced Injection Point
- Building
- Area of Proposed Oxygen Release Compound Installation
- Approximate Location of Underground Fuel Line
- Railroad

0 10 20 Feet

FIGURE 11
SOIL TREATMENT AREA AND
INJECTION POINT LOCATION MAP
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D. FELTER	DATE: 7/10/2015
DRAWN BY: N. RINEHART	TASK ORDER NUMBER: JM70

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Buildings, Curb lines, Railroads, and some sample locations were previous data from Tetra Tech. Some data have been edited by EnSafe.

Table 5
2014 ORC Advanced Injection Location Summary Table

Injection Point	Highest PID Reading (parts per million)	Depth (feet)
W-1	0	5
W-2	3.6	2
W-3	0	5
W-4	0.3	3
W-5	0	5
W-6	0.3	3
E-1	481	2
E-2	559	2
E-3	102	2
E-4	12.9	3
E-5	595	2
E-6	89.4	3
E-7	14.4	4
E-8	345	3
E-9	817	3
E-10	640	4
E-11	43.1	2
E-12	6.7	2
E-13	1079	4
E-14	978	4
E-15	0	5
E-16	3	447

Notes:
ORC = Oxygen Release Compound
PID = Photoionization detector

7.0 RECCOMENDATIONS

Based on sampling results, and the shift from UST to TRG standards, Resolution Consultants recommends that additional wells be installed and that a groundwater pilot test be implemented. Both are discussed further in Sections 7.1 and 7.2, respectively.

7.1 Recommended Monitoring Well Installations

The original scope of work for JM35 included installation of seven new monitoring wells as recommended by Aerostar. However, based on the 2013 and 2015 groundwater results, Resolution Consultants recommends no more than two additional monitoring wells, as presented on Figure 12, to define the downgradient limit of contaminants in groundwater above TRGs.

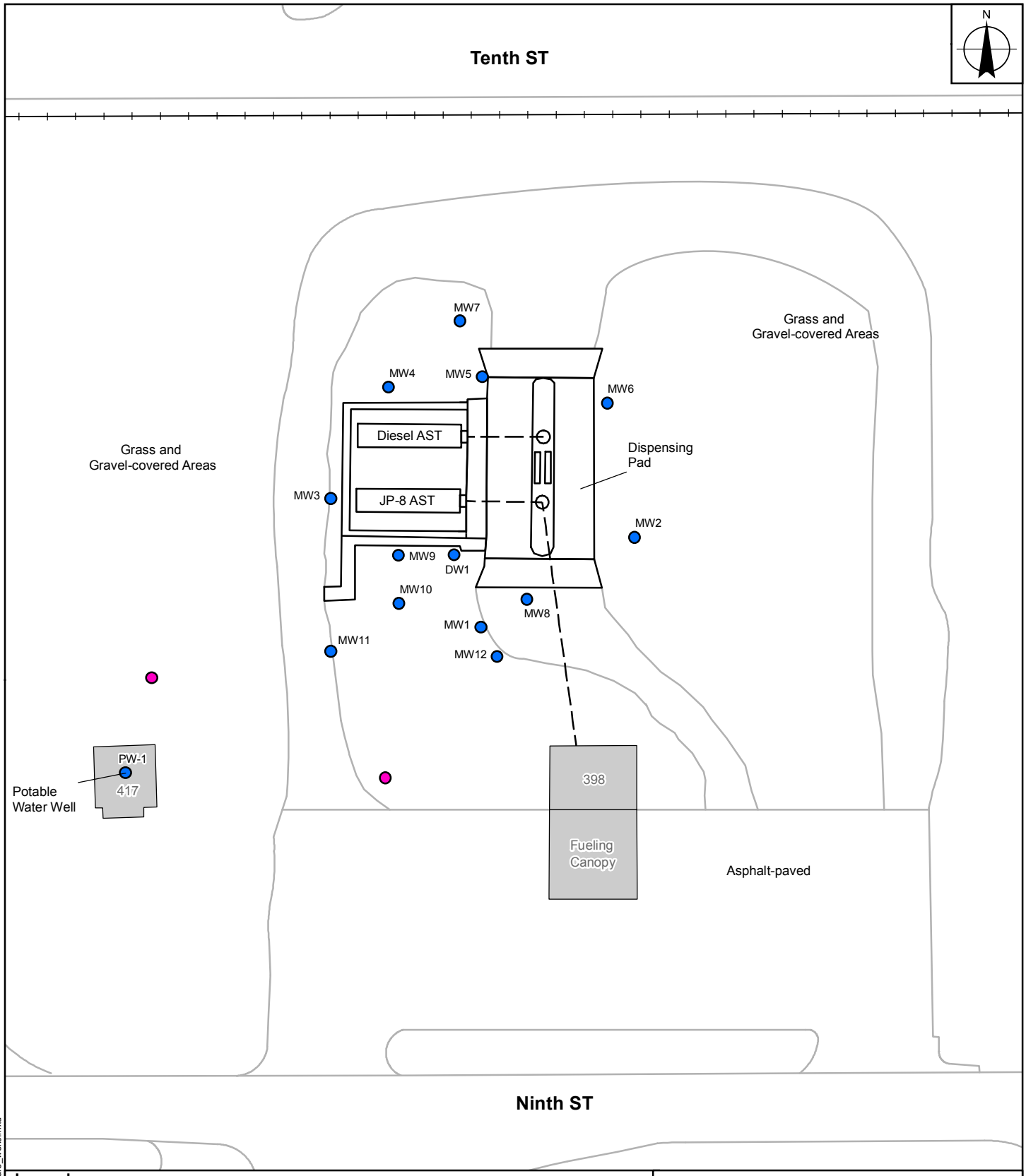
The most hydraulically downgradient well currently onsite is MW-11. In 2013, the only exceedance detected in the sample collected from this well was for naphthalene, which was detected at a concentration of 9.84 micrograms per liter. The TRG for naphthalene is 6.2 micrograms per liter, suggesting that MW-11 is close to the line of compliance. In 2015, there were no exceedances at MW-11. However, two additional wells would be required to ensure the plume did not extend further south or west of MW-11.

7.2 Recommended Groundwater Pilot Test

Potentially applicable technologies, corresponding to several general response actions, were compiled and evaluated with respect to implementability, effectiveness, and generalized costs as shown on Table 6. Available site-specific information and case-studies were used to eliminate technologies that cannot be effectively implemented, are cost prohibitive, or for some other reason are incapable of achieving remedial goals. Technologies included in Table 6 represent remedial options that have well documented success and applicability.

Based on the review of potentially applicable technologies, the following corrective action approaches/options were evaluated for a pilot test study at the site:

- Land Use Controls
- Dual Phase Extraction — Aggressive Fluid Vapor Recovery with Hydrocarbon Mitigation Agent
- Sorbents — WellBoom (Petroleum Remediation Product)
- Enhanced Bioremediation — Regenesis' Oxygen-Release Compound



Legend

- Existing Wells
- Recommended Future Wells
- Building
- Approximate Location of Underground Fuel Line
- Railroad

0 45 90 Feet

FIGURE 12
RECOMMENDED FUTURE WELLS
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D. FELTER	DATE: 7/10/2015
DRAWN BY: N. RINEHART	TASK ORDER NUMBER: JM70

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Buildings, Curb lines, Railroads, and some sample locations were previous data from Tetra Tech. Some data have been edited by EnSafe.

Table 6
Screening of General Response Actions

Technology	Description	Site Implementability	Site Effectiveness	Generalized Site Cost	Screening Status
Land Use Controls	Land Use Controls (LUC) are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination. The following is a list of LUC examples: • Site access controls • Deed restrictions • Groundwater use restrictions • Public awareness and education • Warnings against excavation and soil use	• Readily implemented to limit onsite exposures through development of a LUC RD/ LUCIP. • Periodic monitoring of groundwater from the potable well.	• Effective at controlling current and future site use/groundwater use. • Does not address free product or residual contamination toxicity, mobility, or volume (TMV).	**Initial Cost —** Low (<$50,000) **Annual Cost —** Low	**Discard**
Monitoring Only	Monitoring contaminant concentrations in areas exceeding groundwater standards.	• Readily implemented (no permitting requirements) • Additional source area and offsite downgradient monitoring wells needed	• Effective to gauge contaminant trends. • Does not address free product or residual contamination TMV.	**Initial Cost —** $25k **Annual Cost —** Low (<$100,000)	**Discard** Due to the location of a potable well approximately 140 feet from the source area and presence of free product, this will not be an option.
Monitored Natural Attenuation (MNA)	MNA is described as the reliance of natural processes to achieve site-specific remedial objectives or the biodegradation/attenuation of contaminants into a less hazardous end product. Incorporates multiple lines of evidence to demonstrate degradation: • Primary constituent degradation patterns • Geochemical conditions • Biological conditions	• Readily implemented (no permitting requirements) • Additional source area and offsite downgradient monitoring wells needed • In addition to monitoring of the contaminant, the collection of field parameters, MNA requires collection of field parameters and aquifer geochemistry in areas exceeding groundwater standards to evaluate degradation conditions over time.	• Effective to gauge contaminant trends. • Does not address free product or residual contamination TMV. • MNA not effective in presence of free product. Furthermore, current geochemical data for the site does not support MNA.	**Initial Cost —** $25K-$50K **Annual Cost —** Low (<$100,000-$200,000)	**Discard**
Containment (Pump and Treat)	Groundwater pump-and-treat is a containment remedy for aqueous-phase volatile organic compounds (VOCs). Studies indicate that pump-and-treat approaches are not effective at remediation and restoration of impacted aquifers to remedial goals, especially where non-aqueous phase liquids are present. Instead, pump-and-treat systems typically represent long-term commitments to groundwater extraction, treatment and disposal of extracted groundwater. However, pump-and-treat is still regarded as an effective method for hydraulic containment. In general, containment systems have limited applicability to tight, low yield formations.	• Labor intensive due to required routine operation and maintenance (O&M), not energy sustainable. • May require additional aquifer testing for design of containment system. • Requires installation of recovery wells along with piping connecting recovery wells to containment system. • May require air and discharge permits. • May produce large amounts of waste requiring offsite treatment and disposal (e.g., spent carbon).	• Multiple recovery wells required. • Most likely will not provide enough mass removal to meet groundwater standards. • Does not address residual contamination toxicity or volume.	**Initial Cost —** Moderate ($100,000-$500,000) **Annual Cost —** Moderate	**Discard**
Capping/containment (e.g., slurry walls)	**Cap —** Minimizing infiltration into contaminated zones by placing impermeable cap over source zone using a constructed (engineered) landfill cap or asphalt/concrete paving. Must account for land use. **Slurry Wall —** Preventing groundwater flow into or out of a highly contaminated zone to minimize mass flux to downgradient receptors by surrounding a site with a grout curtain or similar wall keyed into a low permeability base. May require groundwater extraction and residuals management.	• Source area is >50 percent (%) capped (structures, concrete aprons).	• Effective at limiting mass flux from site. • Impacts to vertical migration unknown. • Does not address free product or residual contamination toxicity or volume.	**Initial Cost —** High (>$1,000,000) for slurry walls **Annual Cost —** Low (inspections/maintenance as required), but does not account for groundwater management	**Discard** (Note — large portions of the site are effectively capped by existing infrastructure)

Table 6
Screening of General Response Actions

Technology	Description	Site Implementability	Site Effectiveness	Generalized Site Cost	Screening Status
Excavation with Offsite Disposal	Physical removal of contaminated soil via excavation, with offsite treatment (if needed) and disposal.	• Excavation beneath the existing aboveground storage tanks would require relocating the tanks and replacing the secondary containment and concrete pad.	• Effective at removing contamination if entire impacted zone is accessible.	**Initial Cost —** Variable based on volume and treatment required **Annual Cost —** none	**Discard**
Soil Vapor Extraction	In soil vapor extraction (SVE), air is extracted from the vadose zone via a well network. VOCs preferentially partition from contaminated soil into the vapor phase, and the contaminated vapor is removed via continual flux through the vapor system. The air is vented to the atmosphere or recovered for treatment. Requires moderate permeability and uniformity to be effective.	• Likely difficult to establish/maintain extraction system due to shallow depth of groundwater. • Labor intensive due to required routine O&M, not energy sustainable. • Significant infrastructure required around service station building.	• Effectiveness limited by heterogeneity in affected media. • Requires residuals treatment to avoid simple media transfer.	**Initial Cost —** Moderate ($100,000-$500,000) **Annual Cost —** variable based on treatment required	**Discard**
Air Sparging	In air sparging air is injected below the contaminated zone, which bubbles through the water column and up through the aquifer. VOCs preferentially partition into the air bubbles, and rise to the unsaturated zone. Once the bubbles reach the vadose zone, the contaminated vapor is captured by a SVE system. This air is vented to the atmosphere or recovered for treatment. Requires moderate permeability and uniformity to be effective.	• May require SVE system and well network to collect the partitioned contamination. Likely difficult to establish/maintain extraction system due to shallow depth of groundwater. • Labor intensive due to required routine O&M, not energy sustainable.	• Effectiveness limited by heterogeneity in affected media. • Requires residuals treatment to avoid simple media transfer.	**Initial Cost —** Moderate ($100,000-$500,000) **Annual Cost —** variable based on treatment required	**Discard**
Dual Phase Extraction	Dual-phase extraction, also known as multi-phase extraction, vacuum-enhanced extraction, or sometimes bioslurping, is an in-situ technology that uses pumps to remove various combinations of contaminated groundwater, separate-phase petroleum product, and hydrocarbon vapor from the subsurface. Extracted liquids and vapor are treated and collected for disposal, or re-injected to the subsurface (where permissible under applicable state laws). Requires moderate permeability and uniformity to be effective.	• May produce large amounts of extracted groundwater requiring treatment for disposal. • Can be implemented using multiple approaches: • Short-duration push-pull techniques (dual-phase liquid and vapor stream) from select monitoring wells using dual-phase extraction techniques. Follow-up treatment may be required to remove residual petroleum. Typical reapplication frequency: 3 to 12 months. • Longer-term dedicated mechanical system (dual-phase liquid and vapor stream) allow continuous application until remedial goals are achieved.	• Effective at removing free product and hydrocarbons in the vapor, dissolved and adsorbed-phase in the saturated and unsaturated zones of the subsurface. • Stimulates bioremediation through added oxygen to the subsurface. • Requires residuals treatment to avoid simple media transfer. • Extracted groundwater may be treated at the waste water facility at the NCBC Gulfport. • Injection of surfactant used to enhance remedial effects. • A mobile system can be used for quick and lower cost implementation.	**Initial Cost —** Low (<$100,000) for mobile applications; Moderate ($100,000-$500,000) for dedicated systems **Annual Cost —** variable based on treatment required **Follow-up treatment costs –** variable based on treatment required	**Retain**
In Situ Bioremediation	In situ bioremediation (ISB) enhances the natural degradation rates within the aquifer by adding oxygen and/or amendments (e.g., nutrients). Natural degradation occurs when present or placed microorganisms degrade contaminants within the aquifer to innocuous end products. ISB using passive treatment techniques requires good residence time, but some groundwater velocity.	• Can be implemented using multiple approaches: — Longer-term passive treatment techniques (emplacement of slow-release oxygen delivery compounds) to enhance biological growth and constituent degradation within the treatment zone. Oxygen delivery substrates exhibit a fixed life (e.g., 9 to 12 months), requiring reapplications over a 3 to 5 year period. An injection permit may be required before implementation. — Active oxygen delivery (biosparging), requiring mechanical system operations over a 3 to 5 year period. — Short-duration push-pull techniques (dual-phase liquid and vapor stream) from select monitoring wells using dual-phase extraction techniques (see above).	• Push-pull techniques are effective in removing separate-phase product (free product) from the subsurface, thereby reducing concentrations of petroleum hydrocarbons in both the saturated and unsaturated zones of the subsurface. • Traditional ISB techniques do not address free-phase product, which is left to degrade naturally over the long term.	**Initial Cost —** Low (<$100,000) **Annual Cost —** Low (<$100,000) **Follow-up treatment costs —** typically 50% to 75% of initial cost	**Retain**

Table 6
Screening of General Response Actions

Technology	Description	Site Implementability	Site Effectiveness	Generalized Site Cost	Screening Status
Sorbent	Sorbents are insoluble materials or mixtures of materials used to recover liquids through the mechanism of absorption, or adsorption, or both. Sorbents are both oleophilic (oil-attracting) and hydrophobic (water-repellent) to be useful in removing petroleum product. The sorbent material is contained within a mesh fabric sock that is secured to the monitoring well cap. Rate of absorption, rate of adsorption, oil retention and ease of application must be considered when using sorbents. Method requires good residence time, but some groundwater velocity.	• Readily implemented (no permitting requirements) using existing monitoring well network. • Monitoring of injection area required. • Follow-up treatment may be required to provide additional absorption of residual petroleum. Typical replacement frequency: 6 to 12 months. • Sorbent materials and any oil that is removed from materials must be properly disposed in accordance with applicable regulations.	• Expected to be effective at reducing contaminants and free product.	**Initial Cost –** Low (<$100,000) **Annual Cost –** Low (<$100,000) **Follow-up treatment costs –** variable based on treatment required	**Retain**
In Situ Chemical Oxidation	In situ chemical oxidation (ISCO) processes involve staged applications of oxidants leading to complete degradation of organic groundwater constituents. ISCO effectiveness is contact dependent and often active for a relatively limited time in in the subsurface. Matrix (non-target compound) oxidant demand may be significant. While treatment can be rapid, ISCO is not optimal where effectiveness depends on contaminant movement.	• Pilot studies may be helpful to determine if delivery and oxidant residence time are sufficient to treat residual materials. • Implementation via DPT. • Difficult to assure contact between oxidant and contaminant. • Monitoring of injection area required. • Follow-up treatment may be required to assure effectiveness. Typical reinjection frequency: 3 to 6 months. • An injection permit may be required before implementation.	• Effectiveness expected to be limited by attaining contact with site constituents beneath structural features. • May not be cost effective at groundwater concentrations < 1 milligrams per liter. • Not recommended due to location of potable well 140 feet from the treatment area.	**Initial Cost –** Low (<$100,000) **Annual Cost –** Low (<$100,000) **Follow-up treatment costs –** typically 50% to 75% of initial cost	**Discard**

Notes:

MNA	=	Monitored natural attenuation
ISB	=	In situ bioremediation
DPT	=	Direct push technology
ISCO	=	In situ chemical oxidation
CVOCs	=	Chlorinated volatile organic compounds
ZVI	=	Zero valent iron
IC	=	Institutional control
GW	=	Groundwater
SRGs	=	Soil remediation goals
AS	=	Air sparge
SVE	=	Soil vapor extraction
NAPL	=	Non-aqueous phase liquid
ARARs	=	Applicable, relevant, or appropriate requirements
TMV	=	Toxicity, mobility, and volume

The following sections describe each of these four response actions. The costs estimates are provided for each remediation technology and reflect general costs for a proposed pilot study. Site-specific cost estimates should be completed prior to implementation of a select remedial technology pilot study.

Land Use Controls

Land Use Controls (LUC) are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination. LUCs can be readily implemented to limit onsite exposures through completion of a LUC RD/ LUCIP. The following is a list of LUC examples:

- Site access controls
- Deed restrictions
- Groundwater use restrictions
- Public awareness and education
- Warnings against excavation and soil use

LUCs can be implemented while further remedial options are considered for the site, which may be required due to the presence of free product at the site. LUCs would remain in place until remedial goals are achieved thereby eliminating potential for human exposure to contamination.

The site's geology (see Section 2.3) and the groundwater monitoring data support continued use of the existing potable well, which is constructed 722 feet deep, while only restricting use of the shallow aquifer at the site. Continued periodic groundwater monitoring of the potable well would be necessary to ensure no human exposure to the contamination.

Dual Phase Extraction — Aggressive Fluid Vapor Recovery with Hydrocarbon Mitigation Agent

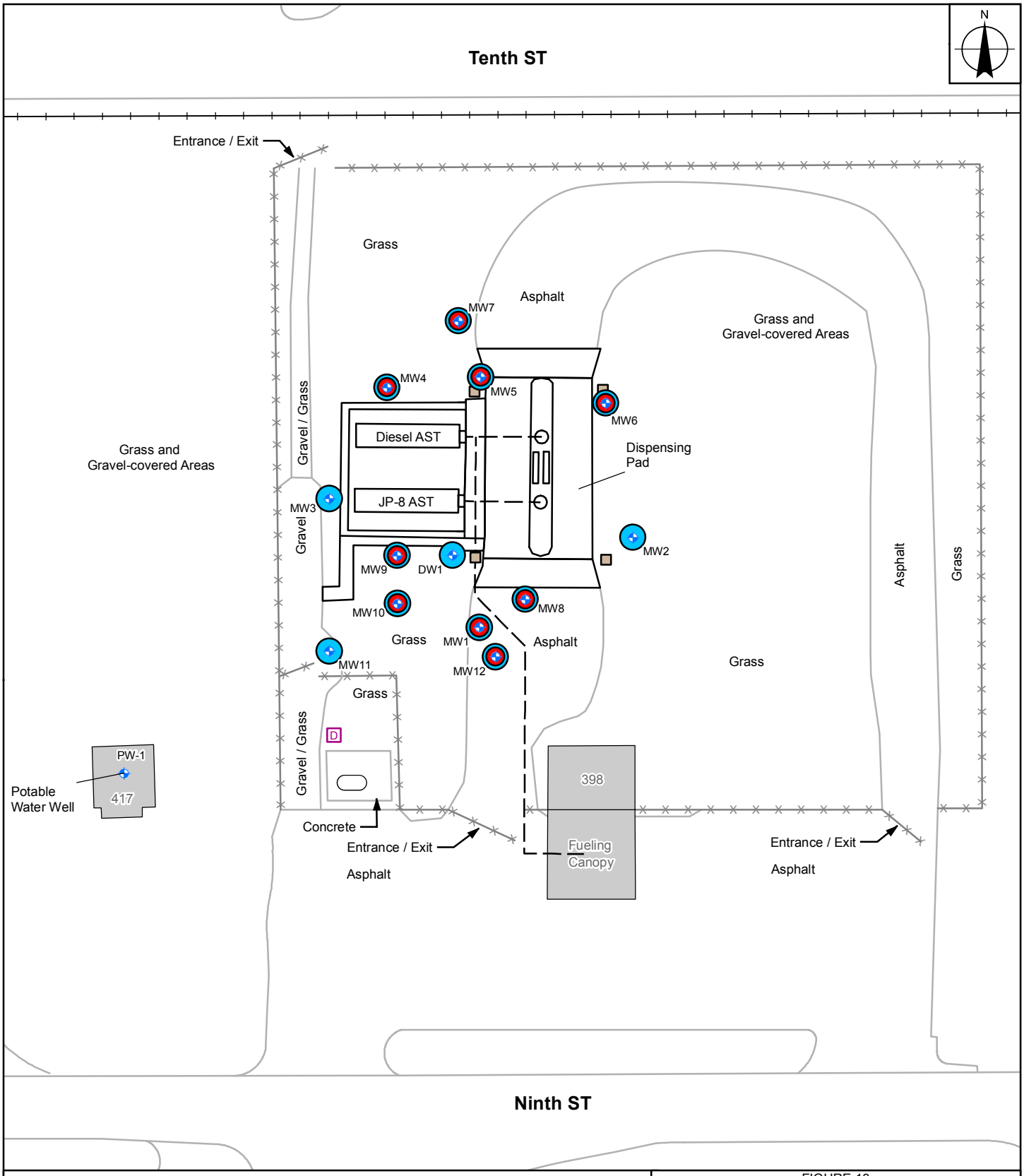
Aggressive Fluid Vapor Recovery (AFVR) is a cost effective means of applying dual-phase extraction for the purposes of quickly removing hydrocarbons from contaminated monitoring wells. Concurrent with vacuum extraction, it uses a surfactant (BioSolve) to enhance free product recovery. This technology offers a means to increase Non-Aqueous Phase Liquid recovery rates (compared with conventional methods) and to accomplish dewatering, while also facilitating vapor-based unsaturated zone cleanup. AFVR removes hydrocarbons in the vapor, adsorbed, and dissolved phases from the subsurface. As with traditional vapor extraction, induced air flow through the subsurface also stimulates microbiological activity and biodegradation of

petroleum hydrocarbons. BioSolve is a formulation of water-based, biodegradable, non-ionic surfactants which creates micro-emulsions when applied to hydrocarbon contaminants. The BioSolve would be deployed to select monitoring wells across the subject site with AFVR applied to the same selected monitoring wells as a green and sustainable remediation option.

This process uses a vacuum truck or trailer-mounted vacuum system with an accompanying tank for collection and storage of the extracted materials. Vacuum-enhanced recovery can reduce the required potential energy (i.e., the entry suction), allowing liquid to be extracted that had previously not been able to flow into the well; moreover, it induces both pneumatic and hydraulic gradients toward the vacuum source that increase recovery of both water and Non-Aqueous Phase Liquids.

AFVR technology is based on the use of a high vacuum, liquid ring pump, and incorporates the use of drop tubes with beveled lower ends positioned at selected depths below the static water table within extraction wells, or extraction wells with short sections (less than 10 feet) of well screen positioned at the base of the zone of impact. Initial operation of the liquid-ring pump extracts groundwater only. When the dynamic pumping level of the water table approaches the screened interval of the well or the lower end of the drop tube, the AFVR system extracts both groundwater and vapor. The extracted vapor and groundwater are transported to a holding tank where they are separated and transferred to treatment units prior to discharge.

By lowering the water table through groundwater extraction, the AFVR system exposes the formerly saturated zone to the air flow induced by the applied vacuum. Adsorbed phase volatile organic contaminants are removed through direct volatilization in response to the induced vacuum. Less volatile constituents are subjected to aerobic biodegradation through the stimulated growth of indigenous microbes in response to the increase in subsurface oxygen. The high vacuum induced by the liquid-ring pump typically results in larger radii of influence than conventional vapor extraction systems. The greater areal extent of vacuum influence induced by the AFVR system allows for a larger spacing between extraction wells, and therefore, a smaller number of wells may be required to treat the area of impact. The extent of adsorbed phase and dissolved phase contamination in the aquifer is within the depth of treatment generally achievable with AFVR.



Legend

- Monitoring Well
- Select Monitoring Wells for AFVR Pilot Test
- Secect Monitoring Wells for Well Boom Pilot Test
- Canopy Supports
- Dumpster
- Propane Tank
- Building
- Curb Line
- Fence Line
- Approximate Location of Underground Fuel Line
- Railroad

0 45 90 Feet

Note:
- AFVR = Aggressive Fluid Vapor Recovery

FIGURE 13
GROUNDWATER
PILOT TEST
BUILDING 398
NCBC GULFPORT
GULFPORT, MISSISSIPPI

REQUESTED BY: D. FELTER	DATE: 7/10/2015
DRAWN BY: N.RINEHART	TASK ORDER NUMBER: JM70

X:\Navy\NCBC_Gulfport\gw_ust_v2.mxd

Buildings, Curb lines, Railroads, and some sample locations were previous data from Tetra Tech. Some data have been edited by EnSafe.

The surfactant injection can be applied directly to groundwater monitoring wells MW-1, MW-2, MW-4 through MW-10, and MW-12 using a mobile injection system (see Figure 13). AFVR would be applied to these select groundwater monitoring wells in the treatment zone approximately 48 hours after injection to recover approximately three times the injection volume of the groundwater-surfactant mixture. Additional AFVR events would be applied in the weeks following for a final polish, to remove residual groundwater and surfactant.

Costs considered for a pilot study of this pilot test option include:

- the operation and mobilization of an AFVR truck and tanker truck for two events
- mobilization to the site
- labor and materials for injection of BioSolve into monitoring wells MW-1, MW-2, MW-4 through MW-10, and MW-12

The anticipated cost for this remedial option is estimated to be approximately $60,000 to $70,000 depending on whether the water can be discharged to the base's treatment facility. Costs do not include any follow-up monitoring to assess pilot test effectiveness.

Sorbents — WellBoom (Petroleum Remediation Product)

Sorbents are insoluble materials used to recover liquids through the mechanism of absorption and/or adsorption. Sorbents used to capture petroleum are oleophilic and hydrophobic. They attract and retain petroleum thereby removing it from the aquifer. Sorbents are able to remove final traces of oil in areas that cannot be reached by skimmers. The Petroleum Remediation Product (PRP), manufactured by Universal Remediation Inc., is an all-natural hydrocarbon absorbent that attracts and stimulates the natural microbial population to degrade oil. PRP consists of treated wax in granular form, which provide nutrients to stimulate microbial population growth for biodegradation of the retained petroleum hydrocarbons. They absorb and bind the hydrocarbons, providing a carbon source for the microorganisms.

The WellBoom contains PRP and is designed for deployment in groundwater monitoring wells. The WellBoom is suitable for treating free-phase contaminants and contaminants migrating in the aqueous phase. The specific gravity of PRP is greater than oil but less than water. When installed, it submerges and adjusts to changing water levels, remaining buoyant until depleted. The WellBoom absorbs free product on contact, and is designed to not release petroleum compounds back into the aquifer over time.

WellBooms would be deployed to monitoring wells MW-1 through MW-12 and DW-1 across the subject site as a green and sustainable remediation option (see Figure 13). For purposes of this evaluation it is assumed that WellBooms would be replaced on a semi-annual basis in these wells for a two-year period, and the spent WellBooms would be disposed in accordance with applicable regulation. According to the vendor, WellBooms are considered non-hazardous waste for disposal purposes. Given the long treatment time for the pilot study, groundwater monitoring can be completed from the treatment wells during WellBoom replacement.

PRP cannot work where surfactants, soaps, dispersants, detergents or chlorine exist. Therefore, using PRP would not be recommended after an AFVR with BioSolve, but could be used prior to such a remedial activity. The sorbent works best on petroleum hydrocarbons that are non-aqueous phase liquids; however, dissolved-phase hydrocarbons will be treated as well. In circumstances where adsorbed-phase hydrocarbons are documented or suspected within the unsaturated zone, additional site characterization may be necessary to evaluate alternative remedial methods. Accessibility to contaminants beneath the current site structures may reduce the effectiveness of the sorbents as free-phase recovery tools, as complete coverage across the entire area impacted by non-aqueous phase liquids may not be possible.

Costs considered for a pilot study of this remedial option include WellBooms, mobilization to the site, and labor for deployment of the WellBoom on a semi-annual basis for two-years in monitoring wells MW-1 through MW-12 and DW-1. The anticipated cost for this pilot test is estimated to be up to $20,000. Costs do not include any groundwater monitoring to assess pilot test effectiveness.

Enhanced Bioremediation — Regenesis' Oxygen-Release Compound

Enhanced bioremediation capitalizes on extant, indigenous microorganisms to accelerate biodegradation of petroleum hydrocarbons, typically via addition of electron acceptors or nutrients. Oxygen can be a growth-limiting factor for hydrocarbon degrading bacteria. Dissolved oxygen is typically depleted as a result of a release of petroleum hydrocarbons to an aquifer. The addition of oxygen stimulates the microbial activity of indigenous microorganisms in the biodegradation of petroleum hydrocarbons.

As mentioned in Section 6, impacted soil in the SB-14 area was amended with ORC Advanced, supplied by Regenesis. Based on the analytical results for samples collected from monitoring wells in the SB-14 area where ORC was applied in 2014, no significant decreases in targeted compound

concentrations were detected during the 2015 sampling event. The controlled-release molecular oxygen does not appear to support enough aerobic bioremediation to efficiently achieve remedial goals although recent construction activities or the presence of free product at the site may have limited the effectiveness of the pilot study. The efficiency of this remedial technology is limited for the treatment of the Non-Aqueous Phase Liquids present at the site.

For groundwater, introduction of Regenesis' Oxygen-Release Compound (or similar products) to existing monitoring wells with TRG exceedances was considered. ORC could be introduced either with socks or in slurry form. Just as with soil remediation, ORC Advanced supplies controlled-release molecular oxygen to the subsurface environment, where it accelerates the rate of naturally occurring aerobic biodegradation of groundwater contaminants. The ORC Advanced is effective for up to a year after application to the aquifer.

Costs considered for a pilot study of this remedial option include mobilization to the site, material and labor for deployment (either through slurry injection or monitoring well filter socks) of the ORC in or around monitoring wells MW-1, MW-2, MW-4 through MW-10, and MW-12. The anticipated cost for this pilot test is estimated up to $90,000.

Recommendation

Based on the review of remedial options, two options are considered as viable remedial technologies for a pilot test at the site. Table 7 summarizes the recommended technologies for the groundwater pilot study. Dual-phase extraction using AFVR with a Hydrocarbon Mitigation Agent is a more vigorous treatment with remediation of impacted groundwater generally accomplished in a shorter duration, but at a higher estimated cost. Deployment of a sorbent such as WellBoom (PRP) is the most inexpensive remedial option, but is expected to involve a longer treatment time. Selection of one of these remedial technology should be made based on consideration of cost versus treatment time.

Table 7
Recommended Technologies For Groundwater Pilot Study

Remediation Technology	Remediation Application	Implementation	Estimated Pilot Study Costs[1]	Pilot Study Treatment Time
Dual Phase Extraction	Aggressive Fluid Vapor Recovery with Hydrocarbon Mitigation Agent	• Injection of BioSolve into monitoring wells MW-1, MW-2, MW-4 through MW-10, and MW-12. • Application of AFVR to monitoring wells MW-1, MW-2, MW-4 through MW-10, and MW-12 for 8-hours approximately 48 hours after injection. • Second application of AFVR to monitoring wells MW-1, MW-2, MW-4 through MW-10, and MW-12 for 8-hours approximately 2 weeks after injection. • May require a permit for injection or air.	• Mobilization, labor, and materials for BioSolve injection: $30,000. • Mobilization, labor, and materials for first AFVR Event: $15,000 to $20,000 (dependent on treatment option for extracted groundwater). • Mobilization, labor, and materials for second AFVR Event: $15,000 to $20,000 (dependent on treatment option for extracted groundwater) • Total Costs: $60,000 to $70,000.	Two Weeks
Sorbent	WellBoom — Petroleum Remediation Product	• Deploy one WellBoom in monitoring wells MW-1 through MW-12, and DW-1. • Remove and replace WellBooms in monitoring wells MW-1 through MW-12, and DW-1 on a semi-annual basis. • Dispose used WellBoom in accordance with applicable regulations	• Mobilization, labor and materials for deployment of 12 WellBooms semi-annually for 2 years: $20,000. • Total Costs: $20,000.	Two Years

Note:
[1] Reflects general costs. Site-specific cost estimates should be completed prior to implementation. Cost for any permitting not included.

8.0 REFERENCES

Aerostar Environmental Services, Inc. *Excavation and Removal of Petroleum Contaminated Soil Report, Naval Construction Battalion Center Gulfport, Command Building 398, Gulfport, Mississippi.* May 2008.

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— *Site Investigation Report, Revision 0, Building 398 Fuel Spill, Naval Construction Battalion Center Gulfport, Gulfport Mississippi.* May 2014.

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Appendix A
April 2015 Surveyor Deliverable

Description	Northing	Easting	Top of Well Lid	Top of Casing
MW 1	320998.5800	893045.5370	28.99	28.65
MW 2	321028.4370	893095.7510	29.90	29.44
MW 3	321041.2470	892995.8330	28.97	28.52
MW 4	321078.1480	893014.9710	29.40	29.05
MW 5	321081.6380	893046.1380	29.51	29.01
MW 6	321073.0540	893087.5320	30.08	29.56
MW 7	321100.1970	893038.7410	29.68	29.32
MW 8	321007.9430	893060.7150	29.38	29.10
MW 9	321022.5420	893018.2420	28.94	28.56
MW 10	321006.5650	893018.5690	28.75	28.37
MW 11	320987.0080	892997.9450	28.92	28.57
MW 12	320988.6950	893051.1400	29.19	28.86
DW 1	321022.5480	893036.8440	28.91	28.57

Elevations Based On NGS Benchmark, Designation F191, PID #BH0877, Harrison County, MS

Vertical Order - First Class I, Elevation = 29.06'

Work Done On April 15, 2015

Vertical Accuracy: +/- 0.01' (Top of Casing)

Horizontal Accuracy: +/- 0.1'

DUKE LEVY REGISTERED PROFESSIONAL ENGINEER AND PE 7448 LS. 1722 LAND SURVEYOR STATE OF MISSISSIPPI

4-22-15

digital engineering
DUKE LEVY
PROFESSIONAL LAND SURVEYOR
314 COLEMAN AVENUE, WAVELAND, MS 39576
PH: (228) 463-0130 - FAX: (228) 463-0160

BEARINGS REFERENCED MISSISSIPPI STATE PLANE NAD 83, EAST ZONE

SCALE: 1"=40'

40' 0 40'

MONITORING WELLS

LOCATION MAP

Building 398, NCBC Gulfport
Gulfport, MS

DUKE LEVY REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR PE 7448 LS. 1722 STATE OF MISSISSIPPI

digital engineering
DUKE LEVY
PROFESSIONAL LAND SURVEYOR
314 COLEMAN AVENUE, WAVELAND, MS 39576
PH: (228) 463-0130 - FAX: (228) 463-0160

In consideration of the fee paid, I declare that this survey made by me or under my immediate supervision is true and correct to the best of my professional knowledge, information, and belief.

Duke Levy, RLS #1722

DATE: 04-15-2015

PROJECT NO. 1001340, CLIENT: ENSAFE INC.

Appendix B
Boring Logs

BORING LOG

Boring/Well Number: HA-4/TW-4	Permit Number: Not Applicable	
Site Name: Building 398 NCBC Gulfport, MS	Borehole Start Date: 10/5/2006 End Date: 10/5/2006	Borehole Start Time: 9:00 ☐ AM ☐ PM End Time: 9:20 ☐ AM ☐ PM
Environmental Contractor: Aerostar Environmental Services	Geologist's Name: Emilie Wien	Geologist's Name: Curtis Mills

Drilling Company: Not Applicable	Pavement Thickness (inches): Not Applicable	Borehole Diameter (inches): 4"	Borehole Depth (feet): 10'
Drilling Method(s): Hand Auger	Apparent Borehole DTW (in feet from soil moisture content): 6.0'	Measured Well DTW (in feet after water recharges in well): 6.03'	OVA (list model and check type): ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth)
	0-2	24	NA	0	0	0	1 2	1" of grass; moist, gray, medium grained, sand Same as above	SM	10	0
	2-4	24	NA	0	0	0	3 4	Same as above Moist-wet, dark gray, medium grained, sand	SM	25	0
	4-6	24	NA	25	0	25	5 6	Same as above Same as above	SM	50	HA-4 (4-6')
	6-8	24	NA	30	0	30	7 8	Same as above Wet-saturated, drak gray, medium grained, slightly clayey sand	SM	75	0
	8-10	24	NA	25	0	25	9 10	Same as above Same as above	SM	100	0

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: HA-5/TW-5	Permit Number: Not Applicable	
Site Name: Building 398 NCBC Gulfport, MS	Borehole Start Date: 10/5/2006 End Date: 10/5/2006	Borehole Start Time: 9:50 ☐ AM ☐ PM End Time: 10:10 ☐ AM ☐ PM
Environmental Contractor: Aerostar Environmental Services	Geologist's Name: Emilie Wien	Geologist's Name: Curtis Mills

Drilling Company: Not Applicable	Pavement Thickness (inches): Not Applicable	Borehole Diameter (inches): 4"	Borehole Depth (feet): 10'
Drilling Method(s): Hand Auger	Apparent Borehole DTW (in feet from soil moisture content): 6.0'	Measured Well DTW (in feet after water recharges in well): 6.94'	OVA (list model and check type): ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth)
	0-2	24	NA	0	0	0	1 2	1" of grass; moist, brown, fine to medium grained, sand Same as above	SM	10	0
	2-4	24	NA	0	0	0	3 4	Moist, dark gray, medium grained, sand Same as above	SM	25	0
	4-6	24	NA	25	0	25	5 6	Same as above Same as above	SM	50	HA-5 (4-6')
	6-8	24	NA	30	0	30	7 8	Same as above Wet-saturated, drak gray, medium grained, sand	SM	75	0
	8-10	24	NA	25	0	25	9 10	Same as above Same as above	SM	100	0

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: HA-6/TW-6	Permit Number: Not Applicable	
Site Name: Building 398 NCBC Gulfport, MS	Borehole Start Date: 10/5/2006 End Date: 10/5/2006	Borehole Start Time: 10:45 ☐ AM ☐ PM End Time: 11:05 ☐ AM ☐ PM
Environmental Contractor: Aerostar Environmental Services	Geologist's Name: Emilie Wien	Geologist's Name: Curtis Mills

Drilling Company: Not Applicable	Pavement Thickness (inches): Not Applicable	Borehole Diameter (inches): 4"	Borehole Depth (feet): 10'
Drilling Method(s): Hand Auger	Apparent Borehole DTW (in feet from soil moisture content): 6.0'	Measured Well DTW (in feet after water recharges in well): 7.20'	OVA (list model and check type): ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth)
	0-2	24	NA	0	0	0	1 2	1" of grass; dry, red, medium grained, sand Same as above	SM	10	0
	2-4	24	NA	30	0	30	3 4	Moist, gray, medium grained, sand Same as above	SM	25	0
	4-6	24	NA	30	0	30	5 6	Same as above Same as above	SM	50	HA-6 (4-6')
	6-8	24	NA	100	0	100	7 8	Same as above Wet-saturated, drak gray, medium grained, sand	SM	75	0
	8-10	24	NA	100	0	100	9 10	Same as above Same as above	SM	100	0

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: HA-7/TW-7	Permit Number: Not Applicable		
Site Name: Building 398 NCBC Gulfport, MS	Borehole Start Date: 10/5/2006 End Date: 10/5/2006	Borehole Start Time: 11:15 ☐ AM ☐ PM End Time: 11:45 ☐ AM ☐ PM	
Environmental Contractor: Aerostar Environmental Services	Geologist's Name: Emilie Wien	Geologist's Name: Curtis Mills	
Drilling Company: Not Applicable	Pavement Thickness (inches): Not Applicable	Borehole Diameter (inches): 4"	Borehole Depth (feet): 7.0'
Drilling Method(s): Hand Auger	Apparent Borehole DTW (in feet from soil moisture content): NA	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type): ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth)
	0-2	24	NA	0	0	0	1 2	1" of grass; moist, brown, medium grained, sand Same as above	SM	10	0
	2-4	24	NA	0	0	0	3 4	Moist, brown, medium grained, sand Same as above	SM	25	HA-7 (2-4')
	4-6	24	NA	0	0	0	5 6	Same as above Same as above	SM	50	0
	6-7	12	NA	0	0	0	7	Refusal at 7'; boring moved three times in order to advance boring to 10'			

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: HA-8/TW-8	Permit Number: Not Applicable	
Site Name: Building 398 NCBC Gulfport, MS	Borehole Start Date: 10/5/2006 End Date: 10/5/2006	Borehole Start Time: 12:10 ☐ AM ☐ PM End Time: 12:35 ☐ AM ☐ PM
Environmental Contractor: Aerostar Environmental Services	Geologist's Name: Emilie Wien	Geologist's Name: Curtis Mills

Drilling Company: Not Applicable	Pavement Thickness (inches): Not Applicable	Borehole Diameter (inches): 4"	Borehole Depth (feet): 10'
Drilling Method(s): Hand Auger	Apparent Borehole DTW (in feet from soil moisture content): 6.0'	Measured Well DTW (in feet after water recharges in well): 6.58'	OVA (list model and check type): ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth)
	0-2	24	NA	0	0	0	1 2	1" of grass; moist, dark brown, medium grained, sand with shells Same as above	SM	10	0
	2-4	24	NA	0	0	0	3 4	Same as above moist, dark gray, medium grained, sand	SM	25	0
	4-6	24	NA	0	0	0	5 6	Same as above Wet-saturated, drak gray, medium grained, sand	SM	50	HA-8 (4-6')
	6-8	24	NA	0	0	0	7 8	Same as above Same as above	SM	75	0
	8-10	24	NA	0	0	0	9 10	Same as above Same as above	SM	100	0

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: HA-9/TW-9	Permit Number: Not Applicable	
Site Name: Building 398 NCBC Gulfport, MS	Borehole Start Date: 10/5/2006 End Date: 10/5/2006	Borehole Start Time: 12:50 ☐ AM ☐ PM End Time: 13:15 ☐ AM ☐ PM
Environmental Contractor: Aerostar Environmental Services	Geologist's Name: Emilie Wien	Geologist's Name: Curtis Mills

Drilling Company: Not Applicable	Pavement Thickness (inches): Not Applicable	Borehole Diameter (inches): 4"	Borehole Depth (feet): 10'
Drilling Method(s): Hand Auger	Apparent Borehole DTW (in feet from soil moisture content): 10'	Measured Well DTW (in feet after water recharges in well): 4.10'	OVA (list model and check type): ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth)
	0-2	24	NA	0	0	0	1 2	1" of grass; moist, dark brown, medium grained, sand with shells Same as above	SM	5	0
	2-4	24	NA	0	0	0	3 4	Same as above Moist, dark brown, medium grained, sand with gravel	SM	10	0
	4-6	24	NA	0	0	0	5 6	Same as above Same as above	SM	10	HA-9 (4-6')
	6-8	24	NA	0	0	0	7 8	Same as above Same as above	SM	20	0
	8-10	24	NA	0	0	0	9 10	Same as above Moist-wet, same as above	SM	50	0

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: HA-10/TW-10	Permit Number: Not Applicable	
Site Name: Building 398 NCBC Gulfport, MS	Borehole Start Date: 10/5/2006 End Date: 10/5/2006	Borehole Start Time: 13:30 ☐ AM ☐ PM End Time: 14:00 ☐ AM ☐ PM
Environmental Contractor: Aerostar Environmental Services	Geologist's Name: Emilie Wien	Geologist's Name: Curtis Mills

Drilling Company: Not Applicable	Pavement Thickness (inches): Not Applicable	Borehole Diameter (inches): 4"	Borehole Depth (feet): 10'
Drilling Method(s): Hand Auger	Apparent Borehole DTW (in feet from soil moisture content): 7.0'	Measured Well DTW (in feet after water recharges in well): 7.28'	OVA (list model and check type): ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth)
	0-2	24	NA	0	0	0	1 2	1" of grass; moist, dark brown, medium grained, sand Same as above	SM	5	0
	2-4	24	NA	0	0	0	3 4	Same as above Moist, dark brown, medium grained, sand with gravel	SM	10	0
	4-6	24	NA	0	0	0	5 6	Same as above Same as above	SM	10	HA-10 (4-6')
	6-8	24	NA	0	0	0	7 8	Same as above Same as above	SM	20	0
	8-10	24	NA	0	0	0	9 10	Same as above Moist-wet, same as above	SM	50	0

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: HA-11/TW-11	Permit Number: Not Applicable		
Site Name: Building 398 NCBC Gulfport, MS	Borehole Start Date: 10/5/2006 End Date: 10/5/2006	Borehole Start Time: 14:10 ☐ AM ☐ PM End Time: 14:40 ☐ AM ☐ PM	
Environmental Contractor: Aerostar Environmental Services	Geologist's Name: Emilie Wien	Geologist's Name: Curtis Mills	
Drilling Company: Not Applicable	Pavement Thickness (inches): Not Applicable	Borehole Diameter (inches): 4"	Borehole Depth (feet): 10'
Drilling Method(s): Hand Auger	Apparent Borehole DTW (in feet from soil moisture content): 6.0'	Measured Well DTW (in feet after water recharges in well): 4.12'	OVA (list model and check type): ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth)
	0-2	24	NA	0	0	0	1 2	1" of grass; moist, dark brown, medium grained, sand Same as above	SM	5	0
	2-4	24	NA	0	0	0	3 4	Same as above Moist, dark brown, medium grained, sand	SM	25	HA-11 (2-4')
	4-6	24	NA	0	0	0	5 6	Same as above Same as above	SM	50	0
	6-8	24	NA	0	0	0	7 8	Wet, same as above Saturated, same as above	SM	75	0
	8-10	24	NA	0	0	0	9 10	Same as above	SM	100	0

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: HA-12/TW-12	Permit Number: Not Applicable		
Site Name: Building 398 NCBC Gulfport, MS	Borehole Start Date: 10/5/2006 End Date: 10/5/2006	Borehole Start Time: 14:50 ☐ AM ☐ PM End Time: 15:15 ☐ AM ☐ PM	
Environmental Contractor: Aerostar Environmental Services	Geologist's Name: Emilie Wien	Geologist's Name: Curtis Mills	
Drilling Company: Not Applicable	Pavement Thickness (inches): Not Applicable	Borehole Diameter (inches): 4"	Borehole Depth (feet): 10'
Drilling Method(s): Hand Auger	Apparent Borehole DTW (in feet from soil moisture content): 6.0'	Measured Well DTW (in feet after water recharges in well): 6.30	OVA (list model and check type): ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth)
	0-2	24	NA	0	0	0	1 2	1" of grass; moist, dark brown, medium grained, sand Same as above	SM	5	0
	2-4	24	NA	0	0	0	3 4	Same as above Moist, dark brown, medium grained, sand	SM	25	0
	4-6	24	NA	0	0	0	5 6	Same as above Same as above	SM	50	HA-12 (4-6')
	6-8	24	NA	0	0	0	7 8	Wet, same as above Saturated, same as above	SM	75	0
	8-10	24	NA	0	0	0	9 10	Same as above	SM	100	0

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

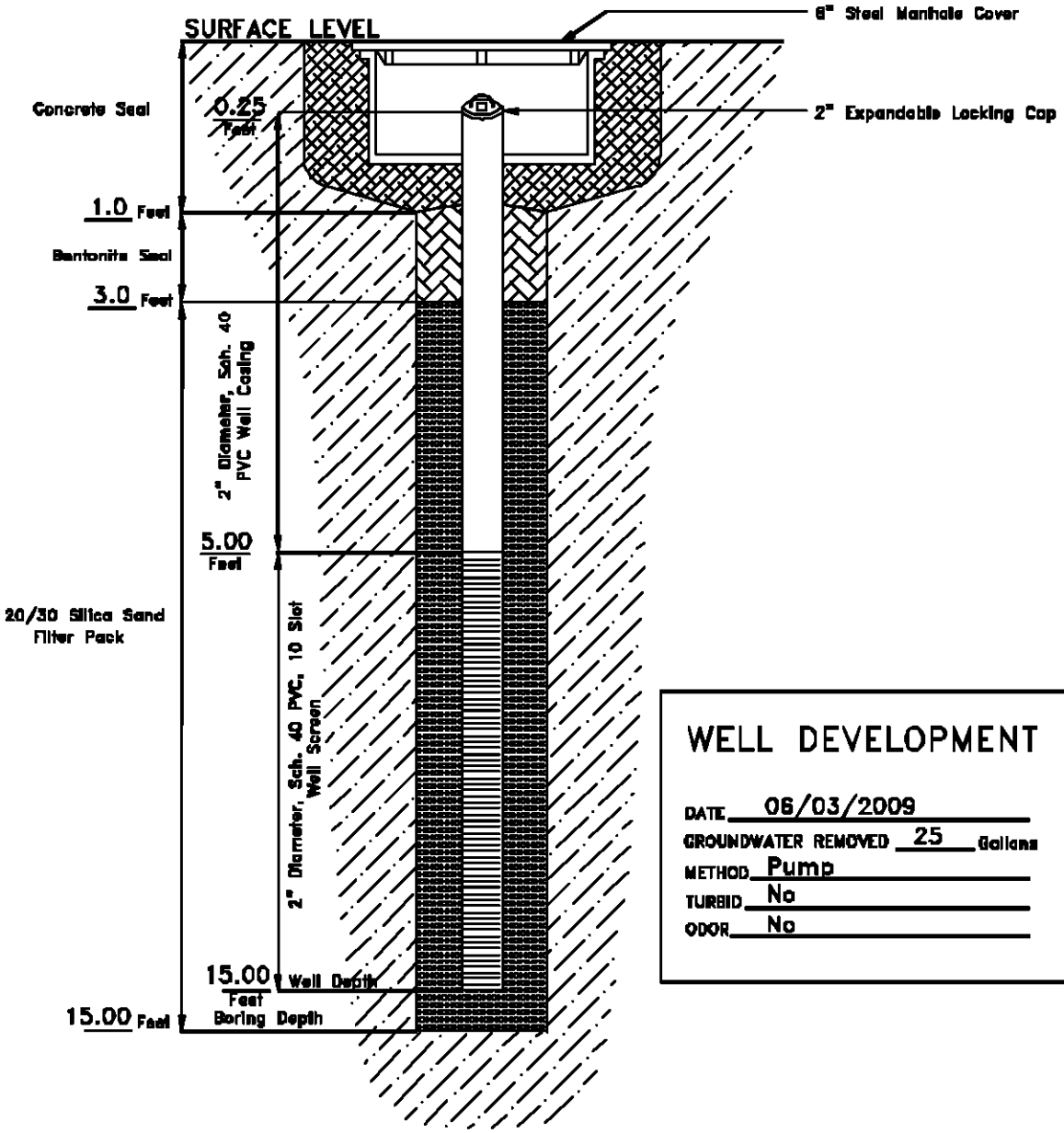
Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

AEROSTAR ENVIRONMENTAL SERVICES, INC.

Project No. 0409-146-24
Project NCBC Gulfport Monitoring Plan
Location NCBC Gulfport Building 398
Date 06/02/2009
Project Manager Curtis Mills
Drilling Method Hollow Stem Auger
Drilled By Walker Hill Environmental
TOC Elevation 29.40'

Well No. MW-4

MONITOR WELL CONSTRUCTION DIAGRAM



WELL DEVELOPMENT

DATE 06/03/2009
GROUNDWATER REMOVED 25 Gallons
METHOD Pump
TURBID No
ODOR No

Monitoring Well Construction Diagram

AEROSTAR ENVIRONMENTAL SERVICES, INC.

NCBC GULFPORT BUILDING 398
GULFPORT, MISSISSIPPI

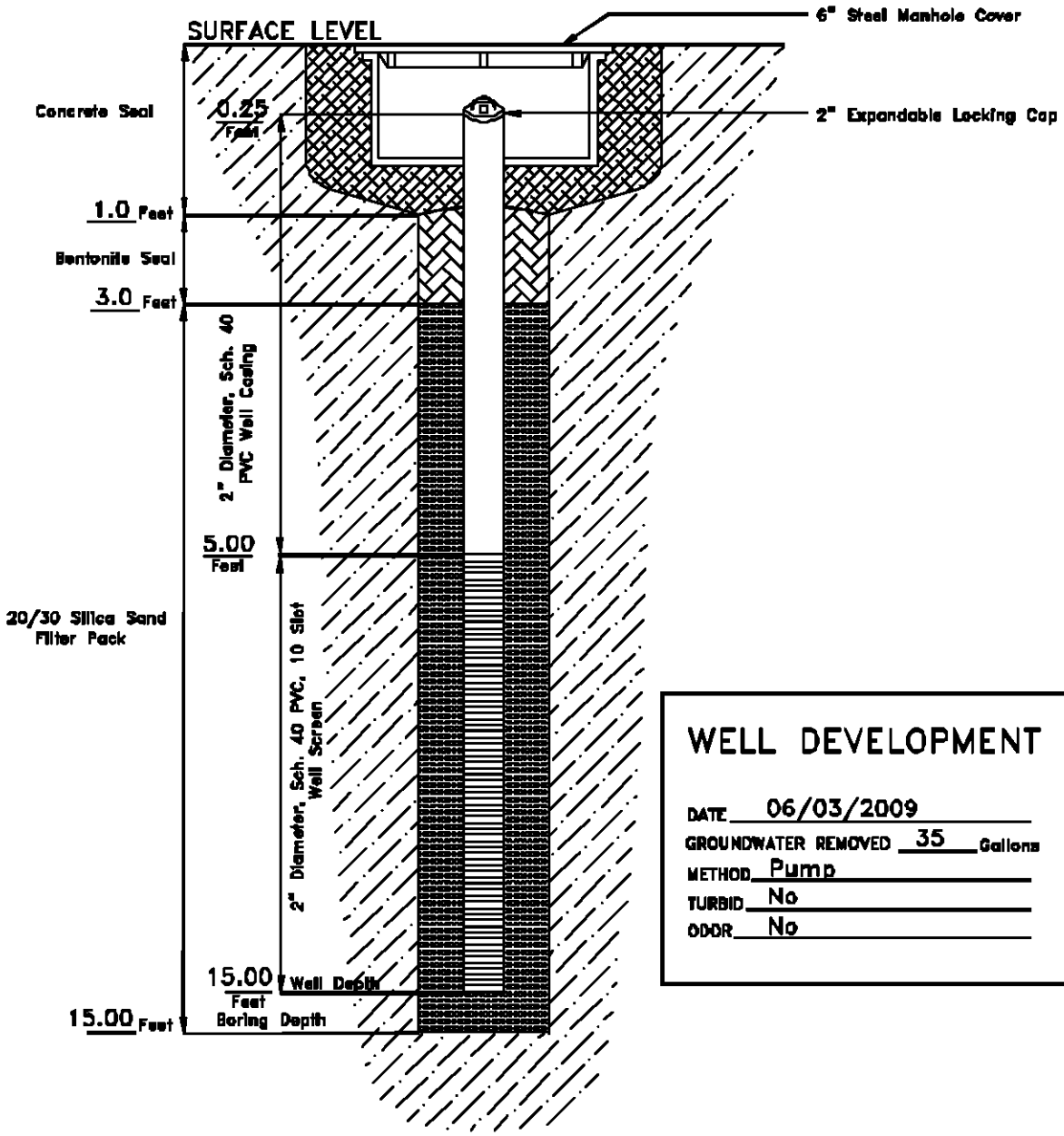
SCALE:NO SCALE
DATE: 06/09/09
DRAWN BY: ROGERS

AEROSTAR ENVIRONMENTAL SERVICES, INC.

Project No. 0409-146-24
Project NCBC Gulfport Monitoring Plan
Location NCBC Gulfport Building 398
Date 06/02/2009
Project Manager Curtis Mills
Drilling Method Hollow Stem Auger
Drilled By Walker Hill Environmental
TOC Elevation 29.46'

Well No. MW-5

MONITOR WELL CONSTRUCTION DIAGRAM



WELL DEVELOPMENT

DATE 06/03/2009
GROUNDWATER REMOVED 35 Gallons
METHOD Pump
TURBID No
ODOR No

Monitoring Well Construction Diagram

AEROSTAR ENVIRONMENTAL SERVICES, INC.

NCBC GULFPORT BUILDING 398
GULFPORT, MISSISSIPPI

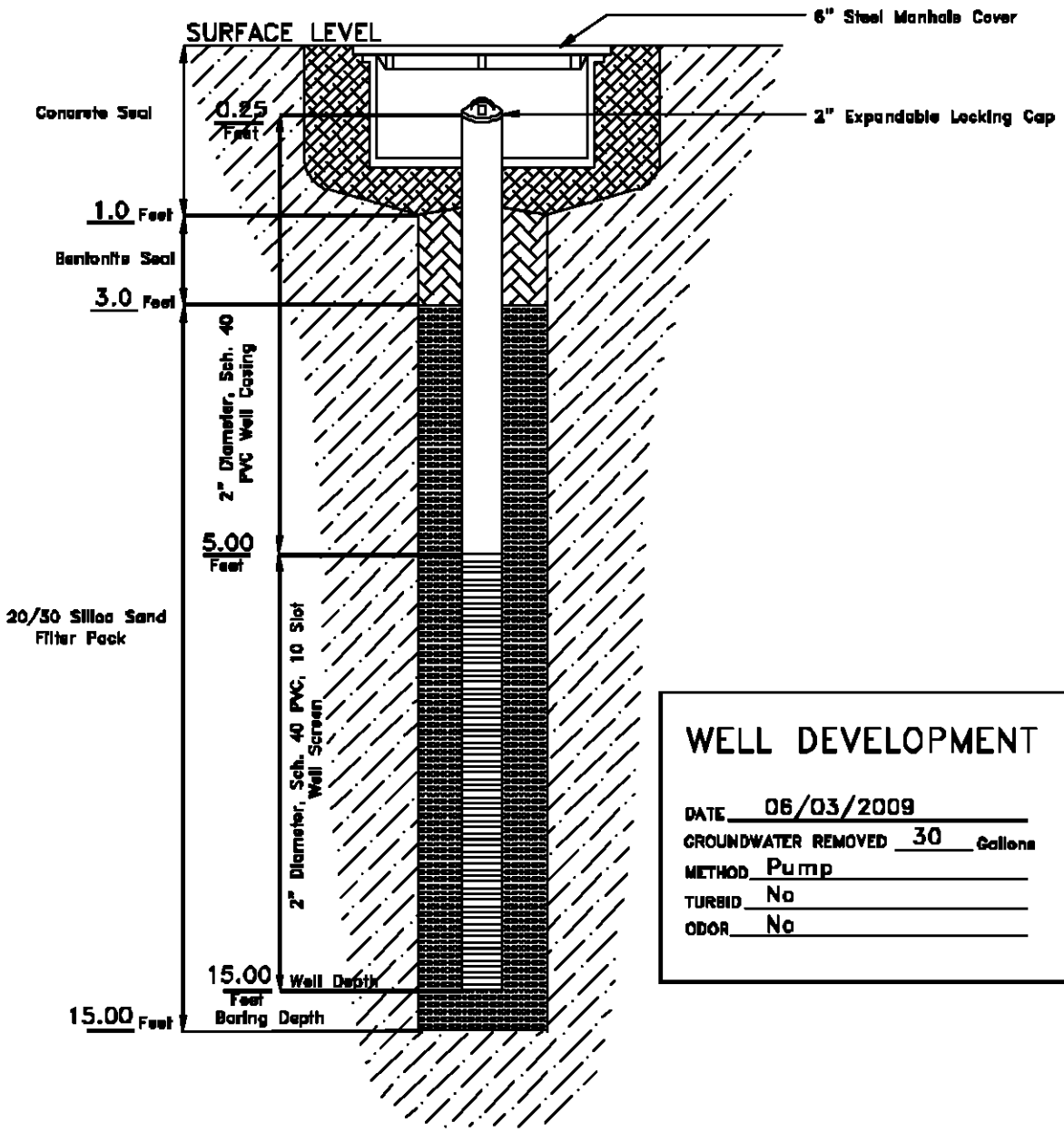
SCALE:NO SCALE
DATE: 06/09/09
DRAWN BY: ROGERS

AEROSTAR ENVIRONMENTAL SERVICES, INC.

Project No. 0409-146-24
Project NCBC Gulfport Monitoring Plan
Location NCBC Gulfport Building 398
Date 06/03/2009
Project Manager Curtis Mills
Drilling Method Hollow Stem Auger
Drilled By Walker Hill Environmental
TOC Elevation 29.70'

Well No. MW-7

MONITOR WELL CONSTRUCTION DIAGRAM



WELL DEVELOPMENT

DATE 06/03/2009
GROUNDWATER REMOVED 30 Gallons
METHOD Pump
TURBID No
ODOR No

Monitoring Well Construction Diagram

AEROSTAR ENVIRONMENTAL SERVICES, INC.

NCBC GULFPORT BUILDING 398
GULFPORT, MISSISSIPPI

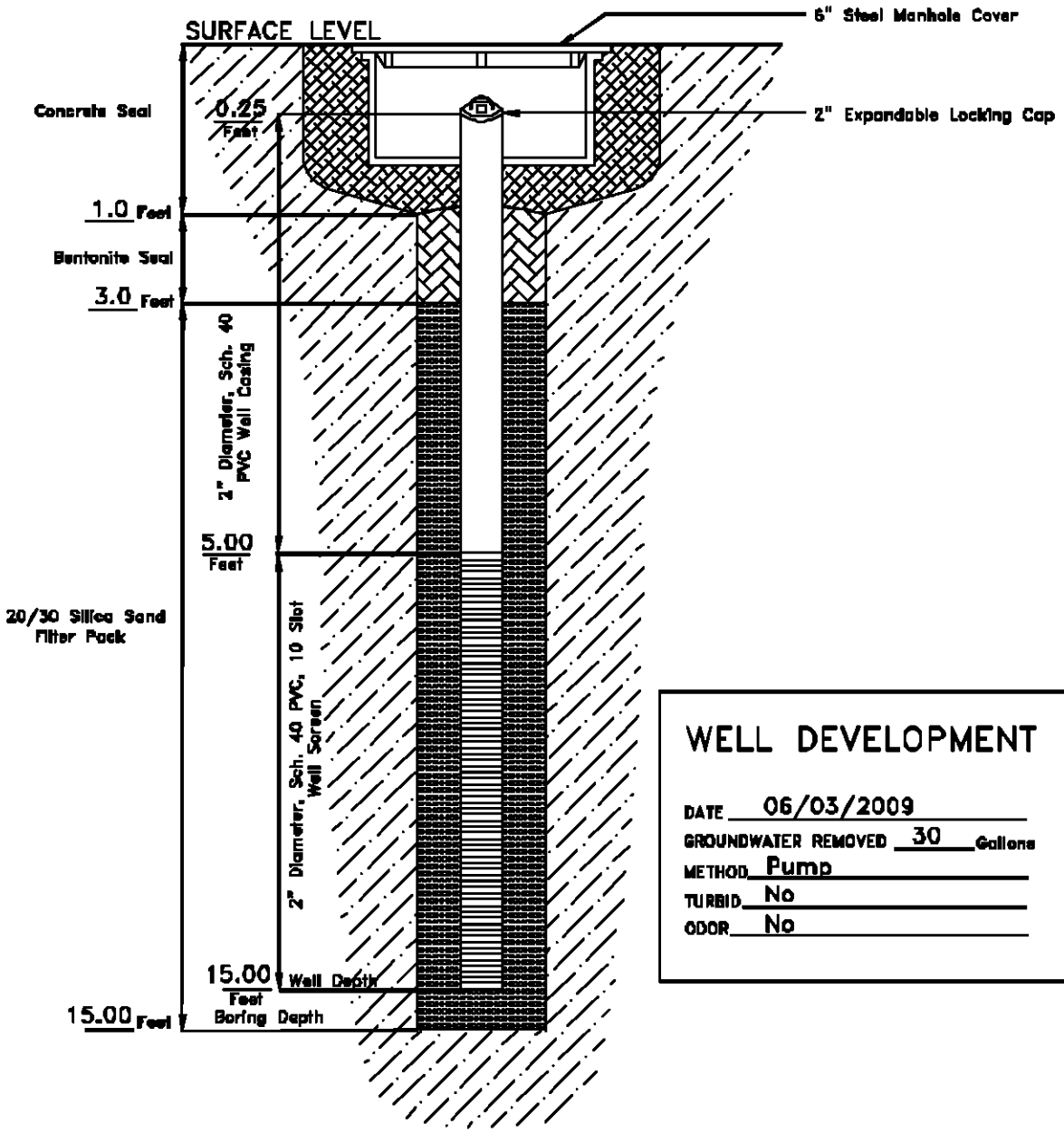
SCALE: NO SCALE
DATE: 06/09/09
DRAWN BY: ROGERS

AEROSTAR ENVIRONMENTAL SERVICES, INC.

Project No. 0409-146-24
Project NCBC Gulfport Monitoring Plan
Location NCBC Gulfport Building 398
Date 06/03/2009
Project Manager Curtis Mills
Drilling Method Hollow Stem Auger
Drilled By Walker Hill Environmental
TOC Elevation 29.70'

Well No. MW-7

MONITOR WELL CONSTRUCTION DIAGRAM



WELL DEVELOPMENT

DATE 06/03/2009
GROUNDWATER REMOVED 30 Gallons
METHOD Pump
TURBID No
ODOR No

Monitoring Well Construction Diagram

AEROSTAR ENVIRONMENTAL SERVICES, INC.

NCBC GULFPORT BUILDING 398
GULFPORT, MISSISSIPPI

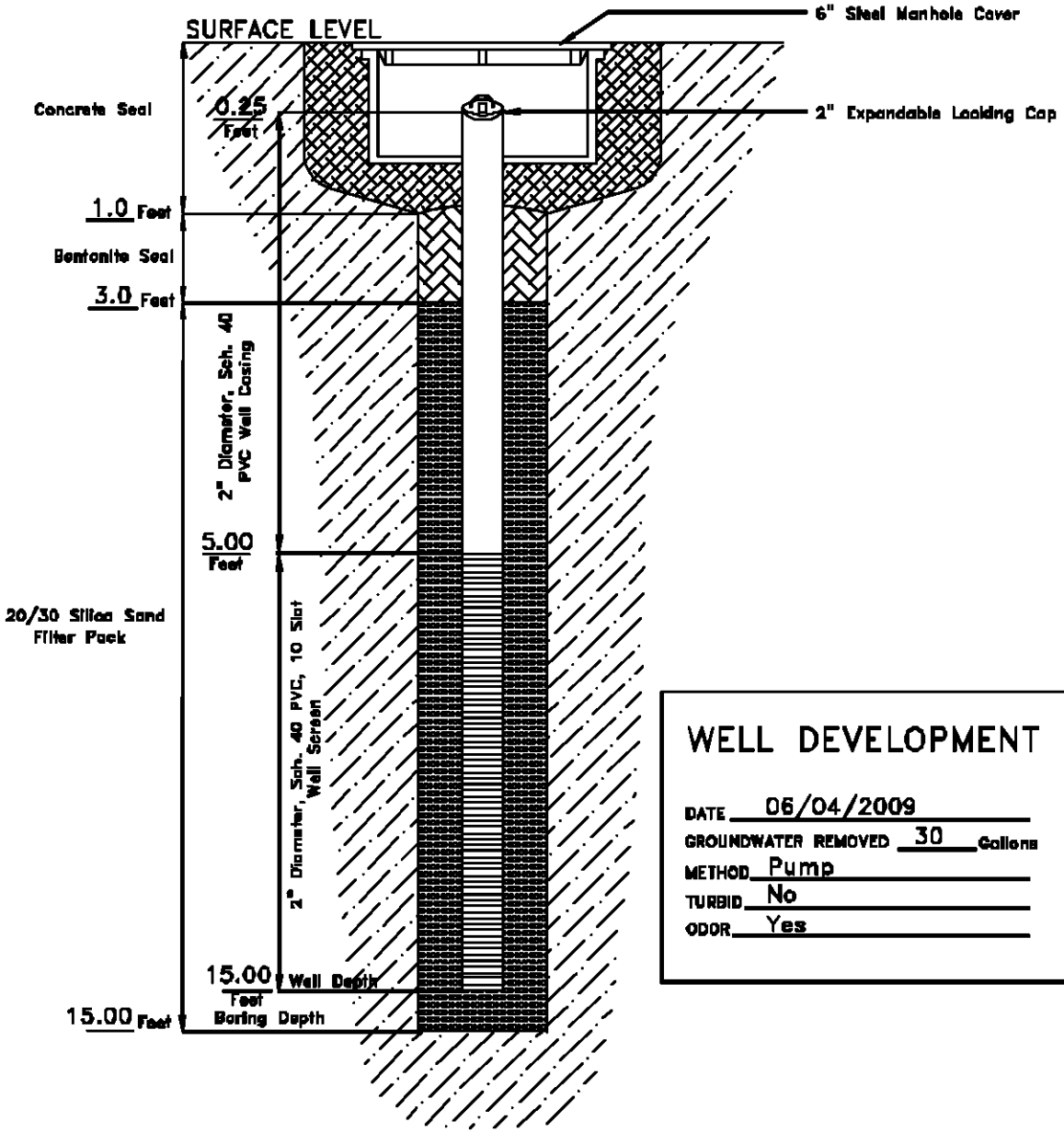
SCALE: NO SCALE
DATE: 06/09/09
DRAWN BY: ROGERS

AEROSTAR ENVIRONMENTAL SERVICES, INC.

Project No. 0409-146-24
Project NCBC Gulfport Monitoring Plan
Location NCBC Gulfport Building 398
Date 06/02/2009
Project Manager Curtis Mills
Drilling Method Hollow Stem Auger
Drilled By Walker Hill Environmental
TOC Elevation 29.49'

Well No. MW-8

MONITOR WELL CONSTRUCTION DIAGRAM



WELL DEVELOPMENT

DATE 06/04/2009
GROUNDWATER REMOVED 30 Gallons
METHOD Pump
TURBID No
ODOR Yes

Monitoring Well Construction Diagram

AEROSTAR ENVIRONMENTAL SERVICES, INC.

NCBC GULFPORT BUILDING 398
GULFPORT, MISSISSIPPI

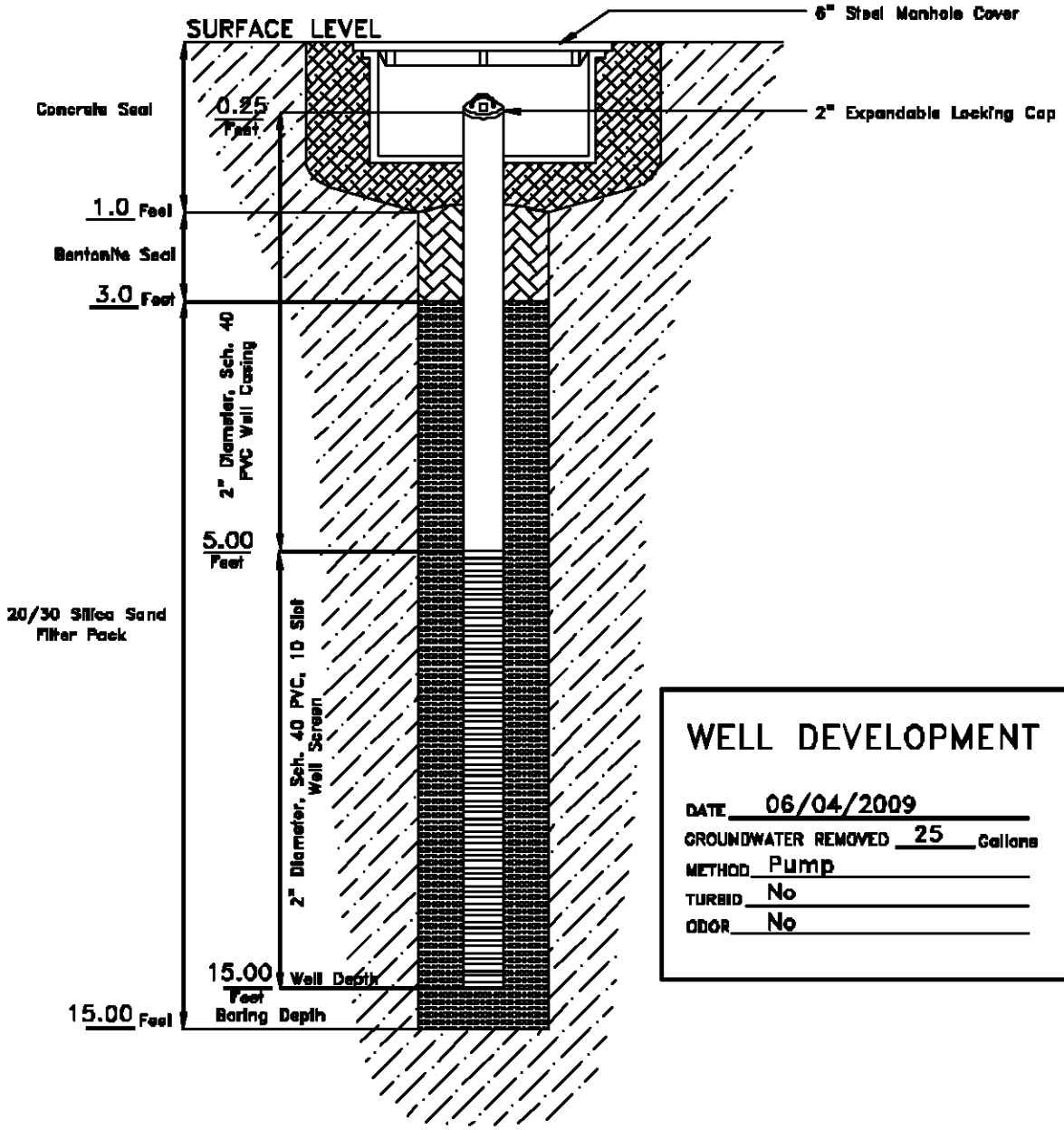
SCALE:NO SCALE
DATE: 06/09/09
DRAWN BY: ROGERS

AEROSTAR ENVIRONMENTAL SERVICES, INC.

Project No. 0409-145-24
Project NCBC Gulfport Monitoring Plan
Location NCBC Gulfport Building 398
Date 06/02/2009
Project Manager Curtis Mills
Drilling Method Hollow Stem Auger
Drilled By Walker Hill Environmental
TOC Elevation 28.98'

Well No. MW-9

MONITOR WELL CONSTRUCTION DIAGRAM



WELL DEVELOPMENT

DATE 06/04/2009
GROUNDWATER REMOVED 25 Gallons
METHOD Pump
TURBID No
ODOR No

Monitoring Well Construction Diagram

AEROSTAR ENVIRONMENTAL SERVICES, INC.

NCBC GULFPORT BUILDING 398
GULFPORT, MISSISSIPPI

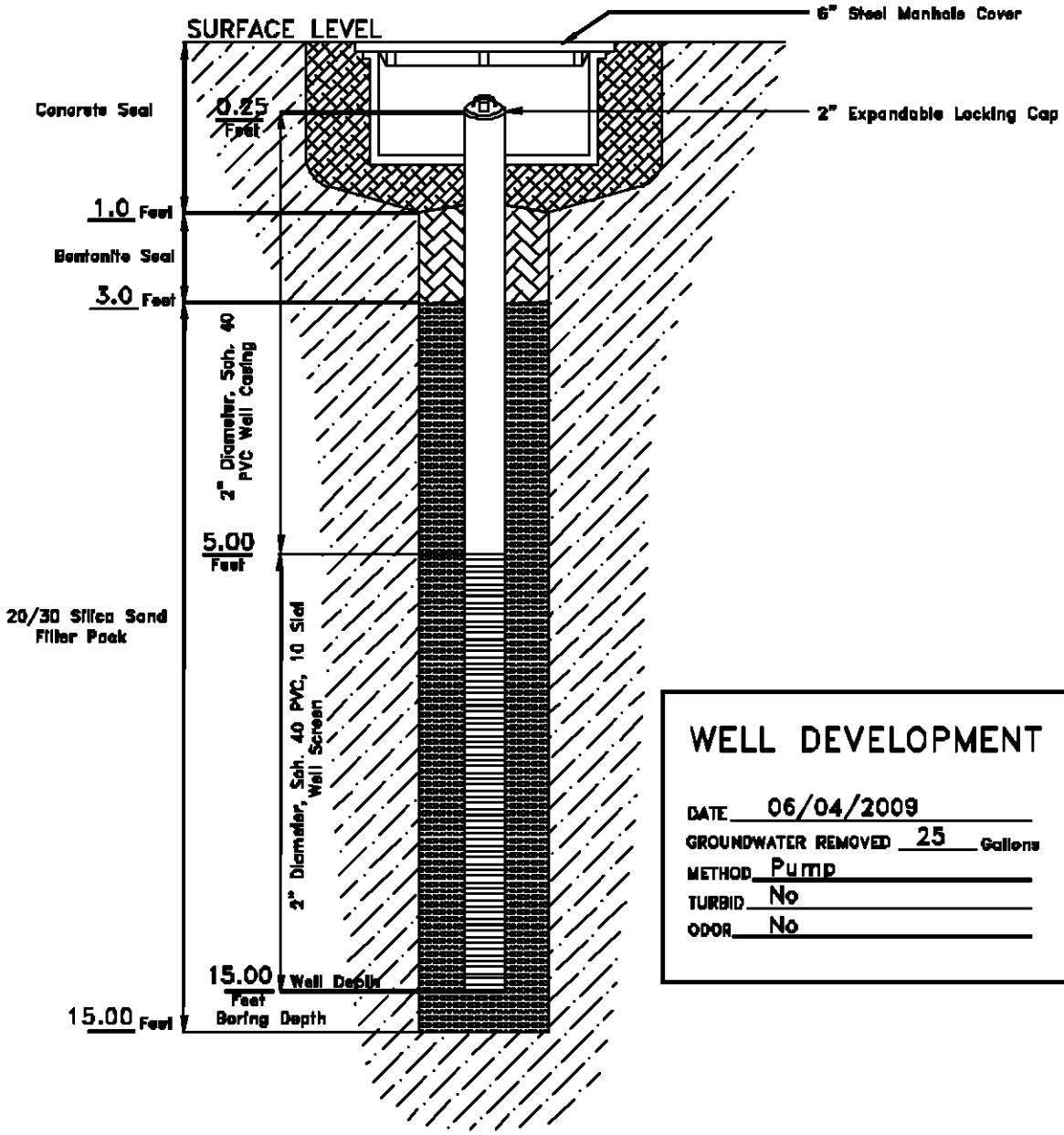
SCALE:NO SCALE
DATE: 06/09/09
DRAWN BY: ROGERS

AEROSTAR ENVIRONMENTAL SERVICES, INC.

Project No. 0409-146-24
Project NCBC Gulfport Monitoring Plan
Location NCBC Gulfport Building 398
Date 06/01/2009
Project Manager Curtis Mills
Drilling Method Hollow Stem Auger
Drilled By Walker Hill Environmental
TOC Elevation 29.40'

Well No. MW-10

MONITOR WELL CONSTRUCTION DIAGRAM



WELL DEVELOPMENT

DATE 06/04/2009
GROUNDWATER REMOVED 25 Gallons
METHOD Pump
TURBID No
ODOR No

Monitoring Well Construction Diagram

AEROSTAR ENVIRONMENTAL SERVICES, INC.

NCBC GULFPORT BUILDING 398
GULFPORT, MISSISSIPPI

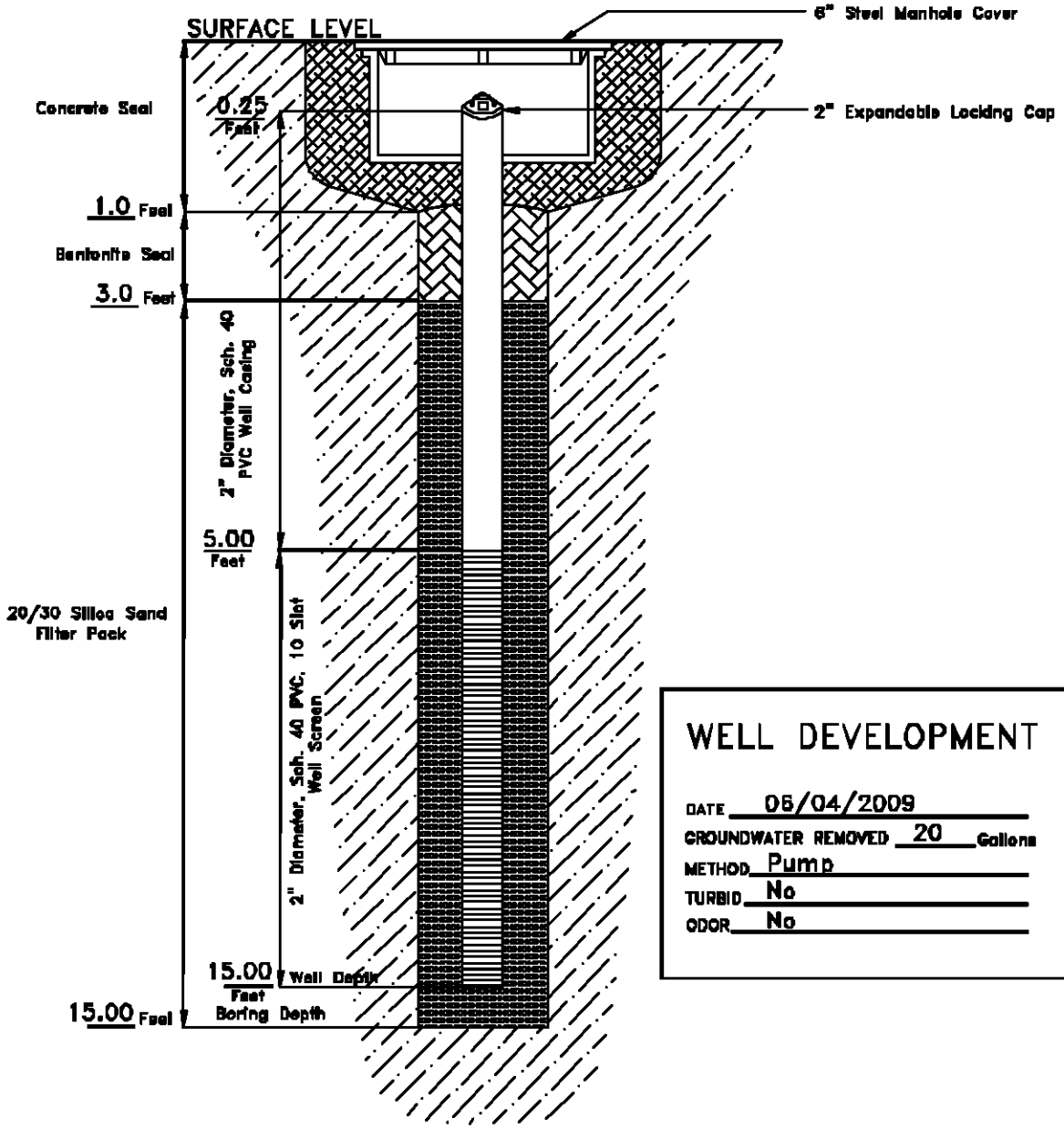
SCALE: NO SCALE
DATE: 06/09/09
DRAWN BY: ROGERS

AEROSTAR ENVIRONMENTAL SERVICES, INC.

Project No. 0409-146-24
Project NCBC Gulfport Monitoring Plan
Location NCBC Gulfport Building 398
Date 06/02/2009
Project Manager Curtis Mills
Drilling Method Hollow Stem Auger
Drilled By Walker Hill Environmental
TOC Elevation 28.94'

Well No. MW-11

MONITOR WELL CONSTRUCTION DIAGRAM



WELL DEVELOPMENT

DATE 06/04/2009
GROUNDWATER REMOVED 20 Gallons
METHOD Pump
TURBID No
ODOR No

Monitoring Well Construction Diagram

AEROSTAR ENVIRONMENTAL SERVICES, INC.

NCBC GULFPORT BUILDING 398
GULFPORT, MISSISSIPPI

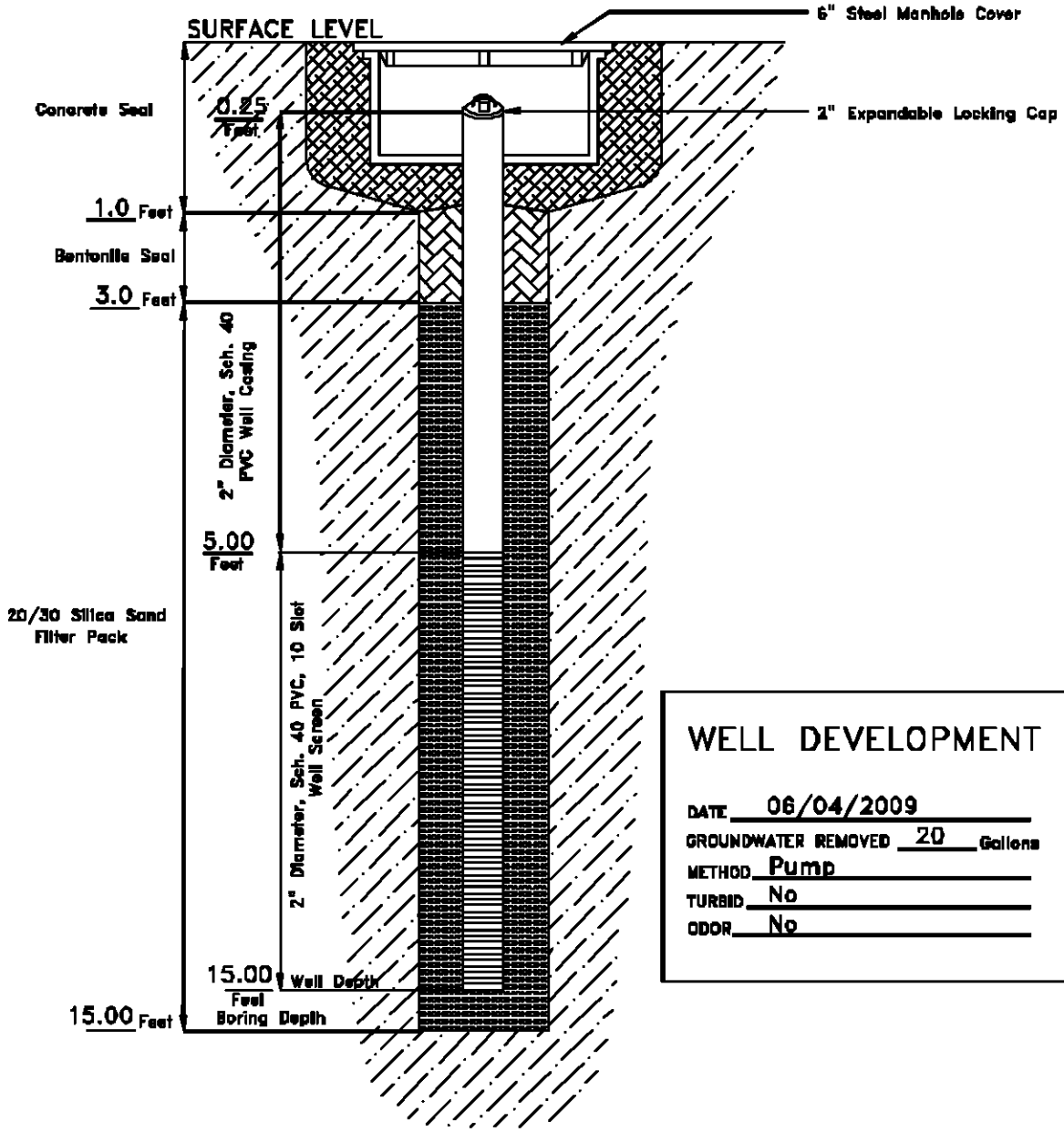
SCALE:NO SCALE
DATE: 06/09/09
DRAWN BY: ROGERS

AEROSTAR ENVIRONMENTAL SERVICES, INC.

Project No. 0409-146-24
Project NCBC Gulfport Monitoring Plan
Location NCBC Gulfport Building 398
Date 06/03/2009
Project Manager Curtis Mills
Drilling Method Hollow Stem Auger
Drilled By Walker Hill Environmental
TOC Elevation 29.48'

Well No. MW-12

MONITOR WELL CONSTRUCTION DIAGRAM



WELL DEVELOPMENT

DATE 06/04/2009
GROUNDWATER REMOVED 20 Gallons
METHOD Pump
TURBID No
ODOR No

Monitoring Well Construction Diagram

AEROSTAR ENVIRONMENTAL SERVICES, INC.

NCBC GULFPORT BUILDING 398
GULFPORT, MISSISSIPPI

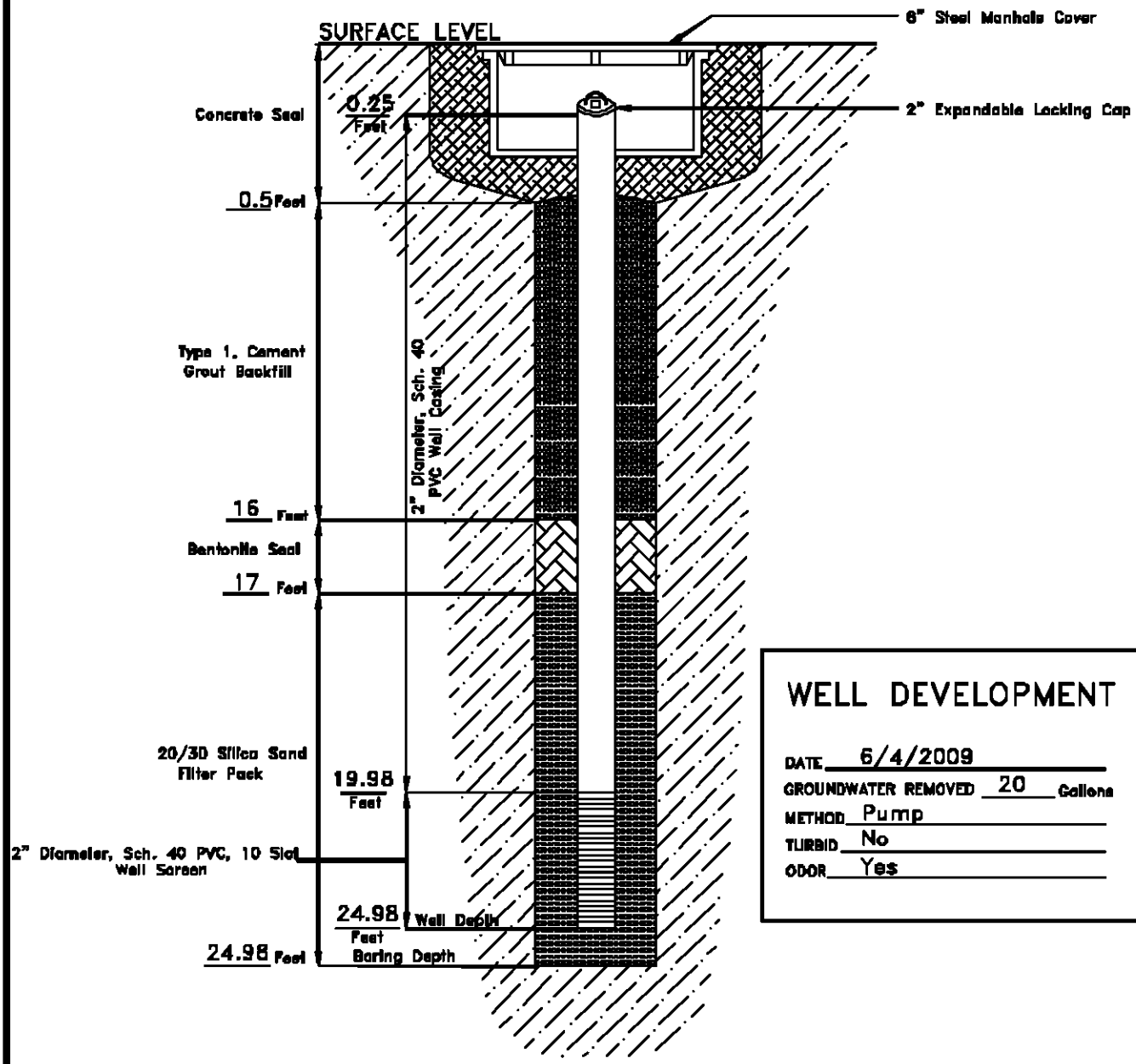
SCALE:NO SCALE
DATE: 06/09/09
DRAWN BY: ROGERS

AEROSTAR ENVIRONMENTAL SERVICES, INC.

Project No. 0409-146-24
Project NCBC Gulfport Monitoring Plan
Location NCBC Gulfport Building 398
Date 6/2/2009
Project Manager Curtis Mills
Drilling Method Hollow Stem Auger
Drilled By Walker Hill Environmental
TOC Elevation 28.91'

Well No. DW-1

MONITOR WELL CONSTRUCTION DIAGRAM



WELL DEVELOPMENT

DATE 6/4/2009
GROUNDWATER REMOVED 20 Gallons
METHOD Pump
TURBID No
ODOR Yes

Monitoring Well Construction Diagram

AEROSTAR ENVIRONMENTAL SERVICES, INC.

CAMP KELLER SMALL ARMS RANGE
NCBC GULFPORT
WOOLMARKET, MISSISSIPPI

SCALE:NO SCALE
DATE: 11/25/08
DRAWN BY: MILLS

RESOLUTION CONSULTANTS
5724 Summer Trees Dr.
Memphis TN 38134

Environmental Soil Boring: SB-11

Project: July 2013 Soil Boring/Sampling
Location: Building 398, NCBC Gulfport, MS

Project:	July 2013 Soil Borings	Completion Date:	July 23, 2013	Northing:	Not Measured
Location:	NCBC Gulfport, MS	Drilling Method:	Direct Push Tech.	Easting:	Not Measured
CTO:	JM35	Drilling Contractor:	Sample Solutions	TOC Elevation:	Not Applicable
Purpose:	Logging/Sampling	Logged By:	Kirk Giessinger	Surface Elevation:	Not Measured

DEPTH BGS	ELEVATION	SYMBOLS	USCS	SAMPLE	PID - PPM	Lithologic Description Visual-Manual Description (ASTM D 2488-06)	Soil Boring Construction
0	0		SM			Concrete slab then orange Fill SAND	
			SW			Gray SAND, medium grained; dry; some staining; slight odor	
					127		
					5		Bentonite Pellets
-5	-5				2.1	Soil samples collected at 1'-2' bgs (ID: SB1102) and at 5'-6' bgs (ID: SB1106).	

NOTES: Soil boring SB-11 advanced to 6' bgs on July 23, 2013.
SB-11 backfilled with bentonite pellets on July 23, 2013.

RESOLUTION CONSULTANTS
5724 Summer Trees Dr.
Memphis TN 38134

Environmental Soil Boring: SB-12

Project: July 2013 Soil Boring/Sampling
Location: Building 398, NCBC Gulfport, MS

Project:	July 2013 Soil Borings	Completion Date:	July 23, 2013	Northing:	Not Measured
Location:	NCBC Gulfport, MS	Drilling Method:	Direct Push Tech.	Easting:	Not Measured
CTO:	JM35	Drilling Contractor:	Sample Solutions	TOC Elevation:	Not Applicable
Purpose:	Logging/Sampling	Logged By:	Kirk Giessinger	Surface Elevation:	Not Measured

DEPTH BGS	ELEVATION	SYMBOLS	USCS	SAMPLE	PID - PPM	Lithologic Description Visual-Manual Description (ASTM D 2488-06)	Soil Boring Construction
0	0		SM			TOPSOIL and orange Fill SAND	
			SW			Orange Fill SAND, with shells	
					28.4		
						Grades gray, medium grained; some staining; slight odor	
					1.4		
						Grades moist	Bentonite Pellets
-5	-5				2.3		
					1.0	Soil samples collected at 1'-2' bgs (ID: SB1202) and at 5'-6' bgs (ID: SB1206).	

NOTES: Soil boring SB-12 advanced to 8' bgs on July 23, 2013.
SB-12 backfilled with bentonite pellets on July 23, 2013.

RESOLUTION CONSULTANTS
5724 Summer Trees Dr.
Memphis TN 38134

Environmental Soil Boring: SB-13

Project: July 2013 Soil Boring/Sampling
Location: Building 398, NCBC Gulfport, MS

Project:	July 2013 Soil Borings	Completion Date:	July 23, 2013	Northing:	Not Measured
Location:	NCBC Gulfport, MS	Drilling Method:	Direct Push Tech.	Easting:	Not Measured
CTO:	JM35	Drilling Contractor:	Sample Solutions	TOC Elevation:	Not Applicable
Purpose:	Logging/Sampling	Logged By:	Kirk Giessinger	Surface Elevation:	Not Measured

DEPTH BGS	ELEVATION	SYMBOLS	USCS	SAMPLE	PID - PPM	Lithologic Description Visual-Manual Description (ASTM D 2488-06)	Soil Boring Construction
0	0		SM			TOPSOIL with orange Fill SAND, shells	
			SW		0.0	Gray SAND, medium grained; no odor	
					0.0		Bentonite Pellets
-5	-5				0.0		
						Grades moist; staining; slight odor	
					0.0	Soil samples collected at 1'-2' bgs (ID: SB1302) and at 5'-6' bgs (ID: SB1306).	

NOTES: Soil boring SB-13 advanced to 8' bgs on July 23, 2013.
SB-13 backfilled with bentonite pellets on July 23, 2013.

RESOLUTION CONSULTANTS
5724 Summer Trees Dr.
Memphis TN 38134

Environmental Soil Boring: SB-14

Project: July 2013 Soil Boring/Sampling
Location: Building 398, NCBC Gulfport, MS

Project:	July 2013 Soil Borings	Completion Date:	July 23, 2013	Northing:	Not Measured
Location:	NCBC Gulfport, MS	Drilling Method:	Direct Push Tech.	Easting:	Not Measured
CTO:	JM35	Drilling Contractor:	Sample Solutions	TOC Elevation:	Not Applicable
Purpose:	Logging/Sampling	Logged By:	Kirk Giessinger	Surface Elevation:	Not Measured

DEPTH BGS	ELEVATION	SYMBOLS	USCS	SAMPLE	PID - PPM	Lithologic Description Visual-Manual Description (ASTM D 2488-06)	Soil Boring Construction
0	0		SM		1.3	TOPSOIL and orange Fill SAND, with shells; dry; no odor	
			SW		1258	Grades gray, medium grained; moist; odor	
						Grades with odor	Bentonite Pellets
-5	-5				135	Grades saturated with petroleum product; strong odor	
					22	Grades moist; slight odor	
						Soil samples collected at 4'-5' bgs (ID: SB1405) and at 7'-8' bgs (ID: SB1408).	

NOTES: Soil boring SB-14 advanced to 8' bgs on July 23, 2013.
SB-14 backfilled with bentonite pellets on July 23, 2013.

RESOLUTION CONSULTANTS
5724 Summer Trees Dr.
Memphis TN 38134

Environmental Soil Boring: SB-15

Project: July 2013 Soil Boring/Sampling
Location: Building 398, NCBC Gulfport, MS

Project:	July 2013 Soil Borings	Completion Date:	July 23, 2013	Northing:	Not Measured
Location:	NCBC Gulfport, MS	Drilling Method:	Direct Push Tech.	Easting:	Not Measured
CTO:	JM35	Drilling Contractor:	Sample Solutions	TOC Elevation:	Not Applicable
Purpose:	Logging/Sampling	Logged By:	Kirk Giessinger	Surface Elevation:	Not Measured

DEPTH BGS	ELEVATION	SYMBOLS	USCS	SAMPLE	PID - PPM	Lithologic Description Visual-Manual Description (ASTM D 2488-06)	Soil Boring Construction
0	0		SM		0.0	TOPSOIL with orange Fill SAND; dry; no odor	
			SW		0.2	Dark gray SAND, medium grained; moist; no odor	Bentonite Pellets
-5	-5				0.0		
					1.2	Soil samples collected at 3'-4' bgs (ID: SB1504) and at 7'-8' bgs (ID: SB1508).	

NOTES: Soil boring SB-15 advanced to 8' bgs on July 23, 2013.
SB-15 backfilled with bentonite pellets on July 23, 2013.

RESOLUTION CONSULTANTS
5724 Summer Trees Dr.
Memphis TN 38134

Environmental Soil Boring: SB-16

Project: July 2013 Soil Boring/Sampling
Location: Building 398, NCBC Gulfport, MS

Project:	July 2013 Soil Borings	Completion Date:	July 23, 2013	Northing:	Not Measured
Location:	NCBC Gulfport, MS	Drilling Method:	Direct Push Tech.	Easting:	Not Measured
CTO:	JM35	Drilling Contractor:	Sample Solutions	TOC Elevation:	Not Applicable
Purpose:	Logging/Sampling	Logged By:	Kirk Giessinger	Surface Elevation:	Not Measured

DEPTH BGS	ELEVATION	SYMBOLS	USCS	SAMPLE	PID - PPM	Lithologic Description Visual-Manual Description (ASTM D 2488-06)	Soil Boring Construction
0	0		SM		1.2	Light brown SAND; moist	
			SW		9.2	Grades gray, medium grained; moist; slight odor	Bentonite Pellets
-5	-5				21.4		
					20.1	Soil samples collected at 5'-6' bgs (ID: SB1606) and at 7'-8' bgs (ID: SB1608).	

NOTES: Soil boring SB-16 advanced to 8' bgs on July 23, 2013.
SB-16 backfilled with bentonite pellets on July 23, 2013.

Appendix C
Well Development and Sampling Forms

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 22 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: DW-1		/ /
WEATHER CONDITIONS: clear	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"	**WELL DEVELOPMENT**	
SCREENLENGTH (ft)	START:	FINISH:
TOTAL DEPTH from TOC (ft.): 25.23	VOLUME PURGED (gal):	
DEPTH TO WATER from TOC (ft.): 2.35	**GROUNDWATER SAMPLING**	
LENGTH OF WATER COL. (ft.):	START: 0815	FINISH: 0900
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal): 2.2	
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☑ Pump Description: ~~submersible~~ peristaltic

Time (hh:mm):	0826	0831	0836	0841	0846	0852	0857					
pH (units):	5.03	4.95	5.03	5.05	5.06	5.05	5.05					
Conductivity (mS/cm):	0.256	0.242	0.243	0.242	0.244	0.244	0.245					
Turbidity (NTU):	4.2	0.5	0.8	10.5	0.00	0.0	0.00					
DO (mg/L):	9.04	7.46	6.27	5.53	5.03	4.40	3.92					
Temperature (C°):	20.98	21.18	21.21	21.20	21.20	21.23	21.24					
ORP (mV):	5	-15	-60	-99	-124	-137	-140					
Volume Purged (gal):	0	0.5	0.80	1.1	1.5	1.8	2.2					
Depth to Water (ft):	2.81	2.82	2.85	2.85	2.81	2.81	2.81					
			*					Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☑ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GDW01-2Q15	4-22-15	0900	9	No	
B398HDW01-2Q15	4-22-15	0900	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: turned down pump

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 21 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: MW-1		/ /
WEATHER CONDITIONS: Clear	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"		**WELL DEVELOPMENT**	
SCREENLENGTH (ft)		START:	FINISH:
TOTAL DEPTH from TOC (ft.): 19.15		VOLUME PURGED (gal):	
DEPTH TO WATER from TOC (ft.): 2.31		**GROUNDWATER SAMPLING**	
LENGTH OF WATER COL. (ft.):		START: 1415	FINISH: 1505
1 VOLUME OF WATER (gal):		VOLUME PURGED (gal): 1.80	
3 VOLUMES OF WATER (gal):		ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☑ Pump Description: ~~submersible~~ peristaltic

Time (hh:mm):	1436	1441	1447	1452	1455							
pH (units):	5.82	5.72	5.74	5.74	5.73							
Conductivity (mS/cm):	0.363	0.366	0.367	0.368	0.369							
Turbidity (NTU):	16.2	12.5	10.9	8.2	7.6							
DO (mg/L):	1.92	1.25	1.19	1.18	1.16							
Temperature (C°):	23.69	22.97	23.26	23.06	23.01							
ORP (mV):	-126	-147	-159	-166	-165							
Volume Purged (gal):	0	0.5	1.0	1.60	1.80							
Depth to Water (ft):	2.38	2.38	2.38	2.38	2.38							
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW01-2Q15	4-21-15	1505	9	No	
MS/MSD	4-21-15	1505	18	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 21 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: MW-2		/ /
WEATHER CONDITIONS: clear	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START:	FINISH:
TOTAL DEPTH from TOC (ft.): 15.37	VOLUME PURGED (gal):	
DEPTH TO WATER from TOC (ft.): 2.80	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START: 1720	FINISH: 1755
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal): 3.25	
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☑ Pump Description: ~~submersible~~ Peristaltic

Time (hh:mm):	1720	1725	1730	1735	1740	1745	1750					
pH (units):	6.41	6.08	6.04	6.00	6.00	6.00	6.01					
Conductivity (mS/cm):	0.674	0.735	0.735	0.740	0.738	0.744	0.740					
Turbidity (NTU):	32.5	7.6	7.3	7.6	7.2	6.7	6.5					
DO (mg/L):	0.70	0.03	0.02	0.00	0.00	0.00	0.00					
Temperature (C°):	25.88	22.86	22.82	22.57	22.34	22.14	22.04					
ORP (mV):	-116	-113	-113	-113	-115	-116	-116					
Volume Purged (gal):	0.25	1.00	1.50	1.75	2.25	2.75	3.25					
Depth to Water (ft):	3.36	3.53	3.53	3.51	3.61	3.64	3.53					
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW02-2Q15	4-21-15	1755	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

Purge water placed in drum#_____ Page ___ of ___

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: MW-3		/ /
WEATHER CONDITIONS: clear	AMBIENT TEMP: 78°F	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"	**WELL DEVELOPMENT**	
SCREENLENGTH (ft)	START:	FINISH:
TOTAL DEPTH from TOC (ft.): 14.78	VOLUME PURGED (gal):	
DEPTH TO WATER from TOC (ft.): 2.38	**GROUNDWATER SAMPLING**	
LENGTH OF WATER COL. (ft.):	START: 1035	FINISH: 1055
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal): 2.00	
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☒ Pump Description: ~~submersible~~ peristaltic

Time (hh:mm):	1035	1040	1045	1050	1055							
pH (units):	6.33	6.26	6.17	6.19	6.19							
Conductivity (mS/cm):	0.547	0.554	0.554	0.554	0.552							
Turbidity (NTU):	8.9	5.3	0.0	0.0	0.0							
DO (mg/L):	6.91	4.84	1.99	1.30	1.34							
Temperature (C°):	22.92	22.47	22.19	22.19	22.20							
ORP (mV):	-72	-73	-74	-76	-78							
Volume Purged (gal):	0.25	0.50	1.50	1.75	2.00							
Depth to Water (ft):	2.71	2.70	2.72	2.71	2.69							
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW03-2Q15	4-22-15	1055	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 /21 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	Horiba / U-5000 / NYP6S
WELL ID: MW-4		Geotech / GEOPUMP2 / 005 28
WEATHER CONDITIONS: Clear	AMBIENT TEMP: 70's	Solinst / Waterlevel Meter 2/1047 Model 101
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"		**WELL DEVELOPMENT**	
SCREENLENGTH (ft)		START:	FINISH:
TOTAL DEPTH from TOC (ft.): 13.68		VOLUME PURGED (gal):	
DEPTH TO WATER from TOC (ft.): 2.88		**GROUNDWATER SAMPLING**	
LENGTH OF WATER COL. (ft.):		START: 1840	FINISH: 1900
1 VOLUME OF WATER (gal):		VOLUME PURGED (gal): 1.75	
3 VOLUMES OF WATER (gal):		ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☒ Pump Description: ~~submersible~~ peristaltic

Time (hh:mm):	1840	1845	1850	1855								
pH (units):	6.53	5.74	5.66	5.64								
Conductivity (mS/cm):	0.342	0.340	0.338	0.337								
Turbidity (NTU):	21.0	8.9	5.6	5.5								
DO (mg/L):	7.56	4.70	3.00	2.69								
Temperature (C°):	21.32	20.97	20.91	20.90								
ORP (mV):	-23	13	21	24								
Volume Purged (gal):	0.25	0.75	1.25	1.75								
Depth to Water (ft):	3.05	3.04	3.06	3.06								
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW04-2Q15	4-21-15	1900	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

Purge water placed in drum#_____ Page ___ of ___

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 21 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: MW-5		/ /
WEATHER CONDITIONS: clear	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"	**WELL DEVELOPMENT**
SCREENLENGTH (ft)	START: / FINISH:
~~TOTAL~~ DEPTH ~~from TOC~~ (ft.): to Free Product 2.45	VOLUME PURGED (gal):
DEPTH TO WATER from TOC (ft.): 2.82	**GROUNDWATER SAMPLING**
LENGTH OF WATER COL. (ft.):	START: / FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):		Not			Sampled							
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):		0.37"			Free Product							
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW05-2Q15			9	No	
B398HMW05-2Q15			9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

0.37" dark, weathered Free Product

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04/21/2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	Solinst / Model 122 / 1122004914-1
WELL ID: MW-6		Horiba / U-5000 / 14576PY
WEATHER CONDITIONS: clear	AMBIENT TEMP: 70's	~~Control~~ Fluid Geopump 2 /
REVIEWED BY:	PERSONNEL: Kirk Giessinger, Maria Bujenovic	

WELL DIA: 2"	WELL DEVELOPMENT		
SCREENLENGTH (ft)	START:	FINISH:	
TOTAL DEPTH from TOC (ft.): 15.29	VOLUME PURGED (gal):		
DEPTH TO WATER from TOC (ft.): 2.66	GROUNDWATER SAMPLING		
LENGTH OF WATER COL. (ft.):	START: 1445	FINISH: 1740	
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal): 1.5		
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH		

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☑ Pump Description: ~~submersible~~ peristaltic

Time (hh:mm):	1706	1714	1720	1725	1730	1735						
pH (units):	6.40	6.28	6.21	6.26	6.20	6.16						
Conductivity (mS/cm):	0.774	0.801	0.805	0.808	0.815	0.818						
Turbidity (NTU):	37.2	14.9	11.8	8.4	7.5	4.9						
DO (mg/L):	1.67	2.54	2.59	2.36	2.30	2.24						
Temperature (C°):	24.73	21.54	21.11	21.22	21.29	21.29						
ORP (mV):	-106	-93	-91	-87	-82	-81						
Volume Purged (gal):	0	0.5	0.80	1.1	1.4	1.5						
Depth to Water (ft):	3.44	4.02	4.51	4.58	4.65	4.61						
		*	*		*			Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW06-2Q15	4-21-15	1740	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: * slowed pump

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 21 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: MW-7		/ /
WEATHER CONDITIONS: clear	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"	**WELL DEVELOPMENT**
SCREENLENGTH (ft)	START: / FINISH:
TOTAL DEPTH from TOC (ft.): 14.90	VOLUME PURGED (gal):
DEPTH TO WATER from TOC (ft.): 3.12	**GROUNDWATER SAMPLING**
LENGTH OF WATER COL. (ft.):	START: 1820 / FINISH: 1900
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal): 1.6
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: ~~submersible~~ peristaltic

Time (hh:mm):	1826	1841	1847	1852	1857							
pH (units):	6.60	6.08	5.87	5.88	5.91							
Conductivity (mS/cm):	0.623	0.617	0.616	0.622	0.623							
Turbidity (NTU):	27.2	25.6	22.1	19.7	19.8							
DO (mg/L):	4.41	0.65	0.09	0.00	0.00							
Temperature (C°):	22.09	21.82	21.63	21.57	21.56							
ORP (mV):	-29	-34	-31	-41	-47							
Volume Purged (gal):	0	0.5	0.8	1.25	1.6							
Depth to Water (ft):	3.29	3.31	3.31	3.31	3.31							
		*						Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW07-2Q15	4-21-15	1900	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: * slowed pump

Purge water placed in drum#_____ Page ___ of ___

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 /21/ 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: MW-8		/ /
WEATHER CONDITIONS: Clear	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START:	FINISH:
TOTAL DEPTH from TOC (ft.): 15.65'	VOLUME PURGED (gal):	
DEPTH TO WATER from TOC (ft.): 2.68'	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START: 1600	FINISH: 1700
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal): 2.25	
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☒ Pump Description: ~~submersible~~ peristaltic

Time (hh:mm):	1600	1605	1610	1615	1620							
pH (units):	6.32	6.28	6.11	6.07	6.11							
Conductivity (mS/cm):	0.511	0.510	0.508	0.510	0.510							
Turbidity (NTU):	3.8	3.3	3.3	2.7	2.6							
DO (mg/L):	0.10	0.08	0.04	0.05	0.05							
Temperature (C°):	24.56	24.76	24.72	24.70	24.62							
ORP (mV):	-138	-144	-145	-147	-149							
Volume Purged (gal):	0.50	0.75	1.25	1.75	2.25							
Depth to Water (ft):	2.76	2.77	2.79	2.80	2.80							
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW08-2Q15	4-21-15	1620	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 /22/ 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: MW-9		/ /
WEATHER CONDITIONS: Clear	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"	**WELL DEVELOPMENT**	
SCREENLENGTH (ft)	START: [illegible]	FINISH:
TOTAL DEPTH from TOC (ft.): 15.19	VOLUME PURGED (gal):	
DEPTH TO WATER from TOC (ft.): 2.26	**GROUNDWATER SAMPLING**	
LENGTH OF WATER COL. (ft.):	START: 0840	FINISH: 0855
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal): 1.75	
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☒ Pump Description: ~~submersible~~ Peristaltic

Time (hh:mm):	0840	0845	0850	0855							
pH (units):	5.59	6.02	6.15	6.20							
Conductivity (mS/cm):	0.636	0.626	0.628	0.624							
Turbidity (NTU):	67.1	42.0	36.5	33.2							
DO (mg/L):	2.19	1.56	1.40	1.30							
Temperature (C°):	21.23	21.30	21.32	21.34							
ORP (mV):	-45	-61	-68	-70							
Volume Purged (gal):	0.25	0.50	0.75	1.25							
Depth to Water (ft):	2.44	2.67	2.67	2.66							

Well Goes Dry While Purging ☐

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW09-2Q15	4-22-15	0855	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

rge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 22 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: MW-10		/ /
WEATHER CONDITIONS: 70's clear	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"	**WELL DEVELOPMENT**	
SCREENLENGTH (ft)	START:	FINISH:
TOTAL DEPTH from TOC (ft.): 14.90	VOLUME PURGED (gal):	
DEPTH TO WATER from TOC (ft.): 2.11	**GROUNDWATER SAMPLING**	
LENGTH OF WATER COL. (ft.):	START: 0935	FINISH: 0955
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal): 2.00	
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☒ Pump Description: ~~submersible~~ Peristaltic

Time (hh:mm):	0935	0940	0945	0950	0955							
pH (units):	6.19	6.27	6.23	6.26	6.27							
Conductivity (mS/cm):	0.694	0.690	0.683	0.682	0.683							
Turbidity (NTU):	3.8	3.9	8.1	11.0	10.2							
DO (mg/L):	0.23	0.05	0.25	0.13	0.11							
Temperature (C°):	21.71	21.83	22.01	22.16	22.27							
ORP (mV):	-96	-118	-123	-128	-131							
Volume Purged (gal):	0.25	1.00	1.25	1.75	2.00							
Depth to Water (ft):	2.42	2.43	2.44	2.44	2.45							
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☒ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW10-2Q15	4-22-15	0955	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

Purge water placed in drum#_____ Page ___ of ___

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 22 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: MW-11		/ /
WEATHER CONDITIONS: clear	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START:	FINISH:
TOTAL DEPTH from TOC (ft.): 2.78	VOLUME PURGED (gal):	
DEPTH TO WATER from TOC (ft.): 14.64	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START: 0930	FINISH: 1005
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal): 1.2	
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☒ Pump Description: ~~submersible~~ peristaltic

Time (hh:mm):	0948	0957	0958	1007								
pH (units):	5.71	5.77	5.82	5.88								
Conductivity (mS/cm):	0.486	0.503	0.512	0.512								
Turbidity (NTU):	0.00	0.00	0.00	0.00								
DO (mg/L):	0.91	0.64	0.60	0.59								
Temperature (C°):	25.71	22.72	22.91	22.88								
ORP (mV):	-112	-127	-134	-136								
Volume Purged (gal):	0	0.5	0.8	1.2								
Depth to Water (ft):	2.66	2.66	2.66	2.66								
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GMW11-2Q15	4-22-15	1005	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 21 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT: 2nd Quarter 2015	/ /
WELL ID: MW-12		/ /
WEATHER CONDITIONS: Clear	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA: 2"	**WELL DEVELOPMENT**	
SCREENLENGTH (ft)	START: ~~1245~~	FINISH:
TOTAL DEPTH from TOC (ft.): 14.32'	VOLUME PURGED (gal):	
DEPTH TO WATER from TOC (ft.): 2.50'	**GROUNDWATER SAMPLING**	
LENGTH OF WATER COL. (ft.):	START: 1425	FINISH: 1538
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal): 3.50	
3 VOLUMES OF WATER (gal):	ANALYSIS: TPH-DRO, TPH-GRO, BTEX and MTBE, PAH	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☑ Pump Description: ~~submersible~~ Peristaltic

Time (hh:mm):	1425	1430	1435	1440	1445	1450	1455					
pH (units):	5.75	5.80	5.77	5.87	5.93	5.94	5.91					
Conductivity (mS/cm):	0.490	0.485	0.488	0.486	0.485	0.486	0.488					
Turbidity (NTU):	18.5	32.0	33.5	43.9	22.6	18.3	13.9					
DO (mg/L):	0.86	0.46	0.23	0.17	0.03	0.03	0.01					
Temperature (C°):	23.96	24.97	24.73	24.61	24.53	24.39	24.24					
ORP (mV):	-160	-168	-177	-185	-191	-194	-195					
Volume Purged (gal):	0.25	1.00	1.25	2.00	2.50	3.00	3.50					
Depth to Water (ft):	2.58	2.57	2.61	2.61	2.60	2.60	2.60					
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398GDW12-2Q15	4-21-15	1512	9	No	

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

Purge water placed in drum#_____ Page ___ of ___

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 14 / 2015 (17)	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: DW-1	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS: Rain	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 1105	FINISH: 1140
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 10	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: slight sulfur odor

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 14 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-1	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS:	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	**WELL DEVELOPMENT**	
SCREENLENGTH (ft)	START: 0900	FINISH: 0911
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 17	
DEPTH TO WATER from TOC (ft.):	**GROUNDWATER SAMPLING**	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: Dark w odor at beginning
Clear w/ sl. odor at end

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / ~~14~~ 15 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-2	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS:	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 0955	FINISH: 1018
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 10 gallons	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: pumped dry @ 10 gallons

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 14 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-3	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS:	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 1415	FINISH: 1420
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 9	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: Sl. odor

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 14 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-4	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS:	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 1010	FINISH: 1015
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 9 gallons	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: Dark w/ slight odor at begining

Purge water placed in drum#_____

Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / ~~14~~ 15 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-5	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS:	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 1020	FINISH: 1850
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 10	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: Dark, strong odor, significant sheen

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / ~~14~~ 15 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-6	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS: overcast	AMBIENT TEMP: 70	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 0900	FINISH: 0934
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 6.5	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☒ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: Dark w/ no odor
~~Dark~~ Pumped dry @ 3 gallons 9:15
Pumped dry @ 1.5 gallons 9:24 / pumped dry @ 2 gal. 9:34

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 14 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-7	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS:	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 1011	FINISH: 1025
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 9	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: Sl. odor

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 14 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-8	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS: Rain	AMBIENT TEMP: 70's	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 0815	FINISH: 0850
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 18.0	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: Dark colored with odor at beginning
Clear with slight odor at finish

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 14 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-9	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS:	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 1526	FINISH: 1600
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 9	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: Dry W/ 0.5 gal

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / ~~14~~ 15 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-10	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS: Rain	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 1145	FINISH: 1210
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 10	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: Slight odor

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 14 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-11	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS:	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 1500	FINISH: 1120
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 9	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS:

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 04 / 14 / 2015	JOB NUMBER: 0888812902/PH-FI/TS-WS	EQUIPMENT (Make/Model #/Serial #):
PROJECT: Bldg. 398	EVENT:	Proactive / Mini Typhoon / 005920
WELL ID: MW-12	LOCATION: NCBC Gulfport	Proactive / Typhoon / 000814
WEATHER CONDITIONS:	AMBIENT TEMP:	/ /
REVIEWED BY:	PERSONNEL: Kirk Giessinger / Maria Bujenovic	

WELL DIA:	WELL DEVELOPMENT	
SCREENLENGTH (ft)	START: 0926	FINISH: 0940
TOTAL DEPTH from TOC (ft.):	VOLUME PURGED (gal): 14	
DEPTH TO WATER from TOC (ft.):	GROUNDWATER SAMPLING	
LENGTH OF WATER COL. (ft.):	START:	FINISH:
1 VOLUME OF WATER (gal):	VOLUME PURGED (gal):	
3 VOLUMES OF WATER (gal):	ANALYSIS:	

WELL DEVELOPMENT PARAMETERS		GW SAMPLING PARAMETERS	
Temperature:	± 1.0° C	Temperature:	± 0.2° C (3 consecutive)
pH:	± 0.5 standard units	pH:	± 0.2 standard units (3 consecutive)
Specific Conductance:	± 10% of the past measurement	Specific Conductance:	± 5% (3 consecutive)
Turbidity:	relatively stable	DO:	≤ 20% saturation or ± 10%
Developed until visually stable		ORP:	± 10 millivolts
		Turbidity:	≤ 20 NTU or ± 10%

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: submersible

Time (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
								Well Goes Dry While Purging ☐				

SAMPLE DATA

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

Purging/Sampling Device Decon Process: Liquinox/distilled water and new Teflon tubing used

COMMENTS: Dark w/ sl. odor

Purge water placed in drum#_____ Page __ of __

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: PW-1	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 90's		
REVIEWED BY: KLG	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.):	START:	FINISH:
DEPTH TO WATER from TOC (ft.):	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING Bailer Pump Description: PERISTALTIC

T (hh:mm):												
pH (units):												
Conductivity (mS/cm):												
Turbidity (NTU):												
DO (mg/L):												
Temperature (C°):												
ORP (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
Meter Type:	HORIBA U-22							Well Goes Dry While Purging ☐				

SAMPLE DATA

Bailer Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398PW1-3Q13	7/24/13	1249	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS: Sampled potable well from valve near pump. Water allowed to run approximately 10min. prior to sampling. No holding tanks or treatment upstream of sampling point.

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: DW-1	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 90's		
REVIEWED BY: KLG	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 24.98	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 2.60	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 1600	FINISH: 1800
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING Bailer Pump Description: PERISTALTIC

T[illegible] (hh:mm):	1614	1619	1624	1629	1635	1640						
[illegible] (units):	6.11	5.89	5.89	5.79	5.73	5.77						
Conductivity (mS/cm):	0.326	0.298	0.278	0.266	0.256	0.254						
Turbidity (NTU):	28.0	17.2	9.8	5.5	2.2	1.4						
DO (mg/L):	0.75	0.34	0.30	0.27	0.44	0.28						
Temperature (C°):	29.69	27.97	26.80	26.33	26.72	27.02						
ORP (mV):	-38	-25	-24	-28	-34	-35						
Volume Purged (gal):	0	0.4	0.8	1.2	1.75	2.0						
Depth to Water (ft):	3.34	3.35	3.35	3.35	3.35	3.35						
Meter Type:	HORIBA U-22							Well Goes Dry While Purging ☐				

SAMPLE DATA

Bailer Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398DW1-3Q13	7/24/13	1800	10	0	
DUP20724D	7-24-D	—	10		

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS:

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-1	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Sunny / windy	AMBIENT TEMP: 90's		
REVIEWED BY: ILC	PERSONNEL(Circle one): KIRK GIESSINGER, (ZACHARY GOLSON,) DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 19.49	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 2.68	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 16.81	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 1534	FINISH: 1640
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal): 6.5	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT (SAMPLING) Bailer (Pump) Description: PERISTALTIC

Time (hh:mm):	1534	1539	1545	1550	1555	1600	1605	1610	1615	1620	1625	1630	1635	1640
pH (units):	6.35	6.25	6.25	6.26	6.26	6.27	6.27	6.26	6.25	6.25	6.24	6.24	6.25	6.24
Conductivity (mS/cm):	0.369	0.401	0.419	0.421	0.420	0.417	0.407	0.395	0.378	0.364	0.362	0.361	0.362	0.361
Turbidity (NTU):	15.2	39.2	155	203	263	185	163	105	101	51.9	35.1	27.1	25.6	25.1
DO (mg/L):	1.37	0.37	0.31	0.30	0.30	0.28	0.26	0.27	0.26	0.27	0.27	0.28	0.27	0.26
Temperature (C°):	31.75	28.90	27.99	27.49	27.22	26.91	26.87	26.84	26.69	26.80	26.70	26.64	26.61	26.55
ORP (mV):	-44	-49	-57	-61	-65	-68	-70	-69	-67	-67	-67	-67	-68	-68
Volume Purged (gal):	0	0.5	1.1	1.65	2.20	2.80	3.30	3.70	4.1	4.6	5.0	5.5	6.0	6.5
Depth to Water (ft):	2.81	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.83	2.85	2.86	2.85	2.82

Meter Type: HORIBA U-22 Well Goes Dry While Purging ☐

SAMPLE DATA

Bailer (Pump) Description: Peristaltic

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW1-3Q13	7/24/13	16:40	10	0	
MS/MSD	7/24/13	16:40	20		

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS:

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-2	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 96		
REVIEWED BY: KLC	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 15.35	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 3.13	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 1520	FINISH: 1600
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING Bailer Pump Description: PERISTALTIC

T[illegible] (hh:mm):	1526	1532	1538	1543	1548							
[illegible]nits):	6.68	6.65	6.65	6.66	6.65							
Conductivity (mS/cm):	0.651	0.707	0.715	0.724	0.718							
Turbidity (NTU):	68.1	62.9	64.2	62.8	66.1							
DO (mg/L):	19.2	4.80	4.33	4.04	3.96							
Temperature (C°):	30.60	29.99	29.31	29.16	29.31							
ORP (mV):	-131	-118	-127	-125	-126							
Volume Purged (gal):	0	0.5	1.0	1.4	1.8							
Depth to Water (ft):	3.45	3.62	6.78	6.79	6.79							
Meter Type:	HORIBA U-22							Well Goes Dry While Purging ☐				

SAMPLE DATA

Bailer Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW2-3Q13	7/24/13	1548	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS:

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-3	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Overcast	AMBIENT TEMP: ~90		
REVIEWED BY: KLC	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 15.52	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 2.63	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 0846	FINISH: 0945
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING Bailer Pump Description: PERISTALTIC

T (hh:mm):	0848	0853	0900	0907	0912	0919	0925	0930				
pH (units):	5.81	6.28	6.36	6.34	6.38	6.39	6.39	6.39				
Conductivity (mS/cm):	0.518	0.450	0.470	0.467	0.470	0.472	0.470	0.470				
Turbidity (NTU):	17.1	26.1	15.9	21.6	17.4	12.8	10.8	10.2				
DO (mg/L):	1.38	0.62	0.51	0.75	0.47	0.44	0.41	0.40				
Temperature (C°):	25.57	27.67	26.88	26.76	26.70	26.64	26.58	26.58				
ORP (mV):	-56	-103	-121	-124	-124	-125	-125	-126				
Volume Purged (gal):	0	0.60	1.25	2.0	2.40	3.0	2.5	4.0				
Depth to Water (ft):	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80				

Meter Type: HORIBA U-22 Well Goes Dry While Purging ☐

SAMPLE DATA

Bailer Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW3-3Q13	7/24/13	0930	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS:

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-4	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Overcast 85-90	AMBIENT TEMP: ~ 90		
REVIEWED BY: KK	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 13.26	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 3.16	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 1005	FINISH: 1050
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING Bailer Pump Description: PERISTALTIC

T (hh:mm):	1008	1012	1019	1024	1029	1034	1039					
pH (units):	6.40	6.34	6.35	6.35	6.34	6.34	6.34					
Conductivity (mS/cm):	0.381	0.376	0.374	0.374	0.373	0.373	0.373					
Turbidity (NTU):	105	73.0	46.0	30.6	20.9	17.2	15.4					
DO (mg/L):	5.34	0.76	0.52	0.45	0.43	0.42	0.44					
Temperature (C°):	28.09	27.73	27.44	27.39	27.29	27.25	27.28					
ORP (mV):	-3	-11	-15	-14	-14	-14	-14					
Volume Purged (gal):	–	0.5	1.1	1.6	2.1	2.6	3.2					
Depth to Water (ft):	3.31	3.31	3.31	3.31	3.31	3.31	3.31					
Meter Type:	HORIBA U-22							Well Goes Dry While Purging ☐				

SAMPLE DATA

Bailer Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW4-3Q13	7/24/13	1039	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS:

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-5	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 90's		
REVIEWED BY: KKC	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 15.37	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 3.14	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 1156	FINISH: 1225
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING Bailer Pump Description: PERISTALTIC

T[illegible] (hh:mm):	1200	1205	1212	1217	1222							
p[illegible] (units):	6.55	6.56	6.57	6.57	6.57							
Conductivity (mS/cm):	0.480	0.471	0.471	0.469	0.65							
Turbidity (NTU):	38.7	32.2	27.3	26.0	27.1							
DO (mg/L):	3.07	0.88	0.79	0.75	0.50							
Temperature (C°):	28.65	28.31	28.30	28.40	28.40							
ORP (mV):	-128	-150	-160	-164	-166							
Volume Purged (gal):	0	0.3	0.80	1.25	1.60							
Depth to Water (ft):	3.36	3.36	3.36	3.36	3.36							

Meter Type: HORIBA U-22 Well Goes Dry While Purging ☐

SAMPLE DATA

Bailer Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW5-3Q13	7/24/13	1222	10	0	
DUP107241J	7.24-13	—	10		

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS: Slightly odor

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-6	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 90°F		
REVIEWED BY: KLC	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 15.65	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 3.13	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: @ 1420	FINISH: 1515
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING Bailer Pump Description: PERISTALTIC

T[illegible] (hh:mm):	1422	1437	1442	1447	1452	1457						
L[illegible]nits):	6.61	6.61	6.61	6.62	6.60	6.60						
Conductivity (mS/cm):	0.840	0.839	0.814	0.812	0.818	0.820						
Turbidity (NTU):	4.4	2.9	1.6	0.0	0.0	0.0						
DO (mg/L):	2.60	0.59	0.50	0.44	0.41	0.48						
Temperature (C°):	31.58	29.34	29.16	28.99	28.92	28.91						
ORP (mV):	-120	-127	-121	-123	-122	-121						
Volume Purged (gal):	0	0.75	1.3	1.75	2.1	2.4						
Depth to Water (ft):	3.98	5.10	5.32	5.45	5.42	5.42						
		*										
Meter Type:	HORIBA U-22							Well Goes Dry While Purging ☐				

SAMPLE DATA

Bailer Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW6-3Q13	7/24/13	1457	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS: * Slowed pump

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-7	LOCATION: Gulfport, MS		
WEATHER CONDITIONS:	AMBIENT TEMP: 90s		
REVIEWED BY: KLC	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 14.65	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 3.43	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 1100	FINISH: 1145
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING Bailer Pump Description: PERISTALTIC

Time (hh:mm):	1109	1116	1121	1126	1131							
pH (units):	6.33	6.37	6.37	6.37	6.37							
Conductivity (mS/cm):	0.763	0.770	0.769	0.771	0.772							
Turbidity (NTU):	10.1	7.8	7.5	6.5	6.2							
DO (mg/L):	0.91	0.58	0.44	0.39	0.39							
Temperature (C°):	27.61	27.50	27.36	27.32	27.29							
ORP (mV):	-93	-105	-107	-108	-107							
Volume Purged (gal):	0	0.75	1.25	1.60	2.1							
Depth to Water (ft):	3.67	3.67	3.67	3.67	3.67							
Meter Type:	HORIBA U-22							Well Goes Dry While Purging ☐				

SAMPLE DATA

Bailer Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW7-3Q13	7/24/13	1131	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS:

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-8	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 80's		
REVIEWED BY:	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 14.63	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 2.93	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 11.70	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 1428	FINISH: 1448
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal): 1.6	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING Bailer Pump Description: PERISTALTIC

T[illegible] (hh:mm):	1428	1433	1438	1443	1448							
p[illegible] units):	6.71	6.66	6.65	6.66	6.67							
Conductivity (mS/cm):	0.485	0.477	0.470	0.470	0.466							
Turbidity (NTU):	1.7	0.5	0.6	0.0	0.2							
DO (mg/L):	0.60	0.29	0.28	0.26	0.22							
Temperature (C°):	35.10	35.77	35.35	35.71	35.34							
ORP (mV):	-130	-138	-143	-147	-149							
Volume Purged (gal):	0	0.4	0.80	1.2	1.6							
Depth to Water (ft):	3.15	3.16	3.16	3.14	3.18							

Meter Type: HORIBA U-22 Well Goes Dry While Purging ☐

SAMPLE DATA

Bailer Pump Description: Peristaltic

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW8-3Q13	7/24/13	1448	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS:

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/2/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-9	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 90's		
REVIEWED BY: KCC	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 14.67	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 2.59	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 1845	FINISH: 1935
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING Bailer Pump Description: PERISTALTIC

T[illegible] (hh:mm):	1855	1900	1905	1910	1915	1920						
[illegible] units):	6.55	6.53	6.52	6.53	6.53	6.54						
Conductivity (mS/cm):	0.699	0.700	0.703	0.716	0.716	0.713						
Turbidity (NTU):	156	624	427	144	59.3	60.5						
DO (mg/L):	0.99	0.46	0.29	0.25	0.25	0.24						
Temperature (C°):	27.11	27.12	27.14	27.29	27.22	27.12						
ORP (mV):	-118	-122	-130	-134	-134	-135						
Volume Purged (gal):	0.25	0.75	1.5	2.5	3.0	3.6						
Depth to Water (ft):	2.95	2.94	2.94	2.94	2.94	2.94						
Meter Type:	HORIBA U-22							Well Goes Dry While Purging ☐				

SAMPLE DATA

Bailer Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW9-3Q13	7/2/13	1920	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS:

Dark, slight odor + sheen

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-10	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Cloudy / breezy	AMBIENT TEMP: 80's		
REVIEWED BY:	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 14.91	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 2.38	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 12.53	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 1031	FINISH: 1119
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal): 5.9 gallons	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT (SAMPLING) Bailer (Pump) Description: (PERISTALTIC)

Time (hh:mm):	1031	1036	1041	1046	1052	1057	1102	1108	1114	1119		
[illegible]ilts):	6.54	6.51	6.50	6.52	6.53	6.52	6.48	6.48	6.41	6.41		
Conductivity (mS/cm):	0.739	0.755	0.757	0.758	0.749	0.745	0.746	0.738	0.734	0.732		
Turbidity (NTU):	89.9	47.8	25.5	22.1	21.5	21.6	21.9	38.0	39.3	38.0		
DO (mg/L):	1.03	0.36	0.31	0.29	0.34	0.43	0.53	0.42	0.37	0.35		
Temperature (C°):	28.25	27.11	26.86	26.71	26.77	27.78	27.79	27.79	27.45	27.48		
ORP (mV):	-107	-112	-116	-119	-121	-122	-120	-122	-120	-121		
Volume Purged (gal):	0	0.7	1.6	2.2	3.0	3.60	4.2	4.8	5.4	5.9		
Depth to Water (ft):	2.60	2.60	2.60	2.61	2.60	2.58	2.58	2.58	2.58	2.57		
Meter Type:	HORIBA U-22							Well Goes Dry While Purging ☐				

SAMPLE DATA

Bailer (Pump) Description: Peristaltic

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW10-3Q13	7/24/13	1119	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS: * Reduced pump speed
• Rainbow Sheen on Purge Water
• Strong fuel odor

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-11	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Cloudy / breezy	AMBIENT TEMP: 80's		
REVIEWED BY:	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 14.53	START: 9:19	FINISH:
DEPTH TO WATER from TOC (ft.): 2.64	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 11.89	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 9:19	FINISH: 9:41
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal): 3.1	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT (SAMPLING) Bailer (Pump) Description: PERISTALTIC

T (hh:mm):	9:19	9:24	9:29	9:34	9:39							
pH (units):	6.29	6.31	6.32	6.33	6.33							
Conductivity (mS/cm):	0.578	0.574	0.569	0.570	0.567							
Turbidity (NTU):	24.8	15.4	12.6	10.2	5.6							
DO (mg/L):	0.78	0.46	0.36	0.32	0.30							
Temperature (C°):	26.41	26.54	26.45	26.40	26.37							
ORP (mV):	-58	-68	-76	-82	-85							
Volume Purged (gal):	0	0.8	1.6	2.4	3.1							
Depth to Water (ft):	2.87	2.87	2.87	2.89	2.88							
Meter Type:	HORIBA U-22							Well Goes Dry While Purging ☐				

SAMPLE DATA

Bailer (Pump) Description: Peristaltic

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW11-3Q13	7/24/13	09:41	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS:

Purge water placed in drum#_____

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 7/24/13	JOB NUMBER: 0888812902	PHASE: F1	TASK: FK
PROJECT: NAVFAC	EVENT: 3rd QUARTER 2013		
WELL ID: MW-12	LOCATION: Gulfport, MS		
WEATHER CONDITIONS: Sunny + breezy	AMBIENT TEMP: 80's		
REVIEWED BY: ELC	PERSONNEL(Circle one): KIRK GIESSINGER, ZACHARY GOLSON, DAVID FELTER		

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 14.82	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 3.09	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 11.73	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START: 1206	FINISH: 1251
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal): 5.1	
	ANALYSIS: BTEX, MTBE, PAHs, TPH-GRO, TPH-DRO	

MNA FIELD RESULTS

FERROUS IRON	mg/L	CHLORIDE	mg/L		mg/L
SULFIDE	mg/L	ALKALINITY	mg/L		mg/L
SULFATE	mg/L	CO_2	mg/L		mg/L

IN-SITU TESTING

Circle one: DEVELOPMENT (SAMPLING) Bailer (Pump) Description: PERISTALTIC

Time (hh:mm):	1206	1211	1216	1221	1226	1231	1236	1241	1246	1251		
pH (units):	6.33	6.31	6.32	6.32	6.33	6.34	6.36	6.35	6.35	6.36		
Conductivity (mS/cm):	0.528	0.536	0.535	0.538	0.544	0.548	0.550	0.551	0.553	0.559		
Turbidity (NTU):	96.4	66.0	80.0	58.3	35.6	29.7	27.5	17.9	17.6	15.6		
DO (mg/L):	0.84	0.32	0.28	0.23	0.23	0.21	0.29	0.21	0.21	0.21		
Temperature (C°):	27.06	27.92	27.54	27.55	27.27	27.26	27.24	27.32	27.39	27.21		
ORP (mV):	-48	-65	-75	-81	-85	-89	-92	-94	-95	-96		
Volume Purged (gal):	0	0.70	1.50	2.0	2.50	3.10	3.60	4.10	4.60	5.10		
Depth to Water (ft):	3.3	3.4	3.48	3.67	3.64	3.64	3.31	3.31	3.33	3.34		
Meter Type:	HORIBA U-22							Well Goes Dry While Purging ☐				

SAMPLE DATA

Bailer (Pump) Description: Peristaltic

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks
B398MW12-3Q13	7/24/13	1251	10	0	

Purging/Sampling Device Decon Process: DEDICATED TUBING

COMMENTS:

Purge water placed in drum#_____

Appendix D
GCAL Analytical Data

GCAL

GULF COAST ANALYTICAL LABORATORIES, INC

NELAP CERTIFICATE NUMBER 01955
DOD ELAP CERTIFICATE NUMBER ADE - 1482

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.
7979 GSRI Avenue
Baton Rouge, LA 70820

Report Date 08/05/2013

GCAL Report 213072421

Deliver To	ENSAFE, INC 5724 Summer Trees Drive Memphis, TN 38134 (901) 372-7962
Attn	Tina Cantwell

Project NCBC Gulfport / JM35

CASE NARRATIVE

Client: Resolution Consultants **Report:** 213072421

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

Additional Flags:

DL – Dilution

Q – non-compliant QC result (see Q Flag Application Form)

E – concentration is above the upper calibration range of the instrument

VOLATILES MASS SPECTROMETRY

In the SW-846 8260B analysis, MTBE exhibited a %D value of 23.3 in the CCV associated with analytical batch 512699. MTBE was not detected during sample analysis.

In the SW-846 8260B analysis, samples 21307242114 (B398SB1608), 21307242101 (B398SB1102), 21307242102 (B398SB1102 MS), 21307242103 (B398SB1102 MSD), 21307242105 (B398SB1202), 21307242112 (B398SB1508) and 21307242113 (B398SB1606) had to be diluted due to the presence of non-target background. This dilution is reflected in the elevated reporting limits.

In the SW-846 8260B analysis, sample 21307242111 (B398SB1504) was analyzed at a 50 (Methanol extract) dilution due to the high concentration of non-target compounds.

In the SW-846 8260B analysis, sample 21307242109 (B398SB1405) and 21307242116 (DUP072313) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. The dilution is reflected in elevated detection limits.

In the SW-846 8260B analysis, the recovery for the surrogate 4-Bromofluorobenzene is above the upper control limit for sample 21307242105 (B398SB1202). No target compounds were detected in the sample.

SEMI-VOLATILES MASS SPECTROMETRY

In the SW-846 8270D SIM analysis, sample 21307242116 (DUP072313) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. This is reflected in elevated detection limits.

In the SW-846 8270D SIM analysis, sample 21307242103 (B398SB1102 MSD) had one surrogate recovery outside control limits in the base-neutral fraction.

VOLATILES GAS CHROMATOGRAPHY

In the SW-846 8015C GRO analysis, samples 21307242102 (B398SB1102 MS), 21307242103 (B398SB1102 MSD), 21307242106 (B398SB1206), 21307242107 (B398SB1302), 21307242108 (B398SB1306), 21307242111 (B398SB1504), 21307242112 (B398SB1508), 21307242104 (B398SB1106), 21307242110 (B398SB1408), 21307242113 (B398SB1606), 21307242114 (B398SB1608) and 21307242117 (DUP2072313) were analyzed at a 50 (Methanol extract) dilution. The reporting limit is below the required limit at this dilution.

In the SW-846 8015C GRO analysis, samples 21307242101(B398SB1102), 21307242109(B398SB1405), 21307242116(DUP072313) and 21307242105(B398SB1202) had to be diluted to bracket the concentration of target analyte(s) within the calibration range of the instrument.

In the SW-846 8015C GRO analysis, the recovery for the surrogate was outside control limits for sample 21307242105 (B398SB1202). The sample was re-analyzed yielding a similar recovery. This is attributed to matrix interference.

SEMI-VOLATILES GAS CHROMATOGRAPHY

In the SW-846 8015C DRO analysis, samples 21307242101 (B398SB1102), 21307242102 (B398SB1102 MS), 21307242103 (B398SB1102 MSD), 21307242109 (B398SB1405), 21307242105 (B398SB1202) and 21307242116 (DUP072313) had to be diluted to bracket target compounds within the calibration range of the instrument. This is reflected in elevated detection limits.

In the SW-846 8015C DRO analysis, the recovery for the surrogate(s) is reported as diluted out for those analyses performed at a 10 or higher dilution.

In the SW-846 8015C DRO analysis for analytical batch 512870, the MS/MSD exhibited recovery and RPD failures. This is due to the high concentration of target analytes in the native sample. The LCS/LCSD recoveries are acceptable.

Q Flag Application

Lab Work Order ID: **213072421**

Lab Sample ID: **21307242105**

Analysis Date: **8/1/2013 10:18:00 PM**

Compound Name	Compound Label	CCV OUL	LCS/LCSD OUL	SURROGATE OUL	ANALYTE NC	IS OUL
Gasoline Range Organics	8006-61-9			X		

Lab Sample ID: **21307242110**

Analysis Date: **7/29/2013 3:50:00 PM**

Compound Name	Compound Label	CCV OUL	LCS/LCSD OUL	SURROGATE OUL	ANALYTE NC	IS OUL
tert-Butyl methyl ether (MTBE)	1634-04-4	X				

Lab Sample ID: **21307242117**

Analysis Date: **7/29/2013 4:42:00 PM**

Compound Name	Compound Label	CCV OUL	LCS/LCSD OUL	SURROGATE OUL	ANALYTE NC	IS OUL
tert-Butyl methyl ether (MTBE)	1634-04-4	X				

Sample Test Summary Report: 213072421

Lab Sample ID	Cust. Sample ID	Matrix	Proc. Desc.
21307242101	B398SB1102	S	SW-846 8260B
21307242101	B398SB1102	S	SW-846 8270D SIM Solid
21307242101	B398SB1102	S	SW-846 3550C SIM Prep Solid
21307242101	B398SB1102	S	Dry Weight/Percent Moisture
21307242101	B398SB1102	S	Total Hydrocarbons Diesel Solid
21307242101	B398SB1102	S	Total Hydrocarbons Diesel Solid Prep
21307242101	B398SB1102	S	SW-846 8015C Modified Solid
21307242102	B398SB1102 MS	S	SW-846 8260B
21307242102	B398SB1102 MS	S	SW-846 8270D SIM Solid
21307242102	B398SB1102 MS	S	SW-846 3550C SIM Prep Solid
21307242102	B398SB1102 MS	S	Dry Weight/Percent Moisture
21307242102	B398SB1102 MS	S	Total Hydrocarbons Diesel Solid
21307242102	B398SB1102 MS	S	Total Hydrocarbons Diesel Solid Prep
21307242102	B398SB1102 MS	S	SW-846 8015C Modified Solid
21307242103	B398SB1102 MSD	S	SW-846 8260B
21307242103	B398SB1102 MSD	S	SW-846 8270D SIM Solid
21307242103	B398SB1102 MSD	S	SW-846 3550C SIM Prep Solid
21307242103	B398SB1102 MSD	S	Dry Weight/Percent Moisture
21307242103	B398SB1102 MSD	S	Total Hydrocarbons Diesel Solid
21307242103	B398SB1102 MSD	S	Total Hydrocarbons Diesel Solid Prep
21307242103	B398SB1102 MSD	S	SW-846 8015C Modified Solid
21307242104	B398SB1106	S	SW-846 8260B
21307242104	B398SB1106	S	SW-846 8270D SIM Solid
21307242104	B398SB1106	S	SW-846 3550C SIM Prep Solid
21307242104	B398SB1106	S	Dry Weight/Percent Moisture
21307242104	B398SB1106	S	Total Hydrocarbons Diesel Solid
21307242104	B398SB1106	S	Total Hydrocarbons Diesel Solid Prep
21307242104	B398SB1106	S	SW-846 8015C Modified Solid
21307242105	B398SB1202	S	SW-846 8260B
21307242105	B398SB1202	S	SW-846 8270D SIM Solid
21307242105	B398SB1202	S	SW-846 3550C SIM Prep Solid
21307242105	B398SB1202	S	Dry Weight/Percent Moisture
21307242105	B398SB1202	S	Total Hydrocarbons Diesel Solid
21307242105	B398SB1202	S	Total Hydrocarbons Diesel Solid Prep
21307242105	B398SB1202	S	SW-846 8015C Modified Solid
21307242106	B398SB1206	S	SW-846 8260B
21307242106	B398SB1206	S	SW-846 8270D SIM Solid
21307242106	B398SB1206	S	SW-846 3550C SIM Prep Solid
21307242106	B398SB1206	S	Dry Weight/Percent Moisture
21307242106	B398SB1206	S	Total Hydrocarbons Diesel Solid
21307242106	B398SB1206	S	Total Hydrocarbons Diesel Solid Prep
21307242106	B398SB1206	S	SW-846 8015C Modified Solid
21307242107	B398SB1302	S	SW-846 8260B
21307242107	B398SB1302	S	SW-846 8270D SIM Solid
21307242107	B398SB1302	S	SW-846 3550C SIM Prep Solid
21307242107	B398SB1302	S	Dry Weight/Percent Moisture
21307242107	B398SB1302	S	Total Hydrocarbons Diesel Solid
21307242107	B398SB1302	S	Total Hydrocarbons Diesel Solid Prep
21307242107	B398SB1302	S	SW-846 8015C Modified Solid

21307242108	B398SB1306	S	SW-846 8260B
21307242108	B398SB1306	S	SW-846 8270D SIM Solid
21307242108	B398SB1306	S	SW-846 3550C SIM Prep Solid
21307242108	B398SB1306	S	Dry Weight/Percent Moisture
21307242108	B398SB1306	S	Total Hydrocarbons Diesel Solid
21307242108	B398SB1306	S	Total Hydrocarbons Diesel Solid Prep
21307242108	B398SB1306	S	SW-846 8015C Modified Solid
21307242109	B398SB1405	S	SW-846 8260B
21307242109	B398SB1405	S	SW-846 8270D SIM Solid
21307242109	B398SB1405	S	SW-846 3550C SIM Prep Solid
21307242109	B398SB1405	S	Dry Weight/Percent Moisture
21307242109	B398SB1405	S	Total Hydrocarbons Diesel Solid
21307242109	B398SB1405	S	Total Hydrocarbons Diesel Solid Prep
21307242109	B398SB1405	S	SW-846 8015C Modified Solid
21307242110	B398SB1408	S	SW-846 8260B
21307242110	B398SB1408	S	SW-846 8270D SIM Solid
21307242110	B398SB1408	S	SW-846 3550C SIM Prep Solid
21307242110	B398SB1408	S	Dry Weight/Percent Moisture
21307242110	B398SB1408	S	Total Hydrocarbons Diesel Solid
21307242110	B398SB1408	S	Total Hydrocarbons Diesel Solid Prep
21307242110	B398SB1408	S	SW-846 8015C Modified Solid
21307242111	B398SB1504	S	SW-846 8260B
21307242111	B398SB1504	S	SW-846 8270D SIM Solid
21307242111	B398SB1504	S	SW-846 3550C SIM Prep Solid
21307242111	B398SB1504	S	Dry Weight/Percent Moisture
21307242111	B398SB1504	S	Total Hydrocarbons Diesel Solid
21307242111	B398SB1504	S	Total Hydrocarbons Diesel Solid Prep
21307242111	B398SB1504	S	SW-846 8015C Modified Solid
21307242112	B398SB1508	S	SW-846 8260B
21307242112	B398SB1508	S	SW-846 8270D SIM Solid
21307242112	B398SB1508	S	SW-846 3550C SIM Prep Solid
21307242112	B398SB1508	S	Dry Weight/Percent Moisture
21307242112	B398SB1508	S	Total Hydrocarbons Diesel Solid
21307242112	B398SB1508	S	Total Hydrocarbons Diesel Solid Prep
21307242112	B398SB1508	S	SW-846 8015C Modified Solid
21307242113	B398SB1606	S	SW-846 8260B
21307242113	B398SB1606	S	SW-846 8270D SIM Solid
21307242113	B398SB1606	S	SW-846 3550C SIM Prep Solid
21307242113	B398SB1606	S	Dry Weight/Percent Moisture
21307242113	B398SB1606	S	Total Hydrocarbons Diesel Solid
21307242113	B398SB1606	S	Total Hydrocarbons Diesel Solid Prep
21307242113	B398SB1606	S	SW-846 8015C Modified Solid
21307242114	B398SB1608	S	SW-846 8260B
21307242114	B398SB1608	S	SW-846 8270D SIM Solid
21307242114	B398SB1608	S	SW-846 3550C SIM Prep Solid
21307242114	B398SB1608	S	Dry Weight/Percent Moisture
21307242114	B398SB1608	S	Total Hydrocarbons Diesel Solid
21307242114	B398SB1608	S	Total Hydrocarbons Diesel Solid Prep
21307242114	B398SB1608	S	SW-846 8015C Modified Solid
21307242115	EB072313	W	SW-846 8260B
21307242115	EB072313	W	SW-846 8270D SIM Water
21307242115	EB072313	W	SW-846 3510C SIM Prep Water
21307242115	EB072313	W	Total Hydrocarbons Diesel Water

21307242115	EB072313	W	Total Hydrocarbons Diesel Water Prep	
21307242115	EB072313	W	SW-846 8015C Modified Water	
21307242116	DUP072313	S	SW-846 8260B	
21307242116	DUP072313	S	SW-846 8270D SIM Solid	
21307242116	DUP072313	S	SW-846 3550C SIM Prep Solid	
21307242116	DUP072313	S	Dry Weight/Percent Moisture	
21307242116	DUP072313	S	Total Hydrocarbons Diesel Solid	
21307242116	DUP072313	S	Total Hydrocarbons Diesel Solid Prep	
21307242116	DUP072313	S	SW-846 8015C Modified Solid	
21307242117	DUP2072313	S	SW-846 8260B	
21307242117	DUP2072313	S	SW-846 8270D SIM Solid	
21307242117	DUP2072313	S	SW-846 3550C SIM Prep Solid	
21307242117	DUP2072313	S	Dry Weight/Percent Moisture	
21307242117	DUP2072313	S	Total Hydrocarbons Diesel Solid	
21307242117	DUP2072313	S	Total Hydrocarbons Diesel Solid Prep	
21307242117	DUP2072313	S	SW-846 8015C Modified Solid	
21307242118	TRIP BLANK	W	SW-846 8260B	
21307242118	TRIP BLANK	W	SW-846 8015C Modified Water	

Manual Integrations: 213072421

Lab Sample ID	Cust. Sample ID	Prod. Desc.	Compound	Comp. Name
21307242101	B398SB1102	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242101	B398SB1102	SW-846 8015C GRO	106-39-8	Bromochlorobenzene
21307242101	B398SB1102	SW-846 8270D SIM	207-08-9	Benzo(k)fluoranthene
21307242102	B398SB1102 MS	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242102	B398SB1102 MS	SW-846 8015C GRO	106-39-8	Bromochlorobenzene
21307242102	B398SB1102 MS	SW-846 8270D SIM	193-39-5	Indeno(1,2,3-cd)pyrene
21307242103	B398SB1102 MSD	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242103	B398SB1102 MSD	SW-846 8015C GRO	106-39-8	Bromochlorobenzene
21307242103	B398SB1102 MSD	SW-846 8270D SIM	193-39-5	Indeno(1,2,3-cd)pyrene
21307242104	B398SB1106	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242104	B398SB1106	SW-846 8260B	108-88-3	Toluene
21307242105	B398SB1202	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242106	B398SB1206	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242107	B398SB1302	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242108	B398SB1306	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242109	B398SB1405	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242110	B398SB1408	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242111	B398SB1504	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242112	B398SB1508	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242113	B398SB1606	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242114	B398SB1608	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242115	EB072313	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242116	DUP072313	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242117	DUP2072313	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics
21307242117	DUP2072313	SW-846 8270D SIM	208-96-8	Acenaphthylene
21307242117	DUP2072313	SW-846 8270D SIM	91-57-6	2-Methylnaphthalene

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND	Indicates the result was Not Detected at the specified RDL
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
RDL	Reporting Detection Limit
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J	Indicates the result is between the MDL and RDL
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Authorized Signature
GCAL REPORT 213072421

THIS REPORT CONTAINS ~~297~~ 291 PAGES. DLH 8/8/13

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1102

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 6.52 (g/ml) g Lab Sample ID: 21307242101

Level: (low/med) Lab File ID: 2130729/j8565

% Moisture: not dec. 7.3 Date Collected: 07/23/13 Time: 1030

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 07/29/13 Time: 1549

Soil Extract Volume: (µL) Dilution Factor: 50 Analyst: CEK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512652

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	2.10	U	2.10	2.10	207
100-41-4	Ethylbenzene	91.3	J	7.57	7.57	207
108-88-3	Toluene	4.42	U	4.42	4.42	207
1330-20-7	Xylene (total)	10.2	U	10.2	10.2	620
1634-04-4	tert-Butyl methyl ether (MTBE)	2.52	U	2.52	2.52	207

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1102 MS

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 6.52 (g/ml) g Lab Sample ID: 21307242102

Level: (low/med) Lab File ID: 2130729/j8566ms

% Moisture: not dec. 7.3 Date Collected: 07/23/13 Time: 1030

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 07/29/13 Time: 1611

Soil Extract Volume: (µL) Dilution Factor: 50 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512652

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	2150		2.10	2.10	207
100-41-4	Ethylbenzene	2210		7.57	7.57	207
108-88-3	Toluene	2090		4.42	4.42	207
1330-20-7	Xylene (total)	6270		10.2	10.2	620
1634-04-4	tert-Butyl methyl ether (MTBE)	2250		2.52	2.52	207

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1102 MSD

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 6.52 (g/ml) g Lab Sample ID: 21307242103

Level: (low/med) Lab File ID: 2130729/j8567msd

% Moisture: not dec. 7.3 Date Collected: 07/23/13 Time: 1030

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 07/29/13 Time: 1633

Soil Extract Volume: (µL) Dilution Factor: 50 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512652

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	2010		2.10	2.10	207
100-41-4	Ethylbenzene	2180		7.57	7.57	207
108-88-3	Toluene	2050		4.42	4.42	207
1330-20-7	Xylene (total)	6340		10.2	10.2	620
1634-04-4	tert-Butyl methyl ether (MTBE)	2190		2.52	2.52	207

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1106

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 6.11 (g/ml) g

Lab Sample ID: 21307242104

Level: (low/med)

Lab File ID: 2130726/f0104

% Moisture: not dec. 11.3

Date Collected: 07/23/13 Time: 1040

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 07/24/13

Instrument ID: MSV7

Date Analyzed: 07/26/13 Time: 1856

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: CGC

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 512538

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	0.925	J	0.047	0.047	4.61
100-41-4	Ethylbenzene	0.169	U	0.169	0.169	4.61
108-88-3	Toluene	0.651	J	0.099	0.099	4.61
1330-20-7	Xylene (total)	2.27	J	0.228	0.228	13.8
1634-04-4	tert-Butyl methyl ether (MTBE)	0.056	U	0.056	0.056	4.61

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1202

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 6.11 (g/ml) g Lab Sample ID: 21307242105

Level: (low/med) Lab File ID: 2130729/j8571

% Moisture: not dec. 10.9 Date Collected: 07/23/13 Time: 1100

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 07/29/13 Time: 1801

Soil Extract Volume: (µL) Dilution Factor: 100 Analyst: CEK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512652

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	4.66	U	4.66	4.66	459
100-41-4	Ethylbenzene	16.8	U	16.8	16.8	459
108-88-3	Toluene	9.83	U	9.83	9.83	459
1330-20-7	Xylene (total)	22.7	U	22.7	22.7	1380
1634-04-4	tert-Butyl methyl ether (MTBE)	5.59	U	5.59	5.59	459

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1206

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5.89 (g/ml) g Lab Sample ID: 21307242106

Level: (low/med) Lab File ID: 2130726/f0105

% Moisture: not dec. 11.9 Date Collected: 07/23/13 Time: 1107

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV7 Date Analyzed: 07/26/13 Time: 1918

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CGC

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512538

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	0.049	U	0.049	0.049	4.82
100-41-4	Ethylbenzene	0.176	U	0.176	0.176	4.82
108-88-3	Toluene	0.103	U	0.103	0.103	4.82
1330-20-7	Xylene (total)	0.238	U	0.238	0.238	14.5
1634-04-4	tert-Butyl methyl ether (MTBE)	0.059	U	0.059	0.059	4.82

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1302

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 6.5 (g/ml) g Lab Sample ID: 21307242107

Level: (low/med) Lab File ID: 2130726/f0106

% Moisture: not dec. 7.6 Date Collected: 07/23/13 Time: 1125

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV7 Date Analyzed: 07/26/13 Time: 1940

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CGC

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512538

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	0.042	U	0.042	0.042	4.16
100-41-4	Ethylbenzene	0.152	U	0.152	0.152	4.16
108-88-3	Toluene	0.089	U	0.089	0.089	4.16
1330-20-7	Xylene (total)	0.206	U	0.206	0.206	12.5
1634-04-4	tert-Butyl methyl ether (MTBE)	0.051	U	0.051	0.051	4.16

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1306

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5.92 (g/ml) g Lab Sample ID: 21307242108

Level: (low/med) Lab File ID: 2130726/f0107

% Moisture: not dec. 14.8 Date Collected: 07/23/13 Time: 1140

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV7 Date Analyzed: 07/26/13 Time: 2002

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CGC

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512538

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	0.050	U	0.050	0.050	4.96
100-41-4	Ethylbenzene	0.182	U	0.182	0.182	4.96
108-88-3	Toluene	0.106	U	0.106	0.106	4.96
1330-20-7	Xylene (total)	0.245	U	0.245	0.245	14.9
1634-04-4	tert-Butyl methyl ether (MTBE)	0.060	U	0.060	0.060	4.96

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1405

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5.85 (g/ml) g Lab Sample ID: 21307242109

Level: (low/med) Lab File ID: 2130729/j8572

% Moisture: not dec. 14.7 Date Collected: 07/23/13 Time: 1318

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 07/29/13 Time: 1823

Soil Extract Volume: (µL) Dilution Factor: 5000 Analyst: CEK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512652

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	136000		254	254	25100
100-41-4	Ethylbenzene	349000		917	917	25100
108-88-3	Toluene	932000		536	536	25100
1330-20-7	Xylene (total)	1990000		1240	1240	75200
1634-04-4	tert-Butyl methyl ether (MTBE)	305	U	305	305	25100

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1408

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5.81 (g/ml) g Lab Sample ID: 21307242110

Level: (low/med) Lab File ID: 2130729/f0172

% Moisture: not dec. 15.0 Date Collected: 07/23/13 Time: 1332

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV7 Date Analyzed: 07/29/13 Time: 1550

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CEK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512699

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	6.90		0.051	0.051	5.06
100-41-4	Ethylbenzene	3.23	J	0.185	0.185	5.06
108-88-3	Toluene	6.62		0.108	0.108	5.06
1330-20-7	Xylene (total)	8.17	J	0.250	0.250	15.2
1634-04-4	tert-Butyl methyl ether (MTBE)	0.062	UQ	0.062	0.062	5.06

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1504

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 6.38 (g/ml) g Lab Sample ID: 21307242111

Level: (low/med) Lab File ID: 2130729/j8560

% Moisture: not dec. 8.9 Date Collected: 07/23/13 Time: 1342

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 07/29/13 Time: 1359

Soil Extract Volume: (µL) Dilution Factor: 50 Analyst: CLH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512652

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	83.2	J	2.18	2.18	215
100-41-4	Ethylbenzene	7.87	U	7.87	7.87	215
108-88-3	Toluene	4.60	U	4.60	4.60	215
1330-20-7	Xylene (total)	835		10.6	10.6	645
1634-04-4	tert-Butyl methyl ether (MTBE)	2.62	U	2.62	2.62	215

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1508

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5.95 (g/ml) g Lab Sample ID: 21307242112

Level: (low/med) Lab File ID: 2130801/j8685

% Moisture: not dec. 16.6 Date Collected: 07/23/13 Time: 1355

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 08/01/13 Time: 1615

Soil Extract Volume: (µL) Dilution Factor: 50 Analyst: AMD

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512899

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	2.55	U	2.55	2.55	252
100-41-4	Ethylbenzene	161	J	9.22	9.22	252
108-88-3	Toluene	5.39	U	5.39	5.39	252
1330-20-7	Xylene (total)	263	J	12.4	12.4	756
1634-04-4	tert-Butyl methyl ether (MTBE)	3.07	U	3.07	3.07	252

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1606

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5.49 (g/ml) g Lab Sample ID: 21307242113

Level: (low/med) Lab File ID: 2130801/j8686

% Moisture: not dec. 10.8 Date Collected: 07/23/13 Time: 1418

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 08/01/13 Time: 1637

Soil Extract Volume: (µL) Dilution Factor: 50 Analyst: AMD

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512899

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	2.59	U	2.59	2.59	255
100-41-4	Ethylbenzene	64.9	J	9.34	9.34	255
108-88-3	Toluene	5.46	U	5.46	5.46	255
1330-20-7	Xylene (total)	12.6	U	12.6	12.6	766
1634-04-4	tert-Butyl methyl ether (MTBE)	3.11	U	3.11	3.11	255

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398SB1608

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5.38 (g/ml) g Lab Sample ID: 21307242114

Level: (low/med) Lab File ID: 2130729/j8562

% Moisture: not dec. 9.6 Date Collected: 07/23/13 Time: 1429

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 07/29/13 Time: 1443

Soil Extract Volume: (µL) Dilution Factor: 50 Analyst: CLH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512652

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	175	J	2.61	2.61	257
100-41-4	Ethylbenzene	100	J	9.41	9.41	257
108-88-3	Toluene	5.50	U	5.50	5.50	257
1330-20-7	Xylene (total)	12.7	U	12.7	12.7	771
1634-04-4	tert-Butyl methyl ether (MTBE)	3.13	U	3.13	3.13	257

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

EB072313

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307242115

Level: (low/med) Lab File ID: 2130726/j8431

% Moisture: not dec. Date Collected: 07/23/13 Time: 1200

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 07/26/13 Time: 1954

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	0.111	U	0.111	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DUP072313

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5.72 (g/ml) g

Lab Sample ID: 21307242116

Level: (low/med)

Lab File ID: 2130801/j8687

% Moisture: not dec. 16.4

Date Collected: 07/23/13 Time: 0000

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 07/24/13

Instrument ID: MSV12

Date Analyzed: 08/01/13 Time: 1659

Soil Extract Volume: (µL)

Dilution Factor: 5000 Analyst: AMD

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 512899

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	94000		265	265	26100
100-41-4	Ethylbenzene	220000		956	956	26100
108-88-3	Toluene	769000		559	559	26100
1330-20-7	Xylene (total)	1280000		1290	1290	78400
1634-04-4	tert-Butyl methyl ether (MTBE)	318	U	318	318	26100

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DUP2072313

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 6.32 (g/ml) g Lab Sample ID: 21307242117

Level: (low/med) Lab File ID: 2130729/f0173

% Moisture: not dec. 15.7 Date Collected: 07/23/13 Time: 0000

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV7 Date Analyzed: 07/29/13 Time: 1642

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CEK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512699

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	118		0.048	0.048	4.69
100-41-4	Ethylbenzene	12.1		0.172	0.172	4.69
108-88-3	Toluene	0.100	U	0.100	0.100	4.69
1330-20-7	Xylene (total)	1.28	J	0.232	0.232	14.1
1634-04-4	tert-Butyl methyl ether (MTBE)	0.057	UQ	0.057	0.057	4.69

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TRIP BLANK

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307242118

Level: (low/med) Lab File ID: 2130726/j8432

% Moisture: not dec. Date Collected: 07/23/13 Time: 0000

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/24/13

Instrument ID: MSV12 Date Analyzed: 07/26/13 Time: 2016

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
71-43-2	Benzene	0.111	U	0.111	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1217850

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5 (g/ml) g Lab Sample ID: 1217850

Level: (low/med) Lab File ID: 2130726/f0100

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV7 Date Analyzed: 07/26/13 Time: 1714

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CGC

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512538

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
100-41-4	Ethylbenzene	0.183	U	0.183	0.183	5.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.061	U	0.061	0.061	5.00
1330-20-7	Xylene (total)	0.247	U	0.247	0.247	15.0
75-35-4	1,1-Dichloroethene	0.227	U	0.227	0.227	5.00
71-43-2	Benzene	0.051	U	0.051	0.051	5.00
79-01-6	Trichloroethene	0.127	U	0.127	0.127	5.00
108-88-3	Toluene	0.107	U	0.107	0.107	5.00
108-90-7	Chlorobenzene	0.129	U	0.129	0.129	5.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1217861

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1217861

Level: (low/med) Lab File ID: 2130726/j8425

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV12 Date Analyzed: 07/26/13 Time: 1739

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
100-41-4	Ethylbenzene	0.109	U	0.109	0.109	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	0.078	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	0.179	3.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	0.200	1.00
71-43-2	Benzene	0.111	U	0.111	0.111	1.00
79-01-6	Trichloroethene	0.161	U	0.161	0.161	1.00
108-88-3	Toluene	0.122	U	0.122	0.122	1.00
108-90-7	Chlorobenzene	0.083	U	0.083	0.083	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1218599

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5 (g/ml) g Lab Sample ID: 1218599

Level: (low/med) Lab File ID: 2130729/f0171d

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV7 Date Analyzed: 07/29/13 Time: 1306

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CEK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512699

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
100-41-4	Ethylbenzene	0.183	U	0.183	0.183	5.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.061	U	0.061	0.061	5.00
1330-20-7	Xylene (total)	0.247	U	0.247	0.247	15.0
75-35-4	1,1-Dichloroethene	0.227	U	0.227	0.227	5.00
71-43-2	Benzene	0.051	U	0.051	0.051	5.00
79-01-6	Trichloroethene	0.127	U	0.127	0.127	5.00
108-88-3	Toluene	0.107	U	0.107	0.107	5.00
108-90-7	Chlorobenzene	0.129	U	0.129	0.129	5.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1218478

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5 (g/ml) g Lab Sample ID: 1218478

Level: (low/med) Lab File ID: 2130729/j8559d

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV12 Date Analyzed: 07/29/13 Time: 1337

Soil Extract Volume: (µL) Dilution Factor: 50 Analyst: CLH

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512652

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
100-41-4	Ethylbenzene	9.15	U	9.15	9.15	250
1634-04-4	tert-Butyl methyl ether (MTBE)	3.05	U	3.05	3.05	250
1330-20-7	Xylene (total)	12.4	U	12.4	12.4	750
75-35-4	1,1-Dichloroethene	11.3	U	11.3	11.3	250
71-43-2	Benzene	2.54	U	2.54	2.54	250
79-01-6	Trichloroethene	6.36	U	6.36	6.36	250
108-88-3	Toluene	5.35	U	5.35	5.35	250
108-90-7	Chlorobenzene	6.46	U	6.46	6.46	250

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1219627

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Matrix: (soil/water) Solid

Sample wt/vol: 5 (g/ml) g Lab Sample ID: 1219627

Level: (low/med) Lab File ID: 2130801/j8676Ds

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV12 Date Analyzed: 08/01/13 Time: 1228

Soil Extract Volume: (µL) Dilution Factor: 50 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512899

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	LOD	LOQ
100-41-4	Ethylbenzene	9.15	U	9.15	9.15	250
1634-04-4	tert-Butyl methyl ether (MTBE)	3.05	U	3.05	3.05	250
1330-20-7	Xylene (total)	12.4	U	12.4	12.4	750
75-35-4	1,1-Dichloroethene	11.3	U	11.3	11.3	250
71-43-2	Benzene	2.54	U	2.54	2.54	250
79-01-6	Trichloroethene	6.36	U	6.36	6.36	250
108-88-3	Toluene	5.35	U	5.35	5.35	250
108-90-7	Chlorobenzene	6.46	U	6.46	6.46	250

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Method: SW-846 8260B

	SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	TOT OUT
1.	EB072313	108		99		99		98		0
2.	TRIP BLANK	109		100		104		97		0
3.	LCS1217862	111		102		103		100		0
4.	LCSD1217863	113		100		102		100		0
5.	MB1217861	111		102		105		101		0

		QC LIMITS
SMC 1	4-Bromofluorobenzene	75 - 120
SMC 2	Dibromofluoromethane	85 - 115
SMC 3	Toluene-d8	85 - 120
SMC 4	1,2-Dichloroethane-d4	70 - 120

Column to be used to flag recovery values

* Values outside of contract required QC limits

2B
SOIL VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Method: SW-846 8260B

	SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	TOT OUT
1.	B398SB1102	113		97		99		102		0
2.	B398SB1102 MS	114		99		101		104		0
3.	B398SB1102 MSD	108		101		101		106		0
4.	B398SB1106	94		103		109		105		0
5.	B398SB1202	122	*	98		101		101		1
6.	B398SB1206	101		103		102		105		0
7.	B398SB1302	99		105		101		105		0
8.	B398SB1306	98		107		101		107		0
9.	B398SB1405	118		98		101		103		0
10.	B398SB1408	99		105		100		107		0
11.	B398SB1504	111		92		102		101		0
12.	B398SB1508	112		95		99		102		0
13.	B398SB1606	113		94		98		104		0
14.	B398SB1608	120		94		100		102		0
15.	DUP072313	115		97		102		102		0
16.	DUP2072313	98		105		99		108		0
17.	LCS1217851	99		102		103		98		0
18.	LCS1218479	117		98		99		100		0
19.	LCS1218600	99		107		101		103		0
20.	LCS1219628	112		101		101		101		0
21.	LCSD1217852	99		102		99		98		0
22.	LCSD1218480	114		100		100		101		0
23.	LCSD1218601	96		104		97		101		0
24.	LCSD1219629	114		101		102		101		0
25.	MB1217850	99		100		103		99		0
26.	MB1218599	96		103		101		107		0
27.	MB1218478	110		96		102		103		0
28.	MB1219627	111		97		101		103		0

		QC LIMITS
SMC 1	4-Bromofluorobenzene	85 - 120
SMC 2	Dibromofluoromethane	65 - 130
SMC 3	Toluene-d8	85 - 115
SMC 4	1,2-Dichloroethane-d4	62 - 125

Column to be used to flag recovery values

* Values outside of contract required QC limits

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Analytical Batch: 512539

SAMPLE NO. : 1217862

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	#	QC. LIMITS
1,1-Dichloroethene	ug/L	50	0	48.6	97		70 - 130
Benzene	ug/L	50	0	46.2	92		80 - 120
Chlorobenzene	ug/L	50	0	47.3	95		80 - 120
Ethylbenzene	ug/L	50	0	47.2	94		75 - 125
Toluene	ug/L	50	0	47.2	94		75 - 120
Trichloroethene	ug/L	50	0	48.6	97		70 - 125
Xylene (total)	ug/L	150	0	143	95		75 - 130
tert-Butyl methyl ether (MTBE)	ug/L	50	0	47.9	96		65 - 125

SAMPLE NO. : 1217863

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1-Dichloroethene	ug/L	50	46.1	92		5		70 - 130	0 - 30
Benzene	ug/L	50	45.9	92		.7		80 - 120	0 - 30
Chlorobenzene	ug/L	50	46.7	93		1		80 - 120	0 - 30
Ethylbenzene	ug/L	50	47.1	94		.2		75 - 125	0 - 30
Toluene	ug/L	50	46	92		3		75 - 120	0 - 30
Trichloroethene	ug/L	50	48.4	97		.4		70 - 125	0 - 30
Xylene (total)	ug/L	150	140	93		2		75 - 130	0 - 30
tert-Butyl methyl ether (MTBE)	ug/L	50	46.2	92		4		65 - 125	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 8 outside limits

Spike Recovery: 0 out of 16 outside limits

FORM III VOA-1

3B

SOIL VOLATILE MS/MSD RECOVERY

Lab Name: GCAL Sample ID: B398SB1102

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW-846 8260B

Analytical Batch: 512652

SAMPLE NO : 21307242102

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC	#	QC. LIMITS
1,1-Dichloroethene	ug/kg	2070	0	1970	95		65 - 135
Benzene	ug/kg	2070	0	2150	104		75 - 125
Chlorobenzene	ug/kg	2070	0	2120	103		75 - 125
Ethylbenzene	ug/kg	2070	91.3	2210	103		75 - 125
Toluene	ug/kg	2070	0	2090	101		70 - 125
Xylene (total)	ug/kg	6200	0	6270	101		75 - 125
tert-Butyl methyl ether (MTBE)	ug/kg	2070	0	2250	109		50 - 135

SAMPLE NO : 21307242103

COMPOUND	UNITS	SPIKE ADDED	MSD CONC.	MSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1-Dichloroethene	ug/kg	2070	1970	95		0		65 - 135	0 - 30
Benzene	ug/kg	2070	2010	97		7		75 - 125	0 - 30
Chlorobenzene	ug/kg	2070	2070	100		3		75 - 125	0 - 30
Ethylbenzene	ug/kg	2070	2180	101		1		75 - 125	0 - 30
Toluene	ug/kg	2070	2050	99		2		70 - 125	0 - 30
Xylene (total)	ug/kg	6200	6340	102		1		75 - 125	0 - 30
tert-Butyl methyl ether (MTBE)	ug/kg	2070	2190	106		3		50 - 135	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 7 outside limits

Spike Recovery: 0 out of 14 outside limits

3B

SOIL VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW-846 8260B

Analytical Batch: 512899

SAMPLE NO : 1219628

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	#	QC. LIMITS
1,1-Dichloroethene	ug/kg	2500	0	2470	99		65 - 135
Benzene	ug/kg	2500	0	2450	98		75 - 125
Chlorobenzene	ug/kg	2500	0	2610	104		75 - 125
Ethylbenzene	ug/kg	2500	0	2550	102		75 - 125
Toluene	ug/kg	2500	0	2520	101		70 - 125
Trichloroethene	ug/kg	2500	0	2660	106		75 - 125
Xylene (total)	ug/kg	7500	0	7670	102		75 - 125
tert-Butyl methyl ether (MTBE)	ug/kg	2500	0	2570	103		50 - 135

SAMPLE NO : 1219629

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1-Dichloroethene	ug/kg	2500	2350	94		5		65 - 135	0 - 30
Benzene	ug/kg	2500	2450	98		0		75 - 125	0 - 30
Chlorobenzene	ug/kg	2500	2570	103		2		75 - 125	0 - 30
Ethylbenzene	ug/kg	2500	2510	100		2		75 - 125	0 - 30
Toluene	ug/kg	2500	2490	100		1		70 - 125	0 - 30
Trichloroethene	ug/kg	2500	2560	102		4		75 - 125	0 - 30
Xylene (total)	ug/kg	7500	7650	102		.3		75 - 125	0 - 30
tert-Butyl methyl ether (MTBE)	ug/kg	2500	2490	100		3		50 - 135	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 8 outside limits

Spike Recovery: 0 out of 16 outside limits

3B

SOIL VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW-846 8260B

Analytical Batch: 512699

SAMPLE NO : 1218600

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	#	QC. LIMITS
1,1-Dichloroethene	ug/kg	50	0	52	104		65 - 135
Benzene	ug/kg	50	0	53.7	107		75 - 125
Chlorobenzene	ug/kg	50	0	53.9	108		75 - 125
Ethylbenzene	ug/kg	50	0	52.3	105		75 - 125
Toluene	ug/kg	50	0	52	104		70 - 125
Trichloroethene	ug/kg	50	0	52.8	106		75 - 125
Xylene (total)	ug/kg	150	0	158	105		75 - 125
tert-Butyl methyl ether (MTBE)	ug/kg	50	0	64.1	128		50 - 135

SAMPLE NO : 1218601

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1-Dichloroethene	ug/kg	50	44.3	89		16		65 - 135	0 - 30
Benzene	ug/kg	50	49.2	98		9		75 - 125	0 - 30
Chlorobenzene	ug/kg	50	49.6	99		8		75 - 125	0 - 30
Ethylbenzene	ug/kg	50	47.3	95		10		75 - 125	0 - 30
Toluene	ug/kg	50	47.2	94		10		70 - 125	0 - 30
Trichloroethene	ug/kg	50	48.4	97		9		75 - 125	0 - 30
Xylene (total)	ug/kg	150	143	95		10		75 - 125	0 - 30
tert-Butyl methyl ether (MTBE)	ug/kg	50	62.6	125		2		50 - 135	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 8 outside limits

Spike Recovery: 0 out of 16 outside limits

3B

SOIL VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW-846 8260B

Analytical Batch: 512652

SAMPLE NO : 1218479

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	#	QC. LIMITS
1,1-Dichloroethene	ug/kg	2500	0	2560	102		65 - 135
Benzene	ug/kg	2500	0	2500	100		75 - 125
Chlorobenzene	ug/kg	2500	0	2620	105		75 - 125
Ethylbenzene	ug/kg	2500	0	2610	104		75 - 125
Toluene	ug/kg	2500	0	2510	100		70 - 125
Trichloroethene	ug/kg	2500	0	2710	108		75 - 125
Xylene (total)	ug/kg	7500	0	7980	106		75 - 125
tert-Butyl methyl ether (MTBE)	ug/kg	2500	0	2590	104		50 - 135

SAMPLE NO : 1218480

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1-Dichloroethene	ug/kg	2500	2490	100		3		65 - 135	0 - 30
Benzene	ug/kg	2500	2460	98		2		75 - 125	0 - 30
Chlorobenzene	ug/kg	2500	2510	100		4		75 - 125	0 - 30
Ethylbenzene	ug/kg	2500	2470	99		6		75 - 125	0 - 30
Toluene	ug/kg	2500	2460	98		2		70 - 125	0 - 30
Trichloroethene	ug/kg	2500	2650	106		2		75 - 125	0 - 30
Xylene (total)	ug/kg	7500	7450	99		7		75 - 125	0 - 30
tert-Butyl methyl ether (MTBE)	ug/kg	2500	2570	103		.8		50 - 135	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 8 outside limits

Spike Recovery: 0 out of 16 outside limits

3B

SOIL VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW-846 8260B

Analytical Batch: 512538

SAMPLE NO : 1217851

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	#	QC. LIMITS
1,1-Dichloroethene	ug/kg	50	0	48.3	97		65 - 135
Benzene	ug/kg	50	0	46.7	93		75 - 125
Chlorobenzene	ug/kg	50	0	47.8	96		75 - 125
Ethylbenzene	ug/kg	50	0	48.1	96		75 - 125
Toluene	ug/kg	50	0	46.7	93		70 - 125
Trichloroethene	ug/kg	50	0	49.4	99		75 - 125
Xylene (total)	ug/kg	150	0	144	96		75 - 125
tert-Butyl methyl ether (MTBE)	ug/kg	50	0	53.8	108		50 - 135

SAMPLE NO : 1217852

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1-Dichloroethene	ug/kg	50	45	90		7		65 - 135	0 - 30
Benzene	ug/kg	50	44.3	89		5		75 - 125	0 - 30
Chlorobenzene	ug/kg	50	46	92		4		75 - 125	0 - 30
Ethylbenzene	ug/kg	50	46	92		4		75 - 125	0 - 30
Toluene	ug/kg	50	45.1	90		3		70 - 125	0 - 30
Trichloroethene	ug/kg	50	47.7	95		4		75 - 125	0 - 30
Xylene (total)	ug/kg	150	139	93		4		75 - 125	0 - 30
tert-Butyl methyl ether (MTBE)	ug/kg	50	53	106		1		50 - 135	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 8 outside limits

Spike Recovery: 0 out of 16 outside limits

FORM III VOA-2

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1217850

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130726/f0100

Lab Sample ID: 1217850 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 07/26/13 Time: 1714

Instrument ID: MSV7 Matrix: Solid

Heated Purge: Y

Level:

Prep Batch: Analytical Batch: 512538

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1217851	1217851	2130726/f0096	07/26/13	1531
2.	LCSD1217852	1217852	2130726/f0097	07/26/13	1553
3.	B398SB1106	21307242104	2130726/f0104	07/26/13	1856
4.	B398SB1206	21307242106	2130726/f0105	07/26/13	1918
5.	B398SB1302	21307242107	2130726/f0106	07/26/13	1940
6.	B398SB1306	21307242108	2130726/f0107	07/26/13	2002

FORM IV VOA

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1217861

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130726/j8425

Lab Sample ID: 1217861 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 07/26/13 Time: 1739

Instrument ID: MSV12 Matrix: Water

Heated Purge: N

Level:

Prep Batch: Analytical Batch: 512539

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1217862	1217862	2130726/j8419L	07/26/13	1411
2.	LCS1217864	1217864	2130726/j8421L	07/26/13	1520
3.	LCSD1217865	1217865	2130726/j8422	07/26/13	1551
4.	LCSD1217863	1217863	2130726/j8423	07/26/13	1635
5.	EB072313	21307242115	2130726/j8431	07/26/13	1954
6.	TRIP BLANK	21307242118	2130726/j8432	07/26/13	2016

FORM IV VOA

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1218599

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130729/f0171d

Lab Sample ID: 1218599 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 07/29/13 Time: 1306

Instrument ID: MSV7 Matrix: Solid

Heated Purge: Y

Level:

Prep Batch: Analytical Batch: 512699

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1218600	1218600	2130729/f0168d	07/29/13	1201
2.	LCSD1218601	1218601	2130729/f0169d	07/29/13	1223
3.	B398SB1408	21307242110	2130729/f0172	07/29/13	1550
4.	DUP2072313	21307242117	2130729/f0173	07/29/13	1642

FORM IV VOA

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1218478

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130729/j8559d

Lab Sample ID: 1218478 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 07/29/13 Time: 1337

Instrument ID: MSV12 Matrix: Solid

Heated Purge: Y

Level:

Prep Batch: Analytical Batch: 512652

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1218479	1218479	2130729/j8554d	07/29/13	1137
2.	LCSD1218480	1218480	2130729/j8555d	07/29/13	1209
3.	B398SB1504	21307242111	2130729/j8560	07/29/13	1359
4.	B398SB1608	21307242114	2130729/j8562	07/29/13	1443
5.	B398SB1102	21307242101	2130729/j8565	07/29/13	1549
6.	B398SB1102 MS	21307242102	2130729/j8566m	07/29/13	1611
7.	B398SB1102 MSD	21307242103	2130729/j8567m	07/29/13	1633
8.	B398SB1202	21307242105	2130729/j8571	07/29/13	1801
9.	B398SB1405	21307242109	2130729/j8572	07/29/13	1823

FORM IV VOA

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1219627

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130801/j8676D

Lab Sample ID: 1219627 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 08/01/13 Time: 1228

Instrument ID: MSV12 Matrix: Solid

Heated Purge: Y

Level:

Prep Batch: Analytical Batch: 512899

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1219628	1219628	2130801/j8670D	08/01/13	1000
2.	LCSD1219629	1219629	2130801/j8671D	08/01/13	1022
3.	B398SB1508	21307242112	2130801/j8685	08/01/13	1615
4.	B398SB1606	21307242113	2130801/j8686	08/01/13	1637
5.	DUP072313	21307242116	2130801/j8687	08/01/13	1659

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130722/e9990d

BFB Injection Date: 07/22/13

Instrument ID: MSV7

BFB Injection Time: 1030

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512287

m / e	*ION ABUNDANCE CRITERIA*	*% Relative Abundance*				
50	15.0 - 40.0% of mass 95	15.91	(		)	
75	30.0 - 60.0% of mass 95	46.39	(		)	
95	Base Peak, 100% relative abundance	100	(		)	
96	5.0 -9.0% of mass 95	7.06	(		)	
173	Less than 2.0% of mass 174	.77	(	.73	)	1
174	50.0 - 120.0% of mass 95	106.5	(		)	
175	5.0 - 9.0% of mass 174	7.74	(	7.27	)	1
176	95.0 - 101.0% of mass 174	104.5	(	98.06	)	1
177	5.0 - 9.0% of mass 176	6.74	(	6.45	)	2

1- Value is % mass 174

2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	*LAB SAMPLE ID*	*LAB FILE ID*	*DATE ANALYZED*	*TIME ANALYZED*
1.	STD002	1201	2130722/e9992d	07/22/13	1206
2.	STD005	1202	2130722/e9993d	07/22/13	1228
3.	STD010	1203	2130722/e9994d	07/22/13	1250
4.	STD020	1204	2130722/e9995d	07/22/13	1312
5.	STD050	1205	2130722/e9996d	07/22/13	1333
6.	STD100	1206	2130722/e9997d	07/22/13	1355
7.	STD200	1207	2130722/e9998d	07/22/13	1417
8.	ICVSTD050	1600	2130722/f0000d	07/22/13	1559

FORM V VOA

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID: 2130726/f0092 BFB Injection Date: 07/26/13

Instrument ID: MSV7 BFB Injection Time: 1356

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512538

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	15.51	(	)	
75	30.0 - 60.0% of mass 95	45.72	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	7.02	(	)	
173	Less than 2.0% of mass 174	.64	(.58	)	1
174	50.0 - 120.0% of mass 95	111.5	(	)	
175	5.0 - 9.0% of mass 174	8.2	(7.36	)	1
176	95.0 - 101.0% of mass 174	107.8	(96.74	)	1
177	5.0 - 9.0% of mass 176	7.21	(6.69	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V7STD050	1400	2130726/f0095	07/26/13	1509
2.	LCS1217851	1217851	2130726/f0096	07/26/13	1531
3.	LCSD1217852	1217852	2130726/f0097	07/26/13	1553
4.	MB1217850	1217850	2130726/f0100	07/26/13	1714
5.	B398SB1106	21307242104	2130726/f0104	07/26/13	1856
6.	B398SB1206	21307242106	2130726/f0105	07/26/13	1918
7.	B398SB1302	21307242107	2130726/f0106	07/26/13	1940
8.	B398SB1306	21307242108	2130726/f0107	07/26/13	2002

FORM V VOA

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130729/f0165d

BFB Injection Date: 07/29/13

Instrument ID: MSV7

BFB Injection Time: 1032

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512699

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	16.34	(	)	
75	30.0 - 60.0% of mass 95	47.63	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.78	(	)	
173	Less than 2.0% of mass 174	1.14	(1.01	)	1
174	50.0 - 120.0% of mass 95	113.2	(	)	
175	5.0 - 9.0% of mass 174	8.24	(7.28	)	1
176	95.0 - 101.0% of mass 174	109.1	(96.35	)	1
177	5.0 - 9.0% of mass 176	7.55	(6.92	)	2

1- Value is % mass 174

2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V7STD050	1400	2130729/f0167d	07/29/13	1139
2.	LCS1218600	1218600	2130729/f0168d	07/29/13	1201
3.	LCSD1218601	1218601	2130729/f0169d	07/29/13	1223
4.	MB1218599	1218599	2130729/f0171d	07/29/13	1306
5.	B398SB1408	21307242110	2130729/f0172	07/29/13	1550
6.	DUP2072313	21307242117	2130729/f0173	07/29/13	1642

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130721p/j8199

BFB Injection Date: 07/21/13

Instrument ID: MSV12

BFB Injection Time: 1721

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512123

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	15.85	(	)	
75	30.0 - 60.0% of mass 95	45.72	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.79	(	)	
173	Less than 2.0% of mass 174	1.04	(.96	)	1
174	50.0 - 120.0% of mass 95	109	(	)	
175	5.0 - 9.0% of mass 174	8.17	(7.5	)	1
176	95.0 - 101.0% of mass 174	106.0	(97.29	)	1
177	5.0 - 9.0% of mass 176	6.66	(6.29	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V12STD001	1203	2130721p/j8200	07/21/13	1818
2.	V12STD005	1204	2130721p/j8201	07/21/13	1840
3.	V12STD010	1205	2130721p/j8202	07/21/13	1902
4.	V12STD020	1206	2130721p/j8203	07/21/13	1923
5.	V12STD050	1207	2130721p/j8204	07/21/13	1945
6.	V12STD100	1208	2130721p/j8205	07/21/13	2006
7.	V12STD200	1209	2130721p/j8206	07/21/13	2028
8.	ICV050	1600	2130721p/j8208	07/21/13	2111
9.	APP9050	1400	2130721p/j8212	07/21/13	2310

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130726/j8415

BFB Injection Date: 07/26/13

Instrument ID: MSV12

BFB Injection Time: 1222

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512539

m / e	*ION ABUNDANCE CRITERIA*	*% Relative Abundance*			
50	15.0 - 40.0% of mass 95	16.48	(	)	
75	30.0 - 60.0% of mass 95	46.44	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.6	(	)	
173	Less than 2.0% of mass 174	1.09	(.93	)	1
174	50.0 - 120.0% of mass 95	118.0	(	)	
175	5.0 - 9.0% of mass 174	8.99	(7.62	)	1
176	95.0 - 101.0% of mass 174	116.0	(98.29	)	1
177	5.0 - 9.0% of mass 176	7.63	(6.58	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	*LAB SAMPLE ID*	*LAB FILE ID*	*DATE ANALYZED*	*TIME ANALYZED*
1.	V12STD050	1400	2130726/j8419	07/26/13	1411
2.	LCS1217862	1217862	2130726/j8419L	07/26/13	1411
3.	V12A9STD	1400	2130726/j8421	07/26/13	1520
4.	LCS1217864	1217864	2130726/j8421L	07/26/13	1520
5.	LCSD1217865	1217865	2130726/j8422	07/26/13	1551
6.	LCSD1217863	1217863	2130726/j8423	07/26/13	1635
7.	MB1217861	1217861	2130726/j8425	07/26/13	1739
8.	EB072313	21307242115	2130726/j8431	07/26/13	1954
9.	TRIP BLANK	21307242118	2130726/j8432	07/26/13	2016

FORM V VOA

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130729/j8552d

BFB Injection Date: 07/29/13

Instrument ID: MSV12

BFB Injection Time: 1035

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512652

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	16.42	(	)	
75	30.0 - 60.0% of mass 95	46.17	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.84	(	)	
173	Less than 2.0% of mass 174	1.11	(.94	)	1
174	50.0 - 120.0% of mass 95	118.2	(	)	
175	5.0 - 9.0% of mass 174	8.83	(7.47	)	1
176	95.0 - 101.0% of mass 174	116.3	(98.35	)	1
177	5.0 - 9.0% of mass 176	7.86	(6.76	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V12STD050	1400	2130729/j8554d	07/29/13	1137
2.	LCS1218479	1218479	2130729/j8554d	07/29/13	1137
3.	LCSD1218480	1218480	2130729/j8555d	07/29/13	1209
4.	MB1218478	1218478	2130729/j8559d	07/29/13	1337
5.	B398SB1504	21307242111	2130729/j8560	07/29/13	1359
6.	B398SB1608	21307242114	2130729/j8562	07/29/13	1443
7.	B398SB1102	21307242101	2130729/j8565	07/29/13	1549
8.	B398SB1102 MS	21307242102	2130729/j8566m	07/29/13	1611
9.	B398SB1102 MSD	21307242103	2130729/j8567m	07/29/13	1633
10.	B398SB1202	21307242105	2130729/j8571	07/29/13	1801
11.	B398SB1405	21307242109	2130729/j8572	07/29/13	1823

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130801/j8668b

BFB Injection Date: 08/01/13

Instrument ID: MSV12

BFB Injection Time: 0832

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512899

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	16.2	(	)	
75	30.0 - 60.0% of mass 95	45.68	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.3	(	)	
173	Less than 2.0% of mass 174	1.01	(.86	)	1
174	50.0 - 120.0% of mass 95	118.1	(	)	
175	5.0 - 9.0% of mass 174	8.5	(7.2	)	1
176	95.0 - 101.0% of mass 174	114.8	(97.27	)	1
177	5.0 - 9.0% of mass 176	7.73	(6.73	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V12STD050	1400	2130801/j8670D	08/01/13	1000
2.	LCS1219628	1219628	2130801/j8670D	08/01/13	1000
3.	LCSD1219629	1219629	2130801/j8671D	08/01/13	1022
4.	MB1219627	1219627	2130801/j8676D	08/01/13	1228
5.	B398SB1508	21307242112	2130801/j8685	08/01/13	1615
6.	B398SB1606	21307242113	2130801/j8686	08/01/13	1637
7.	DUP072313	21307242116	2130801/j8687	08/01/13	1659

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUL-2013 12:06
End Cal Date : 22-JUL-2013 14:17
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Calibration File Names:
Level 1: /var/chem/msv7.i/2130722.s.b/e9992d.d
Level 2: /var/chem/msv7.i/2130722.s.b/e9993d.d
Level 3: /var/chem/msv7.i/2130722.s.b/e9994d.d
Level 4: /var/chem/msv7.i/2130722.s.b/e9995d.d
Level 5: /var/chem/msv7.i/2130722.s.b/e9996d.d
Level 6: /var/chem/msv7.i/2130722.s.b/e9997d.d
Level 7: /var/chem/msv7.i/2130722.s.b/e9998d.d

Compound	2 Level 1 / 200 Level 7	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
1 Dichlorodifluoromethane	0.47969	0.43401	0.44769	0.41229	0.41788	0.40625						
	0.42943						AVRG		0.43246		5.80437	
2 Chloromethane ++	0.30367	0.29168	0.28950	0.26913	0.27161	0.25949						
	0.26481						AVRG		0.27856		5.88507	
3 Vinyl Chloride +	0.27718	0.27777	0.28270	0.27782	0.26875	0.25853						
	0.26593						AVRG		0.27267		3.12003	
4 1,3 Butadiene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUL-2013 12:06
End Cal Date : 22-JUL-2013 14:17
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 7											
6 Bromomethane	0.16896	0.13988	0.13694	0.13620	0.14032	0.14120						
	0.14165						AVRG		0.14359		7.92228	
8 Chloroethane	0.16338	0.15481	0.15835	0.14395	0.14522	0.13771						
	0.13639						AVRG		0.14854		7.02189	
9 Trichlorofluoromethane	0.45339	0.44247	0.44529	0.44589	0.44417	0.43651						
	0.44452						AVRG		0.44461		1.12298	
7 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
12 1,1-Dichloroethene +	0.23369	0.22158	0.23187	0.21960	0.22807	0.22363						
	0.22398						AVRG		0.22606		2.34088	
15 1,1,2Trichlotrifluoroethane	0.23542	0.25003	0.25727	0.25054	0.24900	0.24043						
	0.24225						AVRG		0.24642		3.00376	
14 Carbon Disulfide	0.72435	0.66254	0.69796	0.69228	0.69226	0.68206						
	0.70008						AVRG		0.69308		2.70293	

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GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1 / 200 Level 7	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
16 Methyl Iodide	2768	7668	17823	35120	101090	218190						
	483251						LINR	0.06350	0.30749		0.99934	
17 Acrolein	+++++	0.00523	0.00398	0.00425	0.00500	0.00531						
	0.00526						AVRG		0.00484		11.87667	<-
18 Methylene Chloride	9137	13975	21433	37594	84937	171053						
	355990						LINR	-0.05520	0.22160		0.99990	
11 Allyl Chloride	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
19 Acetone	2080	2821	4854	7481	17676	35273						
	63558						LINR	-0.13006	0.04019		0.99378	
13 trans-1,2-Dichloroethene	0.34934	0.36598	0.35111	0.35635	0.35518	0.35406						
	0.36852						AVRG		0.35722		2.04066	
22 Methyl Acetate	0.03907	0.04838	0.04583	0.05340	0.05212	0.05136						
	0.04379						AVRG		0.04771		10.79782	

GCAL, Inc.

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Compound	2 Level 1	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 7											
23 Hexane	0.47411	0.45080	0.45667	0.43370	0.43563	0.44062						
	0.45364						AVRG		0.44931		3.14263	
25 MTBE	0.27955	0.30294	0.28796	0.28692	0.29497	0.32019						
	0.31410						AVRG		0.29809		5.03062	
10 tert-butyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
5 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
26 Isopropyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
31 1,1-Dichloroethane ++	0.40964	0.44428	0.42711	0.43281	0.43222	0.43308						
	0.44223						AVRG		0.43162		2.64186	
33 Acrylonitrile	0.02669	0.02495	0.02530	0.02442	0.02533	0.02566						
	0.02423						AVRG		0.02523		3.25586	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUL-2013 12:06
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 7											
20 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
34 Vinyl Acetate	0.07576	0.07415	0.06879	0.06569	0.06423	0.06697						
	0.06252						AVRG		0.06830		7.28581	
21 cis-1,2-Dichloroethene	0.28629	0.33453	0.30231	0.31818	0.31893	0.31832						
	0.32159						AVRG		0.31431		4.93477	
M 68 Total 1,2-Dichloroethene	0.31782	0.35026	0.32671	0.33727	0.33705	0.33619						
	0.34505						AVRG		0.33576		3.22742	
35 2,2-Dichloropropane	0.36493	0.37187	0.38037	0.36938	0.37790	0.39253						
	0.41232						AVRG		0.38133		4.28164	
38 Cyclohexane	0.43530	0.41618	0.43475	0.42119	0.42981	0.43339						
	0.45198						AVRG		0.43180		2.65928	
39 Bromochloromethane	0.11983	0.11845	0.11745	0.12738	0.12940	0.12766						
	0.12563						AVRG		0.12369		4.00349	

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GCAL, Inc.

INITIAL CALIBRATION DATA

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Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 7											
40 Chloroform +	0.51343	0.51531	0.50239	0.48982	0.48165	0.49912						
	0.47939						AVRG		0.49730		2.88599	
41 Carbon Tetrachloride	0.39643	0.44083	0.44529	0.43753	0.44872	0.45727						
	0.48576						AVRG		0.44455		5.99170	
43 1,1,1-Trichloroethane	0.49066	0.48684	0.48183	0.49067	0.50182	0.50147						
	0.52847						AVRG		0.49740		3.12115	
28 Ethyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
45 2-Butanone	0.04150	0.03226	0.04454	0.04330	0.04373	0.04402						
	0.04126						AVRG		0.04152		10.27967	
32 Tetrahydrofuran	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
44 1,1-Dichloropropene	0.42478	0.39876	0.42531	0.40678	0.41432	0.41476						
	0.42884						AVRG		0.41622		2.62252	

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GCAL, Inc.

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1 / 200 Level 7	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
30 Isobutyl Alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
46 2,2,4 trimethyl Pentane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
48 Benzene	1.17158	1.11409	1.08518	1.07944	1.09063	1.07514						
	1.08902						AVRG		1.10072		3.05568	
29 Proprionitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
27 Methylacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
52 1,2-Dichloroethane	0.25672	0.23703	0.23651	0.23778	0.23779	0.23931						
	0.23258						AVRG		0.23967		3.25450	
36 2-Chloropropene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

1 5 8 7 2 1 2 2 1

GCAL, Inc.

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Compound	2 Level 1	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 7											
56 Methyl cyclohexane	0.57559	0.54532	0.57215	0.56797	0.57388	0.56736						
	0.59202						AVRG		0.57061		2.43020	
57 Trichloroethene	0.38616	0.38327	0.39359	0.38534	0.39966	0.39752						
	0.41122						AVRG		0.39382		2.52289	
37 N-Butyl Alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
62 Dibromomethane	0.10995	0.10233	0.10798	0.10607	0.11026	0.11045						
	0.10507						AVRG		0.10744		2.87193	
63 1,2-Dichloropropane +	0.19334	0.20292	0.20159	0.20731	0.20105	0.20884						
	0.20418						AVRG		0.20275		2.48878	
64 Bromodichloromethane	0.27654	0.29830	0.30326	0.29182	0.31381	0.31483						
	0.31584						AVRG		0.30206		4.80320	
49 2,3-Dichloro-1-propene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

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GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1 / 200 Level 7	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
70 2-Chloroethyl vinyl ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	
55 Methyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
24 2-Butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
53 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
47 Heptane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
69 1-Bromo-2-chloroethane	0.16948	0.19218	0.19393	0.19410	0.19913	0.19716						
	0.19218						AVRG		0.19116		5.17865	
72 cis-1,3-Dichloropropene	0.27756	0.29438	0.31118	0.30326	0.32540	0.33751						
	0.33662						AVRG		0.31227		7.17187	

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GCAL, Inc.

INITIAL CALIBRATION DATA

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Compound	2 Level 1	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 7											
77 Toluene +	3.96810	3.67404	3.62970	3.58317	3.64260	3.60339						
	3.73656						AVRG		3.69108		3.57625	
58 1,3 Difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
79 4-methyl-2-pentanone	+++++	0.18494	0.19959	0.20603	0.22031	0.23379						
	0.22698						AVRG		0.21194		8.67457	
78 Tetrachloroethene	1.08006	1.01229	1.00367	1.00011	0.99479	0.99878						
	1.03801						AVRG		1.01825		3.03155	
51 2-Nitroprpoane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
81 trans-1,3-Dichloropropene	0.20886	0.23926	0.23389	0.23612	0.25870	0.26610						
	0.27063						AVRG		0.24479		8.87229	
71 1-3 Dichloropropene-Total	0.24321	0.26682	0.27254	0.26969	0.29205	0.30181						
	0.30362						AVRG		0.27853		7.82837	

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GCAL, Inc.

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Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1 / 200 Level 7	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
61 1,4 Difluorobenzene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
82 1,1,2-Trichloroethane	0.39954 / 0.44767	0.44821	0.44309	0.43660	0.44869	0.45559	AVRG		0.43991		4.25566	
73 Ethyl Methacrylate	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
85 Dibromochloromethane	0.55662 / 0.65017	0.56760	0.59389	0.57370	0.61845	0.63842	AVRG		0.59984		6.08521	
86 1,3-Dichloropropane	0.68993 / 0.71371	0.70688	0.74267	0.70695	0.72422	0.72142	AVRG		0.71511		2.32102	
88 1,2-Dibromoethane(EDB)	0.32726 / 0.43896	0.42681	0.42511	0.43340	0.44545	0.45332	AVRG		0.42147		10.13769	
65 1,2 Difluorobenzene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-

2150724182

GCAL, Inc.

INITIAL CALIBRATION DATA

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Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1 / 200 Level 7	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
M 59 Total Difluorobenzene(1)	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
(2)	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
66 Methyl disulfide	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
60 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
67 2-Methoxyethanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
80 2-Hexanone	0.16575	0.12758	0.15787	0.15926	0.16701	0.18418						
	0.17631						AVRG		0.16257		11.07015	
91 1-Chlorohexane	1.27366	1.13104	1.20462	1.18564	1.25718	1.23319						
	1.30451						AVRG		1.22712		4.76962	

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GCAL, Inc.

INITIAL CALIBRATION DATA

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Compound	2 Level 1	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 7											
75 Phenyl Isopropanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
76 Mesityloxide	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
92 Chlorobenzene ++	2.44885	2.29022	2.35504	2.38015	2.36661	2.32964						
	2.36631						AVRG		2.36240		2.05640	
93 Ethylbenzene +	1.31514	1.33443	1.45040	1.41593	1.40472	1.37918						
	1.43069						AVRG		1.39007		3.59707	
95 1,1,1,2-Tetrachloroethane	0.74727	0.70990	0.74139	0.75800	0.74862	0.77214						
	0.79645						AVRG		0.75339		3.56273	
96 p,m-Xylene	1.69661	1.65596	1.65739	1.68746	1.67640	1.68118						
	1.73572						AVRG		1.68439		1.60855	
98 o-Xylene	1.43590	1.43106	1.48299	1.51407	1.55334	1.55138						
	1.59029						AVRG		1.50843		4.05849	

1324172

GCAL, Inc.

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Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1 / 200 Level 7	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
83 cis-1,2 Dibromoethylene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
84 trans-1,2 Dibromoethylene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
99 Styrene	2.06997	2.16867	2.23996	2.28725	2.36983	2.44458						
	2.46039						AVRG		2.29152		6.29707	
100 Bromoform ++	0.33224	0.37125	0.36841	0.36445	0.38278	0.41210						
	0.41084						AVRG		0.37744		7.39721	
M 120 TOTAL XYLENE	1.60971	1.58099	1.59926	1.62966	1.63538	1.63791						
	1.68724						AVRG		1.62574		2.10092	
102 Isopropylbenzene	4.12592	4.02928	4.42226	4.40967	4.48176	4.51690						
	4.72152						AVRG		4.38676		5.39163	
101 1-5 Cyclooctadiene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

2130722.B

GCAL, Inc.

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Start Cal Date : 22-JUL-2013 12:06
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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1 / 200 Level 7	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
87 Methyl isobutenyl ketone	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
104 Bromobenzene	1.29135	1.20520	1.16320	1.16815	1.17893	1.17533						
	1.18951						AVRG		1.19595		3.70639	
106 n-Propylbenzene	4.41943	4.19632	4.31785	4.21259	4.31778	4.27382						
	4.49160						AVRG		4.31848		2.47045	
89 alpha-methylstyrene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
107 1,1,2,2-Tetrachloroethane++	0.41283	0.39169	0.40962	0.39423	0.38930	0.38834						
	0.36501						AVRG		0.39300		4.01185	
108 2-Chlorotoluene	2.43150	2.37872	2.37391	2.26832	2.33419	2.32729						
	2.38005						AVRG		2.35628		2.19866	
110 1,3,5-Trimethylbenzene	2.93170	2.96942	3.04997	3.05289	3.17952	3.17386						
	3.31434						AVRG		3.09596		4.32757	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUL-2013 12:06
End Cal Date : 22-JUL-2013 14:17
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1 / 200 Level 7	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
109 1,2,3-Trichloropropane	0.33974	0.31045	0.33091	0.30751	0.31141	0.32800						
	0.30888						AVRG		0.31956		4.07151	
111 trans-1,4-Dichloro-2-Butene	*****	0.05103	0.06227	0.06017	0.06792	0.07096						
	0.07426						AVRG		0.06444		13.05485	
112 4-Chlorotoluene	2.47966	2.39246	2.42064	2.34358	2.38355	2.35085						
	2.44833						AVRG		2.40272		2.07969	
94 Cumene Hydroperoxide	*****	*****	*****	*****	*****	*****						
	*****						AVRG		0.000e+00		0.000e+00	<-
97 Cyclohexanone	*****	*****	*****	*****	*****	*****						
	*****						AVRG		0.000e+00		0.000e+00	<-
113 tert-butylbenzene	1.69775	1.72521	1.76510	1.68710	1.74901	1.76554						
	1.86238						AVRG		1.75030		3.33138	
114 1,2,4-Trimethylbenzene	2.92166	2.86890	2.96607	2.93343	3.05496	3.05836						
	3.18149						AVRG		2.99784		3.55745	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUL-2013 12:06
End Cal Date : 22-JUL-2013 14:17
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 7										
105 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-
115 sec-Butylbenzene	4.29677	4.08759	4.30370	4.23627	4.33107	4.31054					
	4.55115						AVRG		4.30244		3.19412
116 p-Isopropyltoluene	3.42939	3.55772	3.61244	3.61258	3.77607	3.71395					
	3.94513						AVRG		3.66390		4.53610
117 1,3-Dichlorobenzene	2.07953	1.89403	1.87663	1.79735	1.85540	1.81564					
	1.85786						AVRG		1.88235		4.94807
119 1,4-Dichlorobenzene	1.94385	1.89674	1.81518	1.79530	1.77899	1.75807					
	1.77896						AVRG		1.82387		3.80912
121 n-Butylbenzene	3.05969	2.98348	3.07024	3.06934	3.16238	3.10949					
	3.29669						AVRG		3.10733		3.19994
122 1,2-Dichlorobenzene	1.52710	1.63282	1.56144	1.52872	1.57108	1.54864					
	1.56658						AVRG		1.56234		2.28137

21 8 7 2 4 1 2 1 8

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUL-2013 12:06
End Cal Date : 22-JUL-2013 14:17
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1 / 200 Level 7	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
125 1,2-Dibromo-3-Chloropropane	+++++	0.09023	0.07943	0.08504	0.09321	0.10086					
	0.09870						AVRG		0.09125		8.91744
126 Hexachlorobutadiene	1.01341	1.05888	1.02941	0.99989	1.03197	1.00590					
	1.06142						AVRG		1.02870		2.37326
127 1,2,4-Trichlorobenzene	1.37370	1.27842	1.20613	1.17478	1.20923	1.19777					
	1.19490						AVRG		1.23356		5.65794
128 Napthalene	1.74120	1.51430	1.52494	1.49789	1.54842	1.60009					
	1.56987						AVRG		1.57096		5.26252
129 1,2,3-Trichlorobenzene	1.19740	1.03829	0.98675	0.98033	1.01523	1.00245					
	0.99395						AVRG		1.03063		7.37912
M 123 Total-1,2 Dibromoethylene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-
124 Benzal chloride	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 22-JUL-2013 12:06
End Cal Date : 22-JUL-2013 14:17
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Cal Date : 23-Jul-2013 17:39 jck2

Compound	2 Level 1	5 Level 2	10 Level 3	20 Level 4	50 Level 5	100 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 7										
$ 42 Dibromofluoromethane	0.22573	0.23093	0.22827	0.22968	0.23357	0.23387					
	0.23205						AVRG		0.23059		1.27365
$ 50 1,2-Dichloroethane-d4	0.08805	0.08901	0.08517	0.09021	0.08771	0.08963					
	0.08533						AVRG		0.08787		2.25976
$ 74 Toluene-d8	2.76285	2.67979	2.70178	2.71641	2.71333	2.74057					
	2.72452						AVRG		2.71989		0.98268
$ 103 Bromofluorobenzene	0.96390	0.95285	0.97190	0.97558	0.96725	0.98945					
	0.97431						AVRG		0.97075		1.16431

2130722 1 70

Data File: /var/chem/msv7.i/2130722.s.b/f0000d.d
Report Date: 23-Jul-2013 17:38

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: SOLID
Lab Smp Id: 1600
Level: LOW
Data Type: MS DATA
SpikeList File: ICV.spk
Sublist File: 8260b.sub
Method File: /var/chem/msv7.i/2130722.s.b/8260DODs7.m
Misc Info: MSV~28110~*1*CGC

Client SDG: 2130722.s
Fraction: VOA
Client Smp ID: ICVSTD050
Operator: CGC
SampleType: ICV
Quant Type: ISTD

	SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
	1 Dichlorodifluoromethane	50.0	48.7	97.36	80-120
	2 Chloromethane ++	50.0	51.6	103.29	80-120
	3 Vinyl Chloride +	50.0	52.6	105.12	80-120
	6 Bromomethane	50.0	47.0	93.94	80-120
	8 Chloroethane	50.0	49.8	99.52	80-120
	9 Trichlorofluoromethane	50.0	54.1	108.13	80-120
	12 1,1-Dichloroethene +	50.0	51.8	103.58	80-120
	15 1,1,2Trichlotrifluoroethane	50.0	54.7	109.44	80-120
	14 Carbon Disulfide	50.0	52.7	105.33	80-120
	16 Methyl Iodide	50.0	51.7	103.38	80-120
	17 Acrolein	250	240	95.86	80-120
	18 Methylene Chloride	50.0	52.4	104.76	80-120
	19 Acetone	50.0	61.2	122.35*	80-120 NT
	13 trans-1,2-Dichloroethene	50.0	53.2	106.42	80-120
	22 Methyl Acetate	50.0	48.9	97.73	80-120
	23 Hexane	50.0	51.3	102.64	80-120
	25 MTBE	50.0	52.8	105.56	80-120
	31 1,1-Dichloroethane ++	50.0	53.9	107.80	80-120
	33 Acrylonitrile	250	263	105.24	80-120
	34 Vinyl Acetate	50.0	59.6	119.11	80-120
	21 cis-1,2-Dichloroethene	50.0	52.4	104.82	80-120
M	68 Total 1,2-Dichloroethene	100	106	105.62	80-120
	35 2,2-Dichloropropane	50.0	54.8	109.51	80-120
	38 Cyclohexane	50.0	53.9	107.76	80-120
	39 Bromochloromethane	50.0	51.8	103.68	80-120
	40 Chloroform +	50.0	51.1	102.19	80-120
	41 Carbon Tetrachloride	50.0	55.3	110.68	80-120
	43 1,1,1-Trichloroethane	50.0	53.1	106.25	80-120
	45 2-Butanone	50.0	55.2	110.34	80-120
	44 1,1-Dichloropropene	50.0	52.4	104.89	80-120
	48 Benzene	50.0	51.3	102.66	80-120
	52 1,2-Dichloroethane	50.0	51.1	102.28	80-120
	56 Methyl cyclohexane	50.0	53.9	107.78	80-120

SPIKE	COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
57	Trichloroethene	50.0	52.4	104.81	80-120
62	Dibromomethane	50.0	52.6	105.16	80-120
63	1,2-Dichloropropane +	50.0	53.1	106.25	80-120
64	Bromodichloromethane	50.0	53.5	107.04	80-120
70	2-Chloroethyl vinyl ether	50.0	0.00	*	80-120 NT
72	cis-1,3-Dichloropropene	50.0	55.4	110.81	80-120
77	Toluene +	50.0	52.5	104.92	80-120
79	4-methyl-2-pentanone	50.0	53.2	106.34	80-120
78	Tetrachloroethene	50.0	52.0	104.02	80-120
81	trans-1,3-Dichloropropene	50.0	53.9	107.89	80-120
82	1,1,2-Trichloroethane	50.0	52.5	105.00	80-120
85	Dibromochloromethane	50.0	52.7	105.49	80-120
86	1,3-Dichloropropane	50.0	50.5	100.93	80-120
88	1,2-Dibromoethane(EDB)	50.0	53.3	106.65	80-120
80	2-Hexanone	50.0	53.7	107.33	80-120
91	1-Chlorohexane	50.0	56.5	113.03	80-120
92	Chlorobenzene ++	50.0	51.4	102.78	80-120
93	Ethylbenzene +	50.0	52.8	105.52	80-120
95	1,1,1,2-Tetrachloroethane	50.0	52.3	104.69	80-120
96	p,m-Xylene	100	106	106.24	80-120
98	o-Xylene	50.0	54.4	108.83	80-120
99	Styrene	50.0	54.0	107.97	80-120
100	Bromoform ++	50.0	52.8	105.53	80-120
102	Isopropylbenzene	50.0	53.7	107.30	80-120
104	Bromobenzene	50.0	50.9	101.82	80-120
106	n-Propylbenzene	50.0	52.0	103.98	80-120
107	1,1,2,2-Tetrachloroethane++	50.0	49.9	99.85	80-120
108	2-Chlorotoluene	50.0	51.1	102.16	80-120
110	1,3,5-Trimethylbenzene	50.0	53.0	105.95	80-120
109	1,2,3-Trichloropropane	50.0	50.1	100.28	80-120
111	trans-1,4-Dichloro-2-Butene	50.0	56.7	113.45	80-120
112	4-Chlorotoluene	50.0	51.3	102.68	80-120
113	tert-butylbenzene	50.0	53.0	106.04	80-120
114	1,2,4-Trimethylbenzene	50.0	53.1	106.13	80-120
115	sec-Butylbenzene	50.0	52.4	104.77	80-120
116	p-Isopropyltoluene	50.0	54.1	108.25	80-120
117	1,3-Dichlorobenzene	50.0	51.4	102.88	80-120
119	1,4-Dichlorobenzene	50.0	51.0	102.06	80-120
121	n-Butylbenzene	50.0	54.5	109.03	80-120
122	1,2-Dichlorobenzene	50.0	51.6	103.16	80-120
125	1,2-Dibromo-3-Chloropropane	50.0	53.4	106.76	80-120
126	Hexachlorobutadiene	50.0	52.3	104.63	80-120
127	1,2,4-Trichlorobenzene	50.0	51.2	102.34	80-120
128	Napthalene	50.0	51.1	102.14	80-120
129	1,2,3-Trichlorobenzene	50.0	52.0	104.06	80-120

Data File: /var/chem/msv7.i/2130726.s.b/f0095.d
Report Date: 26-Jul-2013 16:43

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv7.i
Lab File ID: f0095.d
Analysis Type: SOIL
Lab Sample ID: 1400
Method: /var/chem/msv7.i/2130726.s.b/8260DODs7.m

Injection Date: 26-JUL-2013 15:09
Init. Cal. Date(s): 22-JUL-2013 22-JUL-2013
Init. Cal. Times: 12:06 14:17
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Dichlorodifluoromethane	0.43246	0.36502	0.36502	0.010	-15.59452	20.00000	Averaged	
2 Chloromethane ++	0.27856	0.23333	0.23333	0.100	-16.23560	20.00000	Averaged	
3 Vinyl Chloride +	0.27267	0.26450	0.26450	0.010	-2.99539	20.00000	Averaged	
6 Bromomethane	0.14359	0.13163	0.13163	0.010	-8.33111	20.00000	Averaged	
8 Chloroethane	0.14854	0.13772	0.13772	0.010	-7.28468	20.00000	Averaged	
9 Trichlorofluoromethane	0.44461	0.40659	0.40659	0.010	-8.55135	20.00000	Averaged	
12 1,1-Dichloroethene +	0.22606	0.21353	0.21353	0.010	-5.54283	20.00000	Averaged	
15 1,1,2Trichlotrifluoroethane	0.24642	0.23914	0.23914	0.010	-2.95522	20.00000	Averaged	
14 Carbon Disulfide	0.69308	0.66631	0.66631	0.010	-3.86254	20.00000	Averaged	
16 Methyl Iodide	39.79273	50.00000	0.22519	0.010	-20.41453	20.00000	Linear	<-NT
17 Acrolein	0.00484	0.00684	0.00684	0.010	41.40671	20.00000	Averaged	<-NT
18 Methylene Chloride	47.25999	50.00000	0.22168	0.010	-5.48002	20.00000	Linear	
19 Acetone	49.71804	50.00000	0.04519	0.010	-0.56392	20.00000	Linear	
13 trans-1,2-Dichloroethene	0.35722	0.34478	0.34478	0.010	-3.48301	20.00000	Averaged	
22 Methyl Acetate	0.04771	0.04249	0.04249	0.010	-10.93930	20.00000	Averaged	
23 Hexane	0.44931	0.42336	0.42336	0.010	-5.77605	20.00000	Averaged	
25 MTBE	0.29809	0.32952	0.32952	0.010	10.54370	20.00000	Averaged	
31 1,1-Dichloroethane ++	0.43162	0.41042	0.41042	0.100	-4.91152	20.00000	Averaged	
33 Acrylonitrile	0.02523	0.02431	0.02431	0.010	-3.62370	20.00000	Averaged	
34 Vinyl Acetate	0.06830	0.09160	0.09160	0.010	34.10976	20.00000	Averaged	<-NT
21 cis-1,2-Dichloroethene	0.31431	0.29985	0.29985	0.010	-4.60050	20.00000	Averaged	
M 68 Total 1,2-Dichloroethene	0.33576	0.32231	0.32231	0.010	-4.00605	20.00000	Averaged	
35 2,2-Dichloropropane	0.38133	0.38786	0.38786	0.010	1.71166	20.00000	Averaged	
38 Cyclohexane	0.43180	0.41107	0.41107	0.010	-4.80006	20.00000	Averaged	
39 Bromochloromethane	0.12369	0.12470	0.12470	0.010	0.82396	20.00000	Averaged	
40 Chloroform +	0.49730	0.48002	0.48002	0.010	-3.47502	20.00000	Averaged	
41 Carbon Tetrachloride	0.44455	0.44222	0.44222	0.010	-0.52442	20.00000	Averaged	
$ 42 Dibromofluoromethane	0.23059	0.23566	0.23566	0.010	2.20106	20.00000	Averaged	
43 1,1,1-Trichloroethane	0.49740	0.47825	0.47825	0.010	-3.84968	20.00000	Averaged	
45 2-Butanone	0.04152	0.04216	0.04216	0.010	1.55535	20.00000	Averaged	
44 1,1-Dichloropropene	0.41622	0.40193	0.40193	0.010	-3.43329	20.00000	Averaged	
48 Benzene	1.10072	1.03952	1.03952	0.010	-5.56041	20.00000	Averaged	
$ 50 1,2-Dichloroethane-d4	0.08787	0.08827	0.08827	0.010	0.44818	20.00000	Averaged	
52 1,2-Dichloroethane	0.23967	0.22542	0.22542	0.010	-5.94540	20.00000	Averaged	
56 Methyl cyclohexane	0.57061	0.55720	0.55720	0.010	-2.35136	20.00000	Averaged	

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv7.i Injection Date: 26-JUL-2013 15:09
Lab File ID: f0095.d Init. Cal. Date(s): 22-JUL-2013 22-JUL-2013
Analysis Type: SOIL Init. Cal. Times: 12:06 14:17
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv7.i/2130726.s.b/8260DODs7.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
57 Trichloroethene	0.39382	0.38155	0.38155	0.010	-3.11648	20.00000	Averaged
62 Dibromomethane	0.10744	0.10454	0.10454	0.010	-2.70641	20.00000	Averaged
63 1,2-Dichloropropane +	0.20275	0.19426	0.19426	0.010	-4.18879	20.00000	Averaged
64 Bromodichloromethane	0.30206	0.29031	0.29031	0.010	-3.88922	20.00000	Averaged
69 1-Bromo-2-chloroethane	0.19116	0.18455	0.18455	0.010	-3.46184	20.00000	Averaged
70 2-Chloroethyl vinyl ether	++++	++++	0.00000	0.010	++++	20.00000	Averaged <-
72 cis-1,3-Dichloropropene	0.31227	0.30854	0.30854	0.010	-1.19444	20.00000	Averaged
$ 74 Toluene-d8	2.71989	2.71099	2.71099	0.010	-0.32726	20.00000	Averaged
77 Toluene +	3.69108	3.45031	3.45031	0.010	-6.52312	20.00000	Averaged
79 4-methyl-2-pentanone	0.21194	0.18503	0.18503	0.010	-12.69536	20.00000	Averaged
78 Tetrachloroethene	1.01825	0.96584	0.96584	0.010	-5.14632	20.00000	Averaged
81 trans-1,3-Dichloropropene	0.24479	0.24015	0.24015	0.010	-1.89822	20.00000	Averaged
M 71 1-3 Dichloropropene-Total	0.27853	0.27435	0.27435	0.010	-1.50371	20.00000	Averaged
82 1,1,2-Trichloroethane	0.43991	0.42811	0.42811	0.010	-2.68163	20.00000	Averaged
85 Dibromochloromethane	0.59984	0.57913	0.57913	0.010	-3.45305	20.00000	Averaged
86 1,3-Dichloropropane	0.71511	0.66168	0.66168	0.010	-7.47219	20.00000	Averaged
88 1,2-Dibromoethane(EDB)	0.42147	0.41144	0.41144	0.010	-2.38084	20.00000	Averaged
80 2-Hexanone	0.16257	0.14540	0.14540	0.010	-10.55789	20.00000	Averaged
91 1-Chlorohexane	1.22712	1.16398	1.16398	0.010	-5.14571	20.00000	Averaged
92 Chlorobenzene ++	2.36240	2.25627	2.25627	0.300	-4.49265	20.00000	Averaged
93 Ethylbenzene +	1.39007	1.31754	1.31754	0.010	-5.21767	20.00000	Averaged
95 1,1,1,2-Tetrachloroethane	0.75339	0.71578	0.71578	0.010	-4.99256	20.00000	Averaged
96 p,m-Xylene	1.68439	1.60281	1.60281	0.010	-4.84343	20.00000	Averaged
98 o-Xylene	1.50843	1.42264	1.42264	0.010	-5.68768	20.00000	Averaged
M 120 TOTAL XYLENE	1.62574	1.54275	1.54275	0.010	-5.10454	20.00000	Averaged
99 Styrene	2.29152	2.19415	2.19415	0.010	-4.24904	20.00000	Averaged
100 Bromoform ++	0.37744	0.36714	0.36714	0.100	-2.72770	20.00000	Averaged
102 Isopropylbenzene	4.38676	4.19277	4.19277	0.010	-4.42209	20.00000	Averaged
$ 103 Bromofluorobenzene	0.97075	0.96620	0.96620	0.010	-0.46847	20.00000	Averaged
104 Bromobenzene	1.19595	1.06481	1.06481	0.010	-10.96554	20.00000	Averaged
106 n-Propylbenzene	4.31848	4.05441	4.05441	0.010	-6.11487	20.00000	Averaged
107 1,1,2,2-Tetrachloroethane++	0.39300	0.37508	0.37508	0.300	-4.55983	20.00000	Averaged
108 2-Chlorotoluene	2.35628	2.14132	2.14132	0.010	-9.12283	20.00000	Averaged
110 1,3,5-Trimethylbenzene	3.09596	2.94670	2.94670	0.010	-4.82105	20.00000	Averaged
109 1,2,3-Trichloropropane	0.31956	0.29390	0.29390	0.010	-8.02818	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv7.i Injection Date: 26-JUL-2013 15:09
Lab File ID: f0095.d Init. Cal. Date(s): 22-JUL-2013 22-JUL-2013
Analysis Type: SOIL Init. Cal. Times: 12:06 14:17
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv7.i/2130726.s.b/8260DODs7.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
111 trans-1,4-Dichloro-2-Butene	0.06444	0.06007	0.06007	0.010	-6.77714	20.00000	Averaged
112 4-Chlorotoluene	2.40272	2.17917	2.17917	0.010	-9.30419	20.00000	Averaged
113 tert-butylbenzene	1.75030	1.59484	1.59484	0.010	-8.88209	20.00000	Averaged
114 1,2,4-Trimethylbenzene	2.99784	2.81544	2.81544	0.010	-6.08446	20.00000	Averaged
115 sec-Butylbenzene	4.30244	4.08159	4.08159	0.010	-5.13329	20.00000	Averaged
116 p-Isopropyltoluene	3.66390	3.47927	3.47927	0.010	-5.03920	20.00000	Averaged
117 1,3-Dichlorobenzene	1.88235	1.73472	1.73472	0.010	-7.84261	20.00000	Averaged
119 1,4-Dichlorobenzene	1.82387	1.69549	1.69549	0.010	-7.03902	20.00000	Averaged
121 n-Butylbenzene	3.10733	2.92370	2.92370	0.010	-5.90958	20.00000	Averaged
122 1,2-Dichlorobenzene	1.56234	1.45143	1.45143	0.010	-7.09890	20.00000	Averaged
125 1,2-Dibromo-3-Chloropropane	0.09125	0.08157	0.08157	0.010	-10.60123	20.00000	Averaged
126 Hexachlorobutadiene	1.02870	0.96925	0.96925	0.010	-5.77899	20.00000	Averaged
127 1,2,4-Trichlorobenzene	1.23356	1.12516	1.12516	0.010	-8.78736	20.00000	Averaged
128 Napthalene	1.57096	1.32584	1.32584	0.010	-15.60323	20.00000	Averaged
129 1,2,3-Trichlorobenzene	1.03063	0.92990	0.92990	0.010	-9.77346	20.00000	Averaged

Data File: /var/chem/msv7.i/2130729.s.b/f0167d.d
Report Date: 29-Jul-2013 21:04

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv7.i
Lab File ID: f0167d.d
Analysis Type: SOIL
Lab Sample ID: 1400
Method: /var/chem/msv7.i/2130729.s.b/8260DODs7.m

Injection Date: 29-JUL-2013 11:39
Init. Cal. Date(s): 22-JUL-2013 22-JUL-2013
Init. Cal. Times: 12:06 14:17
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE	
1 Dichlorodifluoromethane	0.43246	0.37296	0.37296	0.010	-13.75926	20.00000	Averaged	
2 Chloromethane ++	0.27856	0.27512	0.27512	0.100	-1.23450	20.00000	Averaged	
3 Vinyl Chloride +	0.27267	0.29299	0.29299	0.010	7.45114	20.00000	Averaged	
6 Bromomethane	0.14359	0.15654	0.15654	0.010	9.01665	20.00000	Averaged	
8 Chloroethane	0.14854	0.15690	0.15690	0.010	5.62605	20.00000	Averaged	
9 Trichlorofluoromethane	0.44461	0.43063	0.43063	0.010	-3.14355	20.00000	Averaged	
12 1,1-Dichloroethene +	0.22606	0.23463	0.23463	0.010	3.78965	20.00000	Averaged	
15 1,1,2Trichlotrifluoroethane	0.24642	0.25699	0.25699	0.010	4.29135	20.00000	Averaged	
14 Carbon Disulfide	0.69308	0.76381	0.76381	0.010	10.20585	20.00000	Averaged	
16 Methyl Iodide	44.76004	50.00000	0.25574	0.010	-10.47992	20.00000	Linear	
17 Acrolein	0.00484	0.00678	0.00678	0.010	40.14862	20.00000	Averaged	<- NT
18 Methylene Chloride	57.52074	50.00000	0.26716	0.010	15.04149	20.00000	Linear	
19 Acetone	67.58200	50.00000	0.05954	0.010	35.16399	20.00000	Linear	<- NT
13 trans-1,2-Dichloroethene	0.35722	0.37316	0.37316	0.010	4.46284	20.00000	Averaged	
22 Methyl Acetate	0.04771	0.05089	0.05089	0.010	6.66751	20.00000	Averaged	
23 Hexane	0.44931	0.45371	0.45371	0.010	0.97871	20.00000	Averaged	
25 MTBE	0.29809	0.36766	0.36766	0.010	23.33770	20.00000	Averaged	<-
31 1,1-Dichloroethane ++	0.43162	0.46532	0.46532	0.100	7.80764	20.00000	Averaged	
33 Acrylonitrile	0.02523	0.02858	0.02858	0.010	13.28893	20.00000	Averaged	
34 Vinyl Acetate	0.06830	0.10112	0.10112	0.010	48.05662	20.00000	Averaged	<- NT
21 cis-1,2-Dichloroethene	0.31431	0.33800	0.33800	0.010	7.54018	20.00000	Averaged	
M 68 Total 1,2-Dichloroethene	0.33576	0.35558	0.35558	0.010	5.90318	20.00000	Averaged	
35 2,2-Dichloropropane	0.38133	0.43350	0.43350	0.010	13.67959	20.00000	Averaged	
38 Cyclohexane	0.43180	0.43375	0.43375	0.010	0.45259	20.00000	Averaged	
39 Bromochloromethane	0.12369	0.14123	0.14123	0.010	14.18158	20.00000	Averaged	
40 Chloroform +	0.49730	0.52520	0.52520	0.010	5.61011	20.00000	Averaged	
41 Carbon Tetrachloride	0.44455	0.46369	0.46369	0.010	4.30633	20.00000	Averaged	
$ 42 Dibromofluoromethane	0.23059	0.23807	0.23807	0.010	3.24511	20.00000	Averaged	
43 1,1,1-Trichloroethane	0.49740	0.51283	0.51283	0.010	3.10260	20.00000	Averaged	
45 2-Butanone	0.04152	0.05070	0.05070	0.010	22.12413	20.00000	Averaged	<- NT
44 1,1-Dichloropropene	0.41622	0.42656	0.42656	0.010	2.48327	20.00000	Averaged	
48 Benzene	1.10072	1.14694	1.14694	0.010	4.19848	20.00000	Averaged	
$ 50 1,2-Dichloroethane-d4	0.08787	0.08886	0.08886	0.010	1.12238	20.00000	Averaged	
52 1,2-Dichloroethane	0.23967	0.25230	0.25230	0.010	5.26755	20.00000	Averaged	
56 Methyl cyclohexane	0.57061	0.57364	0.57364	0.010	0.53108	20.00000	Averaged	

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv7.i Injection Date: 29-JUL-2013 11:39
Lab File ID: f0167d.d Init. Cal. Date(s): 22-JUL-2013 22-JUL-2013
Analysis Type: SOIL Init. Cal. Times: 12:06 14:17
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv7.i/2130729.s.b/8260DODs7.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
57 Trichloroethene	0.39382	0.40680	0.40680	0.010	3.29482	20.00000	Averaged
62 Dibromomethane	0.10744	0.11563	0.11563	0.010	7.62071	20.00000	Averaged
63 1,2-Dichloropropane +	0.20275	0.21683	0.21683	0.010	6.94352	20.00000	Averaged
64 Bromodichloromethane	0.30206	0.33053	0.33053	0.010	9.42481	20.00000	Averaged
69 1-Bromo-2-chloroethane	0.19116	0.20811	0.20811	0.010	8.86703	20.00000	Averaged
70 2-Chloroethyl vinyl ether	++++	0.21683	0.21683	0.010	++++	20.00000	Averaged <-
72 cis-1,3-Dichloropropene	0.31227	0.34183	0.34183	0.010	9.46436	20.00000	Averaged
$ 74 Toluene-d8	2.71989	2.67854	2.67854	0.010	-1.52022	20.00000	Averaged
77 Toluene +	3.69108	3.74628	3.74628	0.010	1.49539	20.00000	Averaged
79 4-methyl-2-pentanone	0.21194	0.22036	0.22036	0.010	3.97275	20.00000	Averaged
78 Tetrachloroethene	1.01825	0.97562	0.97562	0.010	-4.18679	20.00000	Averaged
81 trans-1,3-Dichloropropene	0.24479	0.27498	0.27498	0.010	12.33226	20.00000	Averaged
M 71 1-3 Dichloropropene-Total	0.27853	0.30841	0.30841	0.010	10.72461	20.00000	Averaged
82 1,1,2-Trichloroethane	0.43991	0.47134	0.47134	0.010	7.14401	20.00000	Averaged
85 Dibromochloromethane	0.59984	0.64680	0.64680	0.010	7.82826	20.00000	Averaged
86 1,3-Dichloropropane	0.71511	0.75032	0.75032	0.010	4.92393	20.00000	Averaged
88 1,2-Dibromoethane(EDB)	0.42147	0.45813	0.45813	0.010	8.69676	20.00000	Averaged
80 2-Hexanone	0.16257	0.18774	0.18774	0.010	15.48727	20.00000	Averaged
91 1-Chlorohexane	1.22712	1.15093	1.15093	0.010	-6.20881	20.00000	Averaged
92 Chlorobenzene ++	2.36240	2.44489	2.44489	0.300	3.49158	20.00000	Averaged
93 Ethylbenzene +	1.39007	1.42812	1.42812	0.010	2.73767	20.00000	Averaged
95 1,1,1,2-Tetrachloroethane	0.75339	0.79046	0.79046	0.010	4.92050	20.00000	Averaged
96 p,m-Xylene	1.68439	1.70645	1.70645	0.010	1.30990	20.00000	Averaged
98 o-Xylene	1.50843	1.50996	1.50996	0.010	0.10135	20.00000	Averaged
M 120 TOTAL XYLENE	1.62574	1.64096	1.64096	0.010	0.93612	20.00000	Averaged
99 Styrene	2.29152	2.38795	2.38795	0.010	4.20813	20.00000	Averaged
100 Bromoform ++	0.37744	0.40571	0.40571	0.100	7.48988	20.00000	Averaged
102 Isopropylbenzene	4.38676	4.39550	4.39550	0.010	0.19921	20.00000	Averaged
$ 103 Bromofluorobenzene	0.97075	0.92599	0.92599	0.010	-4.61103	20.00000	Averaged
104 Bromobenzene	1.19595	1.17749	1.17749	0.010	-1.54407	20.00000	Averaged
106 n-Propylbenzene	4.31848	4.36473	4.36473	0.010	1.07080	20.00000	Averaged
107 1,1,2,2-Tetrachloroethane++	0.39300	0.43046	0.43046	0.300	9.53191	20.00000	Averaged
108 2-Chlorotoluene	2.35628	2.34300	2.34300	0.010	-0.56396	20.00000	Averaged
110 1,3,5-Trimethylbenzene	3.09596	3.14916	3.14916	0.010	1.71830	20.00000	Averaged
109 1,2,3-Trichloropropane	0.31956	0.35089	0.35089	0.010	9.80578	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv7.i Injection Date: 29-JUL-2013 11:39
Lab File ID: f0167d.d Init. Cal. Date(s): 22-JUL-2013 22-JUL-2013
Analysis Type: SOIL Init. Cal. Times: 12:06 14:17
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv7.i/2130729.s.b/8260DODs7.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
111 trans-1,4-Dichloro-2-Butene	0.06444	0.07235	0.07235	0.010	12.27410	20.00000	Averaged
112 4-Chlorotoluene	2.40272	2.43140	2.43140	0.010	1.19346	20.00000	Averaged
113 tert-butylbenzene	1.75030	1.68840	1.68840	0.010	-3.53661	20.00000	Averaged
114 1,2,4-Trimethylbenzene	2.99784	3.05338	3.05338	0.010	1.85273	20.00000	Averaged
115 sec-Butylbenzene	4.30244	4.30574	4.30574	0.010	0.07648	20.00000	Averaged
116 p-Isopropyltoluene	3.66390	3.72096	3.72096	0.010	1.55751	20.00000	Averaged
117 1,3-Dichlorobenzene	1.88235	1.89778	1.89778	0.010	0.81975	20.00000	Averaged
119 1,4-Dichlorobenzene	1.82387	1.86157	1.86157	0.010	2.06687	20.00000	Averaged
121 n-Butylbenzene	3.10733	3.14227	3.14227	0.010	1.12430	20.00000	Averaged
122 1,2-Dichlorobenzene	1.56234	1.62004	1.62004	0.010	3.69319	20.00000	Averaged
125 1,2-Dibromo-3-Chloropropane	0.09125	0.09955	0.09955	0.010	9.09821	20.00000	Averaged
126 Hexachlorobutadiene	1.02870	0.96168	0.96168	0.010	-6.51525	20.00000	Averaged
127 1,2,4-Trichlorobenzene	1.23356	1.21629	1.21629	0.010	-1.39995	20.00000	Averaged
128 Napthalene	1.57096	1.47458	1.47458	0.010	-6.13492	20.00000	Averaged
129 1,2,3-Trichlorobenzene	1.03063	0.98733	0.98733	0.010	-4.20089	20.00000	Averaged

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Calibration File Names:
Level 3: /var/chem/msv12.i/2130721p.s.b/j8200.d
Level 4: /var/chem/msv12.i/2130721p.s.b/j8201.d
Level 5: /var/chem/msv12.i/2130721p.s.b/j8202.d
Level 6: /var/chem/msv12.i/2130721p.s.b/j8203.d
Level 7: /var/chem/msv12.i/2130721p.s.b/j8204.d
Level 8: /var/chem/msv12.i/2130721p.s.b/j8205.d
Level 9: /var/chem/msv12.i/2130721p.s.b/j8206.d

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
1 Dichlorodifluoromethane	0.33152	0.32469	0.31949	0.24450	0.33228	0.32037					
	0.32887						AVRG		0.31453		9.94942
2 Chloromethane ++	1350	4166	8166	12523	45107	96944					
	195912						LINR	0.04400	0.19823		0.99895
3 Vinyl Chloride +	0.32578	0.24865	0.26043	0.19726	0.28227	0.27983					
	0.28462						AVRG		0.26840		14.74158
5 1-3 Butadiene	860	3729	6863	12199	27288	53819					
	105747						LINR	-0.05480	0.13580		0.99967

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
6 Bromomethane	3952	4088	7584	13213	42976	94420						
	199093						LINR	0.04933	0.19994		0.99732	
7 Chloroethane	1826	5558	10332	16059	54936	103162						
	+++++						LINR	-0.00816	0.20659		0.99563	
8 Trichlorofluoromethane	0.53688	0.52979	0.54905	0.41891	0.60554	0.59669						
	0.60247						AVRG		0.54848		11.94792	
4 2-Chloropropene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
9 Ethyl Ether	0.29742	0.32864	0.34064	0.31015	0.28270	0.31839						
	0.32406						AVRG		0.31457		6.23938	
168 Ethanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
10 1,1-Dichloroethene +	0.37102	0.29728	0.32468	0.24524	0.34842	0.34095						
	0.33665						AVRG		0.32346		12.72839	

2130721p.s.b 80

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
11 Carbon Disulfide	6981	21353	42800	66993	245579	497241					
	987636						LINR	0.02476	0.99923		0.99921
12 1,1,2Trichlotrifluoroethane	0.31453	0.30307	0.32625	0.24226	0.34980	0.34430					
	0.34213						AVRG		0.31748		11.73153
13 Methyl Iodide	1311	4800	10893	19837	80385	173564					
	359766						LINR	0.08080	0.36643		0.99856
14 Acrolein	0.02485	0.02540	0.01998	0.02109	0.02210	0.02326					
	0.02526						AVRG		0.02313		9.30709
15 Allyl chloride	0.26095	0.24509	0.23444	0.21640	0.22516	0.22990					
	0.22695						AVRG		0.23413		6.29531
16 Methylene Chloride	0.32451	0.28836	0.29739	0.25144	0.29414	0.28957					
	0.29304						AVRG		0.29121		7.35322
17 Acetone	+++++	0.19062	0.18050	0.16745	0.14724	0.14305					
	0.14278						AVRG		0.16194		12.76760

2130721p.s.b

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
18 trans-1,2-Dichloroethene	0.38355	0.30263	0.30212	0.24575	0.32751	0.32957					
	0.33107						AVRG		0.31746		13.11329
19 Methyl Acetate	0.21938	0.25926	0.24179	0.23572	0.21772	0.22766					
	0.24504						AVRG		0.23523		6.33428
20 Hexane	0.24657	0.22964	0.22267	0.17721	0.24383	0.24631					
	0.24166						AVRG		0.22970		10.82228
21 MTBE	0.81722	0.78392	0.80828	0.75036	0.80322	0.80735					
	0.80206						AVRG		0.79606		2.83131
22 tert-Butyl Alcohol	+++++	0.04630	0.04915	0.04580	0.03386	0.04944					
	0.05020						AVRG		0.04579		13.33935
23 Acetonitrile	0.03580	0.03863	0.04001	0.03800	0.02923	0.03838					
	0.03924						AVRG		0.03704		9.94530
24 Isopropyl Ether	0.63273	0.66255	0.67039	0.61000	0.66918	0.69980					
	0.70671						AVRG		0.66448		5.16528

21 9 2 4 2 1 8 2

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
26 1,1-Dichloroethane ++	0.51012	0.40155	0.40964	0.34247	0.42114	0.40559					
	0.40806						AVRG		0.41408		11.94839
25 Chloroprene	0.28255	0.31439	0.33672	0.30840	0.30441	0.34518					
	0.35255						AVRG		0.32060		7.83061
27 Acrylonitrile	0.10644	0.11103	0.11413	0.11042	0.11586	0.11259					
	0.11761						AVRG		0.11258		3.30664
28 Vinyl Acetate	0.28564	0.27353	0.26389	0.23948	0.29459	0.27904					
	0.27052						AVRG		0.27239		6.48604
29 cis-1,2-Dichloroethene	0.39183	0.31707	0.31785	0.26960	0.32911	0.32429					
	0.33582						AVRG		0.32651		11.01989
M 75 Total 1,2-Dichloroethene	0.38769	0.30985	0.30998	0.25768	0.32831	0.32693					
	0.33344						AVRG		0.32198		11.98813
165 Ethyl Tert-butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-

2130721p.s.b

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
30 2,2-Dichloropropane	0.46383	0.36605	0.36446	0.29509	0.39901	0.39639					
	0.40054						AVRG		0.38362		13.30520
32 Cyclohexane	0.30009	0.30746	0.29851	0.23323	0.34188	0.34313					
	0.35329						AVRG		0.31108		13.19566
34 Bromochloromethane	0.13040	0.15199	0.15451	0.13672	0.16164	0.16231					
	0.16636						AVRG		0.15199		8.95624
35 Chloroform +	0.60697	0.47972	0.47409	0.41097	0.49582	0.48840					
	0.49734						AVRG		0.49333		11.79030
36 Carbon Tetrachloride	1509	7160	14302	23930	91290	193933					
	398788						LINR	0.06226	0.40462		0.99883
41 1,1,1-Trichloroethane	0.49037	0.39272	0.40700	0.32900	0.45068	0.44486					
	0.45511						AVRG		0.42425		12.47675
37 Ethyl Acetate	0.36392	0.36642	0.36593	0.34126	0.28402	0.35714					
	0.38732						AVRG		0.35229		9.38168

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
38 Tetrahydrofuran	0.13109	0.13541	0.13369	0.12690	0.09933	0.12898					
	0.14168						AVRG		0.12815		10.60274
42 sec-butanol	+++++	0.03661	0.03616	0.03473	0.02854	0.04081					
	0.04017						AVRG		0.03617		12.23952
44 2-Butanone	0.18116	0.18401	0.18265	0.18485	0.17784	0.17519					
	0.17929						AVRG		0.18071		1.92540
43 1,1-Dichloropropene	0.42560	0.32416	0.31682	0.26016	0.35259	0.35733					
	0.36205						AVRG		0.34267		14.77679
45 2,2,4 Trimethylpentane	0.49832	0.48408	0.46579	0.43163	0.46718	0.48858					
	0.50558						AVRG		0.47731		5.22745
31 Heptane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-
46 Benzene	1.29655	0.98345	0.99786	0.86261	1.07426	1.06502					
	1.09948						AVRG		1.05418		12.61961

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
166 Tert-butyl formate	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
47 Propionitrile	0.04456 0.05773	0.05223	0.05581	0.05254	0.04099	0.05450	AVRG		0.05119		11.98945	
48 Methylacrylonitrile	0.17256 0.20057	0.19051	0.18782	0.17223	0.16111	0.20162	AVRG		0.18377		8.41540	
51 1,2-Dichloroethane	0.35743 0.36560	0.34839	0.34855	0.31903	0.35771	0.35580	AVRG		0.35036		4.28835	
52 Isobutyl Alcohol	0.01801 0.01898	0.01898	0.01809	0.01720	0.01210	0.01784	AVRG		0.01731		13.77667	
55 Methyl Cyclohexane	0.39311 0.38511	0.34091	0.33485	0.26599	0.37725	0.37723	AVRG		0.35349		12.57633	
56 Trichloroethene	0.40691 0.36654	0.30611	0.32170	0.26750	0.34529	0.35187	AVRG		0.33799		13.26571	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
167 tert-amyl Methyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
39 1,3-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
57 Dibromomethane	0.19008	0.19275	0.20676	0.19058	0.21180	0.20955						
	0.21165						AVRG		0.20188		5.06277	
33 n-Butanol	37.00000	1207	2319	4868	8925	28186						
	60929						QUAD	0.04234	15.68785	-10.32798	0.99345	
59 1,2-Dichloropropane +	0.22406	0.22111	0.23593	0.21029	0.24930	0.25208						
	0.25738						AVRG		0.23573		7.58242	
60 Bromodichloromethane	0.34107	0.34522	0.36245	0.32535	0.38859	0.38879						
	0.40967						AVRG		0.36588		8.39068	
58 2-3 Dichloro-1-Proprene	0.35326	0.39781	0.39552	0.36713	0.37998	0.43323						
	0.43585						AVRG		0.39468		7.93285	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
164 Tert-amyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
49 1,4-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
54 1,2-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
61 Methyl methacrylate	0.28452	0.26922	0.27378	0.25012	0.22568	0.26276						
	0.26943						AVRG		0.26222		7.32511	
62 1,4- Dioxane	253	1333	2672	5308	10283	30590						
	67766						QUAD	0.61487	367	-245	0.99501	<-
65 1-Bromo-2-chloroethane	+++++	0.04650	0.04805	0.04537	0.05120	0.05162						
	0.05310						AVRG		0.04931		6.30131	
64 2-Chloroethyl vinyl ether	0.14930	0.16639	0.18477	0.15748	0.20038	0.17530						
	0.17840						AVRG		0.17315		9.91629	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
67 cis-1,3-Dichloropropene	0.40882	0.37541	0.40448	0.36565	0.44464	0.43872						
	0.45024						AVRG		0.41257		8.15594	
66 3-ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
69 Toluene +	3.79890	3.05668	2.91192	2.39887	3.03891	3.05172						
	2.87576						AVRG		3.01896		13.70857	
81 2-Nitropropane	0.11111	0.12809	0.12272	0.11204	0.09924	0.13016						
	0.12765						AVRG		0.11872		9.70363	
71 Tetrachloroethene	0.83202	0.68630	0.63418	0.51873	0.71930	0.73983						
	0.72692						AVRG		0.69390		14.07500	
73 4-methyl-2-pentanone	0.73151	0.80155	0.80649	0.77204	0.79457	0.80950						
	0.79605						AVRG		0.78739		3.49322	
74 trans-1,3-Dichloropropene	0.35318	0.36932	0.37927	0.35354	0.41430	0.42195						
	0.44616						AVRG		0.39110		9.32735	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
M 82 1-3 Dichloropropene total	0.38100	0.37236	0.39188	0.35960	0.42947	0.43033					
	0.44820						AVRG		0.40183		8.44636
76 1,1,2-Trichloroethane	0.67615	0.75802	0.73396	0.68092	0.75210	0.75773					
	0.71536						AVRG		0.72489		4.84412
77 Ethyl Methacrylate	+++++	0.65230	0.66165	0.60328	0.60657	0.65971					
	0.69344						AVRG		0.64616		5.40675
78 Dibromochloromethane	0.78418	0.86493	0.89691	0.83851	0.95098	0.97258					
	0.95818						AVRG		0.89518		7.83628
79 1,3-Dichloropropane	1.08571	1.11076	1.08422	1.00194	1.08862	1.10194					
	1.03517						AVRG		1.07262		3.66545
80 1,2-Dibromoethane(EDB)	0.76913	0.82411	0.84146	0.79064	0.85953	0.85784					
	0.82478						AVRG		0.82393		4.09689
72 2-ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
70 1-Nitropropane	+++++	0.05329	0.05326	0.04595	0.04018	0.05505						
	0.05315						AVRG		0.05015		11.61526	
112 1-3 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
111 1-4 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
83 2-Hexanone	0.70302	0.69747	0.67331	0.64350	0.65100	0.64373						
	0.60915						AVRG		0.66017		5.03732	
116 1-2 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
86 1-Chlorohexane	2375	7292	14420	23899	88920	167671						
	387191						LINR	0.04134	0.90071		0.99795	
85 Chlorobenzene ++	2.70029	2.12307	2.10160	1.85156	2.20620	2.22684						
	2.25649						AVRG		2.20944		11.54850	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
87 Ethylbenzene +	1.38884	1.08133	1.08022	0.91346	1.15183	1.15691						
	1.16330						AVRG		1.13370		12.52371	
88 1,1,1,2-Tetrachloroethane	0.75892	0.77065	0.74502	0.66914	0.79219	0.78930						
	0.77249						AVRG		0.75682		5.54706	
89 p,m-Xylene	1.66833	1.31510	1.27473	1.08932	1.39413	1.41087						
	1.42483						AVRG		1.36819		12.83796	
63 Methyldisulfide	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
90 o-Xylene	1.57857	1.30619	1.28061	1.11251	1.40244	1.35590						
	1.36218						AVRG		1.34263		10.44206	
21 TOTAL XYLENE	1.63841	1.31213	1.27669	1.09705	1.39690	1.39255						
	1.40395						AVRG		1.35967		12.01927	
91 Styrene	2.53367	2.20438	2.10790	1.87623	2.35295	2.31582						
	2.31098						AVRG		2.24313		9.29391	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msvl2.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
92 Bromoform ++	0.88738	0.77956	0.78656	0.74420	0.88126	0.88355					
	0.88368						AVRG		0.83517		7.45744
93 Isopropylbenzene	3.89134	3.13392	3.05128	2.53799	3.43478	3.37660					
	3.31223						AVRG		3.24831		12.72587
96 Bromobenzene	1.39665	1.08279	1.10082	0.94301	1.09834	1.12885					
	1.15986						AVRG		1.13005		12.03852
97 n-Propylbenzene	9050	31463	64401	108880	384031	797088					
	1732255						LINR	0.01958	3.09858		0.99930
98 1,1,2,2-Tetrachloroethane++	0.97150	0.94077	0.92745	0.85107	0.92529	0.89270					
	0.82166						AVRG		0.90435		5.81965
99 2-Chlorotoluene	2.60539	1.97131	1.97129	1.66707	2.05815	2.07605					
	2.09838						AVRG		2.06395		13.54908
102 1,3,5-Trimethylbenzene	6278	23263	47137	80926	280832	575854					
	1278605						LINR	0.02387	2.28015		0.99951

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
100 1,2,3-Trichloropropane	1.02600	1.02691	0.97675	0.95115	1.02490	1.01540					
	0.96268						AVRG		0.99768		3.30915
101 trans-1,4-Dichloro-2-Butene	0.16489	0.17209	0.17408	0.17782	0.18824	0.18868					
	0.18247						AVRG		0.17832		4.91069
104 4-Chlorotoluene	5424	20141	39291	69953	231886	468180					
	980301						LINR	-0.00953	1.75542		0.99870
103 Cyclohexanone	+++++	2628	4955	9048	15866	44947					
	87416						LINR	0.05925	0.14522		0.99378
105 tert-butylbenzene	3177	12080	23871	40904	141308	292764					
	617181						LINR	0.00457	1.10694		0.99880
107 1,2,4-Trimethylbenzene	6269	23550	46375	82661	275207	563332					
	1183367						LINR	-0.00301	2.12037		0.99882
106 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
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Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
108 sec-Butylbenzene	7867	27487	55003	92533	333221	651429					
	1377066						LINR	-0.00697	2.46577		0.99846
110 p-Isopropyltoluene	6963	23481	47469	81815	286978	575473					
	1255720						LINR	0.01146	2.24152		0.99935
109 Dicyclopentadiene	2.36365	2.25350	2.38874	2.18499	2.45169	2.58874					
	2.58736						AVRG		2.40267		6.41377
113 1,3-Dichlorobenzene	2.00502	1.44707	1.48157	1.26567	1.53504	1.50272					
	1.50462						AVRG		1.53453		14.71673
115 1,4-Dichlorobenzene	2.11917	1.57705	1.55947	1.39353	1.56682	1.53819					
	1.56716						AVRG		1.61734		14.23953
117 n-Butylbenzene	6140	20034	37646	65214	231860	463772					
	1008748						LINR	0.00927	1.80088		0.99924
118 1,2-Dichlorobenzene	1.75791	1.42633	1.44027	1.31650	1.53898	1.49486					
	1.46618						AVRG		1.49158		9.13442

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
94 2-methylnapthalene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
119 1,2-Dibromo-3-Chloropropane	0.20905	0.26375	0.25900	0.27725	0.29012	0.28778						
	0.27545						AVRG		0.26606		10.37189	
163 3,3 Dimethyl-1-Butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
123 Benzal Chloride	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
120 Hexachlorobutadiene	1813	4623	8367	14172	49859	101324						
	225131						LINR	0.01628	0.40053		0.99935	
122 1,2,4-Trichlorobenzene	3067	9672	18644	37512	117260	245799						
	530414						LINR	0.01253	0.94795		0.99955	
124 Naphthalene	2.91592	2.50115	2.59790	2.63418	2.81825	3.02494						
	2.86981						AVRG		2.76602		6.90399	

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
125 1,2,3-Trichlorobenzene	2821	9809	19529	37639	115224	248500						
	536693						LINR	0.01683	0.95925		0.99952	
M 126 Total Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
$ 40 Dibromofluoromethane	0.27624	0.27837	0.27856	0.27861	0.28204	0.28245						
	0.27988						AVRG		0.27945		0.78472	
$ 50 1,2-Dichloroethane-d4	0.14306	0.14258	0.14427	0.14325	0.13975	0.14412						
	0.14370						AVRG		0.14296		1.07288	
$ 68 Toluene-d8	2.50964	2.60131	2.56292	2.49160	2.48331	2.47305						
	2.26055						AVRG		2.48320		4.37303	
$ 95 Bromofluorobenzene	0.99141	1.03176	1.01203	0.98869	1.03037	1.03240						
	0.97972						AVRG		1.00948		2.25498	

2130721p.s.b/8260dodw12.m

Report Date: 22-Jul-2013 11:05

GCAL, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 2130721p.s
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: 1600
Client Smp ID: ICV050
Level: LOW
Operator: CLH
Data Type: MS DATA
SampleType: LCS
SpikeList File: icv.spk
Quant Type: ISTD
Sublist File: 8260b.sub
Method File: /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Misc Info: MSV~28093~*1*CLH

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 Dichlorodifluoromethane	50.0	52.5	104.91	80-120
2 Chloromethane ++	50.0	50.8	101.67	80-120
3 Vinyl Chloride +	50.0	53.1	106.16	80-120
6 Bromomethane	50.0	49.2	98.41	80-120
7 Chloroethane	50.0	52.6	105.16	80-120
8 Trichlorofluoromethane	50.0	56.0	112.04	80-120
10 1,1-Dichloroethene +	50.0	52.2	104.33	80-120
11 Carbon Disulfide	50.0	51.4	102.90	80-120
12 1,1,2Trichlotrifluoroethane	50.0	55.5	111.05	80-120
13 Methyl Iodide	50.0	50.8	101.68	80-120
14 Acrolein	250	272	108.94	80-120
16 Methylene Chloride	50.0	50.1	100.14	80-120
17 Acetone	50.0	44.2	88.46	80-120
18 trans-1,2-Dichloroethene	50.0	50.9	101.73	80-120
19 Methyl Acetate	50.0	51.3	102.63	80-120
20 Hexane	50.0	53.5	107.03	80-120
21 MTBE	50.0	49.4	98.76	80-120
26 1,1-Dichloroethane ++	50.0	51.7	103.32	80-120
27 Acrylonitrile	250	255	102.05	80-120
28 Vinyl Acetate	50.0	53.7	107.32	80-120
29 cis-1,2-Dichloroethene	50.0	51.1	102.15	80-120
30 2,2-Dichloropropane	50.0	54.2	108.39	80-120
32 Cyclohexane	50.0	55.4	110.77	80-120
34 Bromochloromethane	50.0	52.8	105.53	80-120
35 Chloroform +	50.0	50.3	100.52	80-120
36 Carbon Tetrachloride	50.0	50.1	100.14	80-120
41 1,1,1-Trichloroethane	50.0	52.9	105.76	80-120
43 1,1-Dichloropropene	50.0	51.6	103.26	80-120
44 2-Butanone	50.0	47.5	95.02	80-120
31 Heptane	50.0	0.00	*	80-120
46 Benzene	50.0	51.0	101.90	80-120
51 1,2-Dichloroethane	50.0	50.6	101.22	80-120
55 Methyl Cyclohexane	50.0	55.0	110.02	80-120

SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
56	Trichloroethene	50.0	51.0	102.02	80-120
57	Dibromomethane	50.0	52.2	104.35	80-120
59	1,2-Dichloropropane +	50.0	53.3	106.68	80-120
60	Bromodichloromethane	50.0	54.1	108.26	80-120
65	1-Bromo-2-chloroethane	50.0	51.3	102.52	80-120
64	2-Chloroethyl vinyl ether	50.0	53.5	107.01	80-120
67	cis-1,3-Dichloropropene	50.0	54.0	108.04	80-120
69	Toluene +	50.0	50.0	99.98	80-120
71	Tetrachloroethene	50.0	50.6	101.30	80-120
73	4-methyl-2-pentanone	50.0	48.5	97.07	80-120
74	trans-1,3-Dichloropropene	50.0	53.4	106.80	80-120
76	1,1,2-Trichloroethane	50.0	50.3	100.63	80-120
78	Dibromochloromethane	50.0	51.8	103.51	80-120
79	1,3-Dichloropropane	50.0	48.9	97.86	80-120
80	1,2-Dibromoethane(EDB)	50.0	50.1	100.24	80-120
83	2-Hexanone	50.0	47.3	94.69	80-120
86	1-Chlorohexane	50.0	51.6	103.27	80-120
85	Chlorobenzene ++	50.0	49.1	98.23	80-120
87	Ethylbenzene +	50.0	49.6	99.27	80-120
88	1,1,1,2-Tetrachloroethane	50.0	51.0	101.94	80-120
89	p,m-Xylene	100	101	100.69	80-120
90	o-Xylene	50.0	51.3	102.51	80-120
91	Styrene	50.0	51.9	103.79	80-120
92	Bromoform ++	50.0	51.8	103.59	80-120
93	Isopropylbenzene	50.0	52.2	104.35	80-120
96	Bromobenzene	50.0	47.4	94.74	80-120
97	n-Propylbenzene	50.0	49.4	98.89	80-120
98	1,1,2,2-Tetrachloroethane++	50.0	49.3	98.51	80-120
99	2-Chlorotoluene	50.0	49.1	98.12	80-120
102	1,3,5-Trimethylbenzene	50.0	49.2	98.42	80-120
100	1,2,3-Trichloropropane	50.0	48.6	97.24	80-120
101	trans-1,4-Dichloro-2-Butene	50.0	50.2	100.34	80-120
104	4-Chlorotoluene	50.0	51.8	103.57	80-120
105	tert-butylbenzene	50.0	50.2	100.44	80-120
107	1,2,4-Trimethylbenzene	50.0	50.2	100.35	80-120
108	sec-Butylbenzene	50.0	51.7	103.43	80-120
110	p-Isopropyltoluene	50.0	51.5	102.95	80-120
113	1,3-Dichlorobenzene	50.0	49.9	99.82	80-120
115	1,4-Dichlorobenzene	50.0	47.6	95.30	80-120
117	n-Butylbenzene	50.0	52.1	104.28	80-120
118	1,2-Dichlorobenzene	50.0	49.6	99.26	80-120
119	1,2-Dibromo-3-Chloropropane	50.0	50.9	101.88	80-120
120	Hexachlorobutadiene	50.0	51.4	102.89	80-120
122	1,2,4-Trichlorobenzene	50.0	49.5	98.99	80-120
124	Naphthalene	50.0	50.4	100.82	80-120
125	1,2,3-Trichlorobenzene	50.0	48.3	96.57	80-120

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 26-JUL-2013 14:11
Lab File ID: j8419.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130726.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Dichlorodifluoromethane	0.31453	0.28273	0.28273	0.010	-10.10934	20.00000	Averaged
2 Chloromethane ++	50.29931	50.00000	0.19069	0.100	0.59862	20.00000	Linear
3 Vinyl Chloride +	0.26840	0.26528	0.26528	0.010	-1.16440	20.00000	Averaged
6 Bromomethane	41.45504	50.00000	0.15591	0.010	-17.08992	20.00000	Linear
7 Chloroethane	43.65780	50.00000	0.18207	0.010	-12.68440	20.00000	Linear
8 Trichlorofluoromethane	0.54848	0.54075	0.54075	0.010	-1.40838	20.00000	Averaged
10 1,1-Dichloroethene +	0.32346	0.31463	0.31463	0.010	-2.73144	20.00000	Averaged
11 Carbon Disulfide	45.85231	50.00000	0.89161	0.010	-8.29538	20.00000	Linear
12 1,1,2Trichlotrifluoroethane	0.31748	0.31565	0.31565	0.010	-0.57728	20.00000	Averaged
13 Methyl Iodide	49.50760	50.00000	0.33322	0.010	-0.98479	20.00000	Linear
14 Acrolein	0.02313	0.02521	0.02521	0.010	8.96246	20.00000	Averaged
16 Methylene Chloride	0.29121	0.27364	0.27364	0.010	-6.03119	20.00000	Averaged
17 Acetone	0.16194	0.13146	0.13146	0.010	-18.81943	20.00000	Averaged
18 trans-1,2-Dichloroethene	0.31746	0.29302	0.29302	0.010	-7.69913	20.00000	Averaged
19 Methyl Acetate	0.23523	0.23967	0.23967	0.010	1.89067	20.00000	Averaged
20 Hexane	0.22970	0.22459	0.22459	0.010	-2.22178	20.00000	Averaged
21 MTBE	0.79606	0.76201	0.76201	0.010	-4.27698	20.00000	Averaged
26 1,1-Dichloroethane ++	0.41408	0.36914	0.36914	0.100	-10.85242	20.00000	Averaged
27 Acrylonitrile	0.11258	0.11397	0.11397	0.010	1.23572	20.00000	Averaged
28 Vinyl Acetate	0.27239	0.30615	0.30615	0.010	12.39427	20.00000	Averaged
29 cis-1,2-Dichloroethene	0.32651	0.30539	0.30539	0.010	-6.46767	20.00000	Averaged
M 75 Total 1,2-Dichloroethene	0.32198	0.29920	0.29920	0.010	-7.07474	20.00000	Averaged
30 2,2-Dichloropropane	0.38362	0.37960	0.37960	0.010	-1.04905	20.00000	Averaged
32 Cyclohexane	0.31108	0.30307	0.30307	0.010	-2.57704	20.00000	Averaged
34 Bromochloromethane	0.15199	0.16064	0.16064	0.010	5.69017	20.00000	Averaged
35 Chloroform +	0.49333	0.46356	0.46356	0.010	-6.03422	20.00000	Averaged
36 Carbon Tetrachloride	47.17462	50.00000	0.35656	0.010	-5.65076	20.00000	Linear
$ 40 Dibromofluoromethane	0.27945	0.28398	0.28398	0.010	1.62222	20.00000	Averaged
41 1,1,1-Trichloroethane	0.42425	0.41288	0.41288	0.010	-2.67859	20.00000	Averaged
44 2-Butanone	0.18071	0.20277	0.20277	0.010	12.20569	20.00000	Averaged
43 1,1-Dichloropropene	0.34267	0.33022	0.33022	0.010	-3.63549	20.00000	Averaged
46 Benzene	1.05418	0.97387	0.97387	0.010	-7.61832	20.00000	Averaged
$ 50 1,2-Dichloroethane-d4	0.14296	0.14351	0.14351	0.010	0.38325	20.00000	Averaged
51 1,2-Dichloroethane	0.35036	0.33737	0.33737	0.010	-3.70675	20.00000	Averaged
55 Methyl Cyclohexane	0.35349	0.33725	0.33725	0.010	-4.59615	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 26-JUL-2013 14:11
Lab File ID: j8419.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130726.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
56 Trichloroethene	0.33799	0.32884	0.32884	0.010	-2.70754	20.00000	Averaged
57 Dibromomethane	0.20188	0.19600	0.19600	0.010	-2.91418	20.00000	Averaged
59 1,2-Dichloropropane +	0.23573	0.22461	0.22461	0.010	-4.71938	20.00000	Averaged
60 Bromodichloromethane	0.36588	0.35918	0.35918	0.010	-1.83016	20.00000	Averaged
65 1-Bromo-2-chloroethane	0.04931	0.04864	0.04864	0.010	-1.35339	20.00000	Averaged
64 2-Chloroethyl vinyl ether	0.17315	0.18030	0.18030	0.010	4.12999	20.00000	Averaged
67 cis-1,3-Dichloropropene	0.41257	0.40712	0.40712	0.010	-1.32021	20.00000	Averaged
$ 68 Toluene-d8	2.48320	2.55254	2.55254	0.010	2.79249	20.00000	Averaged
69 Toluene +	3.01896	2.84732	2.84732	0.010	-5.68566	20.00000	Averaged
71 Tetrachloroethene	0.69390	0.71020	0.71020	0.010	2.34885	20.00000	Averaged
73 4-methyl-2-pentanone	0.78739	0.81894	0.81894	0.010	4.00752	20.00000	Averaged
74 trans-1,3-Dichloropropene	0.39110	0.39544	0.39544	0.010	1.10888	20.00000	Averaged
M 82 1-3 Dichloropropene total	0.40183	0.40128	0.40128	0.010	-0.13810	20.00000	Averaged
76 1,1,2-Trichloroethane	0.72489	0.71809	0.71809	0.010	-0.93909	20.00000	Averaged
78 Dibromochloromethane	0.89518	0.94821	0.94821	0.010	5.92408	20.00000	Averaged
79 1,3-Dichloropropane	1.07262	1.02255	1.02255	0.010	-4.66792	20.00000	Averaged
80 1,2-Dibromoethane(EDB)	0.82393	0.85174	0.85174	0.010	3.37522	20.00000	Averaged
83 2-Hexanone	0.66017	0.68153	0.68153	0.010	3.23618	20.00000	Averaged
86 1-Chlorohexane	50.87578	50.00000	0.87925	0.010	1.75157	20.00000	Linear
85 Chlorobenzene ++	2.20944	2.09104	2.09104	0.300	-5.35872	20.00000	Averaged
87 Ethylbenzene +	1.13370	1.06926	1.06926	0.010	-5.68407	20.00000	Averaged
88 1,1,1,2-Tetrachloroethane	0.75682	0.77039	0.77039	0.010	1.79315	20.00000	Averaged
89 p,m-Xylene	1.36819	1.29685	1.29685	0.010	-5.21366	20.00000	Averaged
90 o-Xylene	1.34263	1.28224	1.28224	0.010	-4.49775	20.00000	Averaged
M 121 TOTAL XYLENE	1.35967	1.29198	1.29198	0.010	-4.97801	20.00000	Averaged
91 Styrene	2.24313	2.21334	2.21334	0.010	-1.32821	20.00000	Averaged
92 Bromoform ++	0.83517	0.90187	0.90187	0.100	7.98673	20.00000	Averaged
93 Isopropylbenzene	3.24831	3.18339	3.18339	0.010	-1.99838	20.00000	Averaged
$ 95 Bromofluorobenzene	1.00948	1.12027	1.12027	0.010	10.97504	20.00000	Averaged
96 Bromobenzene	1.13005	0.94719	0.94719	0.010	-16.18171	20.00000	Averaged
97 n-Propylbenzene	43.14959	50.00000	2.61337	0.010	-13.70083	20.00000	Linear
98 1,1,2,2-Tetrachloroethane++	0.90435	0.81153	0.81153	0.300	-10.26382	20.00000	Averaged
99 2-Chlorotoluene	2.06395	1.74443	1.74443	0.010	-15.48091	20.00000	Averaged
102 1,3,5-Trimethylbenzene	42.84708	50.00000	1.89952	0.010	-14.30583	20.00000	Linear
100 1,2,3-Trichloropropane	0.99768	0.92685	0.92685	0.010	-7.10031	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 26-JUL-2013 14:11
Lab File ID: j8419.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130726.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
101 trans-1,4-Dichloro-2-Butene	0.17832	0.18256	0.18256	0.010	2.37522	20.00000	Averaged
104 4-Chlorotoluene	45.00093	50.00000	1.59664	0.010	-9.99813	20.00000	Linear
105 tert-butylbenzene	43.39916	50.00000	0.95574	0.010	-13.20167	20.00000	Linear
107 1,2,4-Trimethylbenzene	45.26526	50.00000	1.92597	0.010	-9.46948	20.00000	Linear
108 sec-Butylbenzene	45.17329	50.00000	2.24492	0.010	-9.65343	20.00000	Linear
110 p-Isopropyltoluene	45.01708	50.00000	1.99245	0.010	-9.96583	20.00000	Linear
113 1,3-Dichlorobenzene	1.53453	1.37381	1.37381	0.010	-10.47377	20.00000	Averaged
115 1,4-Dichlorobenzene	1.61734	1.45828	1.45828	0.010	-9.83455	20.00000	Averaged
117 n-Butylbenzene	45.52013	50.00000	1.62283	0.010	-8.95974	20.00000	Linear
118 1,2-Dichlorobenzene	1.49158	1.38502	1.38502	0.010	-7.14372	20.00000	Averaged
119 1,2-Dibromo-3-Chloropropane	0.26606	0.29299	0.29299	0.010	10.12251	20.00000	Averaged
120 Hexachlorobutadiene	49.29132	50.00000	0.38833	0.010	-1.41735	20.00000	Linear
122 1,2,4-Trichlorobenzene	49.85669	50.00000	0.93335	0.010	-0.28661	20.00000	Linear
124 Naphthalene	2.76602	2.93522	2.93522	0.010	6.11704	20.00000	Averaged
125 1,2,3-Trichlorobenzene	49.69517	50.00000	0.93725	0.010	-0.60965	20.00000	Linear

Data File: /var/chem/msv12.i/2130729.s.b/j8554d.d
Report Date: 29-Jul-2013 15:25

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i
Lab File ID: j8554d.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv12.i/2130729.s.b/8260dodw12.m

Injection Date: 29-JUL-2013 11:37
Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Init. Cal. Times: 20:50 20:28
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Dichlorodifluoromethane	0.31453	0.31223	0.31223	0.010	-0.73059	20.00000	Averaged
2 Chloromethane ++	55.01933	50.00000	0.20941	0.100	10.03867	20.00000	Linear
3 Vinyl Chloride +	0.26840	0.28427	0.28427	0.010	5.91190	20.00000	Averaged
6 Bromomethane	43.24585	50.00000	0.16307	0.010	-13.50830	20.00000	Linear
7 Chloroethane	46.29097	50.00000	0.19295	0.010	-7.41806	20.00000	Linear
8 Trichlorofluoromethane	0.54848	0.56350	0.56350	0.010	2.73844	20.00000	Averaged
10 1,1-Dichloroethene +	0.32346	0.33082	0.33082	0.010	2.27453	20.00000	Averaged
11 Carbon Disulfide	47.54366	50.00000	0.92541	0.010	-4.91267	20.00000	Linear
12 1,1,2Trichlotrifluoroethane	0.31748	0.33805	0.33805	0.010	6.47874	20.00000	Averaged
13 Methyl Iodide	56.81901	50.00000	0.38680	0.010	13.63802	20.00000	Linear
14 Acrolein	0.02313	0.02431	0.02431	0.010	5.09768	20.00000	Averaged
16 Methylene Chloride	0.29121	0.29919	0.29919	0.010	2.74128	20.00000	Averaged
17 Acetone	0.16194	0.15292	0.15292	0.010	-5.56740	20.00000	Averaged
18 trans-1,2-Dichloroethene	0.31746	0.32190	0.32190	0.010	1.39976	20.00000	Averaged
19 Methyl Acetate	0.23523	0.28892	0.28892	0.010	22.82459	20.00000	Averaged <-NT
20 Hexane	0.22970	0.24017	0.24017	0.010	4.55853	20.00000	Averaged
21 MTBE	0.79606	0.82456	0.82456	0.010	3.58016	20.00000	Averaged
26 1,1-Dichloroethane ++	0.41408	0.41310	0.41310	0.100	-0.23807	20.00000	Averaged
27 Acrylonitrile	0.11258	0.12365	0.12365	0.010	9.83177	20.00000	Averaged
28 Vinyl Acetate	0.27239	0.32098	0.32098	0.010	17.84116	20.00000	Averaged
29 cis-1,2-Dichloroethene	0.32651	0.33580	0.33580	0.010	2.84591	20.00000	Averaged
M 75 Total 1,2-Dichloroethene	0.32198	0.32885	0.32885	0.010	2.13300	20.00000	Averaged
30 2,2-Dichloropropane	0.38362	0.40460	0.40460	0.010	5.46746	20.00000	Averaged
32 Cyclohexane	0.31108	0.33608	0.33608	0.010	8.03349	20.00000	Averaged
34 Bromochloromethane	0.15199	0.18046	0.18046	0.010	18.73130	20.00000	Averaged
35 Chloroform +	0.49333	0.50014	0.50014	0.010	1.38048	20.00000	Averaged
36 Carbon Tetrachloride	50.79134	50.00000	0.38583	0.010	1.58268	20.00000	Linear
$ 40 Dibromofluoromethane	0.27945	0.27506	0.27506	0.010	-1.56936	20.00000	Averaged
41 1,1,1-Trichloroethane	0.42425	0.45358	0.45358	0.010	6.91470	20.00000	Averaged
44 2-Butanone	0.18071	0.24294	0.24294	0.010	34.43396	20.00000	Averaged <-NT
43 1,1-Dichloropropene	0.34267	0.35623	0.35623	0.010	3.95674	20.00000	Averaged
46 Benzene	1.05418	1.05586	1.05586	0.010	0.16010	20.00000	Averaged
$ 50 1,2-Dichloroethane-d4	0.14296	0.14261	0.14261	0.010	-0.24168	20.00000	Averaged
51 1,2-Dichloroethane	0.35036	0.37156	0.37156	0.010	6.05051	20.00000	Averaged
55 Methyl Cyclohexane	0.35349	0.37313	0.37313	0.010	5.55509	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 29-JUL-2013 11:37
Lab File ID: j8554d.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130729.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
56 Trichloroethene	0.33799	0.36655	0.36655	0.010	8.44882	20.00000	Averaged	
57 Dibromomethane	0.20188	0.21569	0.21569	0.010	6.84039	20.00000	Averaged	
59 1,2-Dichloropropane +	0.23573	0.25061	0.25061	0.010	6.31200	20.00000	Averaged	
60 Bromodichloromethane	0.36588	0.39699	0.39699	0.010	8.50393	20.00000	Averaged	
65 1-Bromo-2-chloroethane	0.04931	0.05604	0.05604	0.010	13.65720	20.00000	Averaged	
64 2-Chloroethyl vinyl ether	0.17315	0.18635	0.18635	0.010	7.62665	20.00000	Averaged	
67 cis-1,3-Dichloropropene	0.41257	0.45607	0.45607	0.010	10.54493	20.00000	Averaged	
$ 68 Toluene-d8	2.48320	2.45361	2.45361	0.010	-1.19164	20.00000	Averaged	
69 Toluene +	3.01896	3.03540	3.03540	0.010	0.54425	20.00000	Averaged	
71 Tetrachloroethene	0.69390	0.80165	0.80165	0.010	15.52859	20.00000	Averaged	
73 4-methyl-2-pentanone	0.78739	0.92405	0.92405	0.010	17.35637	20.00000	Averaged	
74 trans-1,3-Dichloropropene	0.39110	0.45185	0.45185	0.010	15.53332	20.00000	Averaged	
M 82 1-3 Dichloropropene total	0.40183	0.45396	0.45396	0.010	12.97251	20.00000	Averaged	
76 1,1,2-Trichloroethane	0.72489	0.80335	0.80335	0.010	10.82336	20.00000	Averaged	
78 Dibromochloromethane	0.89518	1.04114	1.04114	0.010	16.30523	20.00000	Averaged	
79 1,3-Dichloropropane	1.07262	1.12356	1.12356	0.010	4.74921	20.00000	Averaged	
80 1,2-Dibromoethane(EDB)	0.82393	0.94607	0.94607	0.010	14.82403	20.00000	Averaged	
83 2-Hexanone	0.66017	0.79371	0.79371	0.010	20.22844	20.00000	Averaged	<-M
86 1-Chlorohexane	54.97424	50.00000	0.95308	0.010	9.94847	20.00000	Linear	
85 Chlorobenzene ++	2.20944	2.31161	2.31161	0.300	4.62445	20.00000	Averaged	
87 Ethylbenzene +	1.13370	1.18561	1.18561	0.010	4.57878	20.00000	Averaged	
88 1,1,1,2-Tetrachloroethane	0.75682	0.85344	0.85344	0.010	12.76719	20.00000	Averaged	
89 p,m-Xylene	1.36819	1.45681	1.45681	0.010	6.47747	20.00000	Averaged	
90 o-Xylene	1.34263	1.42412	1.42412	0.010	6.06951	20.00000	Averaged	
M 121 TOTAL XYLENE	1.35967	1.44591	1.44591	0.010	6.34319	20.00000	Averaged	
91 Styrene	2.24313	2.47782	2.47782	0.010	10.46264	20.00000	Averaged	
92 Bromoform ++	0.83517	1.02744	1.02744	0.100	23.02144	20.00000	Averaged	<-M
93 Isopropylbenzene	3.24831	3.53292	3.53292	0.010	8.76196	20.00000	Averaged	
$ 95 Bromofluorobenzene	1.00948	1.18068	1.18068	0.010	16.95861	20.00000	Averaged	
96 Bromobenzene	1.13005	1.07840	1.07840	0.010	-4.57023	20.00000	Averaged	
97 n-Propylbenzene	47.67886	50.00000	2.89405	0.010	-4.64229	20.00000	Linear	
98 1,1,2,2-Tetrachloroethane++	0.90435	0.91714	0.91714	0.300	1.41411	20.00000	Averaged	
99 2-Chlorotoluene	2.06395	1.96600	1.96600	0.010	-4.74585	20.00000	Averaged	
102 1,3,5-Trimethylbenzene	47.82737	50.00000	2.12664	0.010	-4.34526	20.00000	Linear	
100 1,2,3-Trichloropropane	0.99768	1.04542	1.04542	0.010	4.78452	20.00000	Averaged	

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 29-JUL-2013 11:37
Lab File ID: j8554d.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130729.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
101 trans-1,4-Dichloro-2-Butene	0.17832	0.20064	0.20064	0.010	12.51184	20.00000	Averaged	
104 4-Chlorotoluene	50.11521	50.00000	1.77619	0.010	0.23041	20.00000	Linear	
105 tert-butylbenzene	48.56380	50.00000	1.07008	0.010	-2.87239	20.00000	Linear	
107 1,2,4-Trimethylbenzene	50.88333	50.00000	2.16422	0.010	1.76665	20.00000	Linear	
108 sec-Butylbenzene	51.52534	50.00000	2.55817	0.010	3.05068	20.00000	Linear	
110 p-Isopropyltoluene	50.62061	50.00000	2.24366	0.010	1.24122	20.00000	Linear	
113 1,3-Dichlorobenzene	1.53453	1.52264	1.52264	0.010	-0.77495	20.00000	Averaged	
115 1,4-Dichlorobenzene	1.61734	1.61812	1.61812	0.010	0.04813	20.00000	Averaged	
117 n-Butylbenzene	50.98174	50.00000	1.81954	0.010	1.96349	20.00000	Linear	
118 1,2-Dichlorobenzene	1.49158	1.55588	1.55588	0.010	4.31088	20.00000	Averaged	
119 1,2-Dibromo-3-Chloropropane	0.26606	0.34239	0.34239	0.010	28.68974	20.00000	Averaged	<-M
120 Hexachlorobutadiene	58.95855	50.00000	0.46577	0.010	17.91711	20.00000	Linear	
122 1,2,4-Trichlorobenzene	57.81972	50.00000	1.08432	0.010	15.63943	20.00000	Linear	
124 Naphthalene	2.76602	3.35132	3.35132	0.010	21.16034	20.00000	Averaged	<-M
125 1,2,3-Trichlorobenzene	58.04181	50.00000	1.09738	0.010	16.08362	20.00000	Linear	

Data File: /var/chem/msv12.i/2130801.s.b/j8670Ds.d
Report Date: 01-Aug-2013 17:20

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i
Lab File ID: j8670Ds.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv12.i/2130801.s.b/8260dodw12.m

Injection Date: 01-AUG-2013 10:00
Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Init. Cal. Times: 20:50 20:28
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Dichlorodifluoromethane	0.31453	0.33997	0.33997	0.010	8.08735	20.00000	Averaged	
2 Chloromethane ++	55.99722	50.00000	0.21328	0.100	11.99443	20.00000	Linear	
3 Vinyl Chloride +	0.26840	0.28292	0.28292	0.010	5.40812	20.00000	Averaged	
6 Bromomethane	42.72302	50.00000	0.16098	0.010	-14.55397	20.00000	Linear	
7 Chloroethane	45.90120	50.00000	0.19134	0.010	-8.19759	20.00000	Linear	
8 Trichlorofluoromethane	0.54848	0.53650	0.53650	0.010	-2.18324	20.00000	Averaged	
10 1,1-Dichloroethene +	0.32346	0.32002	0.32002	0.010	-1.06484	20.00000	Averaged	
11 Carbon Disulfide	47.30517	50.00000	0.92064	0.010	-5.38966	20.00000	Linear	
12 1,1,2Trichlotrifluoroethane	0.31748	0.32872	0.32872	0.010	3.54212	20.00000	Averaged	
13 Methyl Iodide	51.59671	50.00000	0.34853	0.010	3.19342	20.00000	Linear	
14 Acrolein	0.02313	0.04935	0.04935	0.010	113	20.00000	Averaged	<- NT
16 Methylene Chloride	0.29121	0.29201	0.29201	0.010	0.27495	20.00000	Averaged	
17 Acetone	0.16194	0.18438	0.18438	0.010	13.85961	20.00000	Averaged	
18 trans-1,2-Dichloroethene	0.31746	0.31559	0.31559	0.010	-0.58798	20.00000	Averaged	
19 Methyl Acetate	0.23523	0.23728	0.23728	0.010	0.87398	20.00000	Averaged	
20 Hexane	0.22970	0.25713	0.25713	0.010	11.94127	20.00000	Averaged	
21 MTBE	0.79606	0.81683	0.81683	0.010	2.60938	20.00000	Averaged	
26 1,1-Dichloroethane ++	0.41408	0.41411	0.41411	0.100	0.00573	20.00000	Averaged	
27 Acrylonitrile	0.11258	0.11052	0.11052	0.010	-1.82774	20.00000	Averaged	
28 Vinyl Acetate	0.27239	0.30614	0.30614	0.010	12.39370	20.00000	Averaged	
29 cis-1,2-Dichloroethene	0.32651	0.32614	0.32614	0.010	-0.11339	20.00000	Averaged	
M 75 Total 1,2-Dichloroethene	0.32198	0.32087	0.32087	0.010	-0.34735	20.00000	Averaged	
30 2,2-Dichloropropane	0.38362	0.40873	0.40873	0.010	6.54382	20.00000	Averaged	
32 Cyclohexane	0.31108	0.32250	0.32250	0.010	3.67065	20.00000	Averaged	
34 Bromochloromethane	0.15199	0.17270	0.17270	0.010	13.62903	20.00000	Averaged	
35 Chloroform +	0.49333	0.49647	0.49647	0.010	0.63789	20.00000	Averaged	
36 Carbon Tetrachloride	50.56789	50.00000	0.38402	0.010	1.13578	20.00000	Linear	
$ 40 Dibromofluoromethane	0.27945	0.28323	0.28323	0.010	1.35231	20.00000	Averaged	
41 1,1,1-Trichloroethane	0.42425	0.44933	0.44933	0.010	5.91252	20.00000	Averaged	
44 2-Butanone	0.18071	0.22797	0.22797	0.010	26.15061	20.00000	Averaged	<- NT
43 1,1-Dichloropropene	0.34267	0.35380	0.35380	0.010	3.24554	20.00000	Averaged	
46 Benzene	1.05418	1.03184	1.03184	0.010	-2.11856	20.00000	Averaged	
$ 50 1,2-Dichloroethane-d4	0.14296	0.14475	0.14475	0.010	1.25060	20.00000	Averaged	
51 1,2-Dichloroethane	0.35036	0.37459	0.37459	0.010	6.91550	20.00000	Averaged	
55 Methyl Cyclohexane	0.35349	0.38081	0.38081	0.010	7.72703	20.00000	Averaged	

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 01-AUG-2013 10:00
Lab File ID: j8670Ds.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130801.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
56 Trichloroethene	0.33799	0.36028	0.36028	0.010	6.59461	20.00000	Averaged
57 Dibromomethane	0.20188	0.20968	0.20968	0.010	3.86395	20.00000	Averaged
59 1,2-Dichloropropane +	0.23573	0.25368	0.25368	0.010	7.61046	20.00000	Averaged
60 Bromodichloromethane	0.36588	0.41918	0.41918	0.010	14.56837	20.00000	Averaged
65 1-Bromo-2-chloroethane	0.04931	0.05532	0.05532	0.010	12.20576	20.00000	Averaged
64 2-Chloroethyl vinyl ether	0.17315	0.20438	0.20438	0.010	18.04097	20.00000	Averaged
67 cis-1,3-Dichloropropene	0.41257	0.45707	0.45707	0.010	10.78642	20.00000	Averaged
$ 68 Toluene-d8	2.48320	2.50035	2.50035	0.010	0.69066	20.00000	Averaged
69 Toluene +	3.01896	3.03938	3.03938	0.010	0.67613	20.00000	Averaged
71 Tetrachloroethene	0.69390	0.78019	0.78019	0.010	12.43565	20.00000	Averaged
73 4-methyl-2-pentanone	0.78739	0.89332	0.89332	0.010	13.45432	20.00000	Averaged
74 trans-1,3-Dichloropropene	0.39110	0.46541	0.46541	0.010	18.99969	20.00000	Averaged
M 82 1-3 Dichloropropene total	0.40183	0.46124	0.46124	0.010	14.78337	20.00000	Averaged
76 1,1,2-Trichloroethane	0.72489	0.78259	0.78259	0.010	7.95945	20.00000	Averaged
78 Dibromochloromethane	0.89518	1.05895	1.05895	0.010	18.29431	20.00000	Averaged
79 1,3-Dichloropropane	1.07262	1.10457	1.10457	0.010	2.97861	20.00000	Averaged
80 1,2-Dibromoethane(EDB)	0.82393	0.92383	0.92383	0.010	12.12509	20.00000	Averaged
83 2-Hexanone	0.66017	0.77967	0.77967	0.010	18.10089	20.00000	Averaged
86 1-Chlorohexane	54.31092	50.00000	0.94113	0.010	8.62184	20.00000	Linear
85 Chlorobenzene ++	2.20944	2.30939	2.30939	0.300	4.52403	20.00000	Averaged
87 Ethylbenzene +	1.13370	1.15457	1.15457	0.010	1.84145	20.00000	Averaged
88 1,1,1,2-Tetrachloroethane	0.75682	0.85539	0.85539	0.010	13.02443	20.00000	Averaged
89 p,m-Xylene	1.36819	1.39511	1.39511	0.010	1.96784	20.00000	Averaged
90 o-Xylene	1.34263	1.38233	1.38233	0.010	2.95713	20.00000	Averaged
M 121 TOTAL XYLENE	1.35967	1.39085	1.39085	0.010	2.29347	20.00000	Averaged
91 Styrene	2.24313	2.31215	2.31215	0.010	3.07660	20.00000	Averaged
92 Bromoform ++	0.83517	1.02284	1.02284	0.100	22.47065	20.00000	Averaged <- NT
93 Isopropylbenzene	3.24831	3.36353	3.36353	0.010	3.54710	20.00000	Averaged
$ 95 Bromofluorobenzene	1.00948	1.13469	1.13469	0.010	12.40288	20.00000	Averaged
96 Bromobenzene	1.13005	1.10513	1.10513	0.010	-2.20474	20.00000	Averaged
97 n-Propylbenzene	49.17693	50.00000	2.98689	0.010	-1.64614	20.00000	Linear
98 1,1,2,2-Tetrachloroethane++	0.90435	0.96224	0.96224	0.300	6.40098	20.00000	Averaged
99 2-Chlorotoluene	2.06395	2.00097	2.00097	0.010	-3.05127	20.00000	Averaged
102 1,3,5-Trimethylbenzene	48.51142	50.00000	2.15783	0.010	-2.97715	20.00000	Linear
100 1,2,3-Trichloropropane	0.99768	1.06826	1.06826	0.010	7.07379	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 01-AUG-2013 10:00
Lab File ID: j8670Ds.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130801.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
101 trans-1,4-Dichloro-2-Butene	0.17832	0.21222	0.21222	0.010	19.00616	20.00000	Averaged	
104 4-Chlorotoluene	52.57378	50.00000	1.86251	0.010	5.14757	20.00000	Linear	
105 tert-butylbenzene	51.45874	50.00000	1.13417	0.010	2.91748	20.00000	Linear	
107 1,2,4-Trimethylbenzene	52.41843	50.00000	2.22932	0.010	4.83687	20.00000	Linear	
108 sec-Butylbenzene	51.08086	50.00000	2.53625	0.010	2.16172	20.00000	Linear	
110 p-Isopropyltoluene	50.85397	50.00000	2.25412	0.010	1.70793	20.00000	Linear	
113 1,3-Dichlorobenzene	1.53453	1.59570	1.59570	0.010	3.98594	20.00000	Averaged	
115 1,4-Dichlorobenzene	1.61734	1.66860	1.66860	0.010	3.16911	20.00000	Averaged	
117 n-Butylbenzene	51.78436	50.00000	1.84845	0.010	3.56872	20.00000	Linear	
118 1,2-Dichlorobenzene	1.49158	1.59516	1.59516	0.010	6.94445	20.00000	Averaged	
119 1,2-Dibromo-3-Chloropropane	0.26606	0.33876	0.33876	0.010	27.32606	20.00000	Averaged	<-
120 Hexachlorobutadiene	65.37476	50.00000	0.51717	0.010	30.74953	20.00000	Linear	<-
122 1,2,4-Trichlorobenzene	62.92433	50.00000	1.18110	0.010	25.84867	20.00000	Linear	<-
124 Naphthalene	2.76602	3.37773	3.37773	0.010	22.11503	20.00000	Averaged	<-
125 1,2,3-Trichlorobenzene	61.71544	50.00000	1.16786	0.010	23.43088	20.00000	Linear	<-

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID (Standard): 2130722/e9996d Date Analyzed: 07/22/13 Time: 1333

Instrument ID: MSV7 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 512538 Heated Burge: (Y/N) Y

	IS1		IS2		IS3	
	Area	RT	Area	RT	Area	RT
STANDARD	371904	5.09	133271	8.27	157674	10.64

EPA Sample No.		#		#		#		#		#		#
LCS1217851	345296		5.09		122825		8.28		145791		10.64	
LCSD1217852	329903		5.09		118623		8.28		139561		10.64	
MB1217850	305378		5.09		105904		8.28		125401		10.64	
B398SB1106	341135		5.09		111138		8.28		111386		10.64	
B398SB1206	352767		5.09		125491		8.28		150027		10.64	
B398SB1302	359631		5.09		128578		8.28		153171		10.64	
B398SB1306	338570		5.09		121109		8.28		144788		10.64	

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID (Standard): 2130722/e9996d Date Analyzed: 07/22/13 Time: 1333

Instrument ID: MSV7 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 512699 Heated Burge: (Y/N) Y

	IS1		IS2		IS3	
	Area	RT	Area	RT	Area	RT
STANDARD	371904	5.09	133271	8.27	157674	10.64

EPA Sample No.		#		#		#		#		#		#
LCS1218600	285224		5.09		103970		8.28		124700		10.64	
LCSD1218601	295188		5.09		107923		8.28		125763		10.64	
MB1218599	291180		5.09		103505		8.28		120150		10.64	
B398SB1408	330032		5.09		118157		8.28		138945		10.64	
DUP2072313	361658		5.09		136212		8.28		159894		10.64	

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID (Standard): 2130721p/j8204 Date Analyzed: 07/21/13 Time: 1945

Instrument ID: MSV12 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 512539 Heated Burge: (Y/N) N

	IS1		IS2		IS3	
	Area	RT	Area	RT	Area	RT
STANDARD	245081	6.64	98512	9.11	124955	10.57

EPA Sample No.		#		#		#		#		#		#
LCS1217862	255372		6.64		101144		9.11		139719		10.57	
LCS1217864	257167		6.63		98832		9.11		134077		10.57	
LCSD1217865	257587		6.63		97968		9.11		129555		10.57	
LCSD1217863	264698		6.64		104369		9.11		142121		10.57	
MB1217861	243406		6.64		95199		9.11		123150		10.57	
EB072313	241304		6.64		94653		9.11		119522		10.57	
TRIP BLANK	248070		6.64		94152		9.11		124802		10.57	

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID (Standard): 2130721p/j8204 Date Analyzed: 07/21/13 Time: 1945

Instrument ID: MSV12 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 512652 Heated Burge: (Y/N) N

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	245081	6.64	98512	9.11	124955	10.57

EPA Sample No.		#		#		#		#		#		#
LCS1218479	261242		6.64		104053		9.11		141042		10.57	
LCSD1218480	261445		6.64		105244		9.11		142762		10.57	
MB1218478	239832		6.63		95513		9.11		127517		10.57	
B398SB1504	245774		6.63		95784		9.11		126458		10.57	
B398SB1608	240944		6.63		98777		9.11		131320		10.57	
B398SB1102	238618		6.63		97879		9.11		134613		10.57	
B398SB1102 MS	256022		6.63		104348		9.11		137085		10.57	
B398SB1102 MSD	263597		6.63		106550		9.11		159356		10.57	
B398SB1202	253552		6.63		102540		9.11		149054		10.57	
B398SB1405	265829		6.64		106461		9.11		153261		10.57	

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID (Standard): 2130721p/j8204 Date Analyzed: 07/21/13 Time: 1945

Instrument ID: MSV12 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 512899 Heated Burge: (Y/N) N

	IS1			IS2			IS3		
	Area		RT	Area		RT	Area		RT
STANDARD	245081		6.64	98512		9.11	124955		10.57
EPA Sample No.		#			#			#	
LCS1219628	267188		6.64	111131		9.11	145168		10.57
LCSD1219629	265624		6.64	107692		9.12	145844		10.57
MB1219627	258934		6.63	104667		9.11	136849		10.57
B398SB1508	250043		6.63	99923		9.11	133688		10.57
B398SB1606	251302		6.63	103814		9.11	137238		10.57
DUP072313	261902		6.64	104382		9.11	140521		10.57

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

Sample Weights - SDG/Fraction: 213072421

Dept	Container ID	Vial	Initial Wgt	Final Wgt	Sample Wgt	Analyst	Date	Preservative	Comments
MSV	21307242101-2	D	32.71	38.97	**6.26**	CLH	07/24/13 15:34	METHANOL	JAR MEOH LOT 125253
MSV	21307242101-3	C	32.69	39.21	**6.52**	CLH	07/24/13 15:34	METHANOL	JAR MEOH LOT 125253
MSV	21307242101-4	B	35.78	41.96	**6.18**	CLH	07/24/13 15:34	SODIUM BISULFATE	JAR MEOH LOT 125253
MSV	21307242101-5	A	36.12	42.30	**6.18**	CLH	07/24/13 15:33	SODIUM BISULFATE	TERRACORE
MSV	21307242104-3	D	33.55	39.88	**6.33**	CLH	07/24/13 15:37	METHANOL	TERRACORE
MSV	21307242104-4	C	33.08	39.37	**6.29**	CLH	07/24/13 15:37	METHANOL	TERRACORE
MSV	21307242104-5	B	35.70	41.43	**5.73**	CLH	07/24/13 15:36	SODIUM BISULFATE	TERRACORE
MSV	21307242104-6	A	35.13	41.24	**6.11**	CLH	07/24/13 15:36	SODIUM BISULFATE	TERRACORE
MSV	21307242105-2	D	33.48	39.44	**5.96**	CLH	07/24/13 15:39	METHANOL	TERRACORE
MSV	21307242105-3	C	33.72	39.83	**6.11**	CLH	07/24/13 15:39	METHANOL	TERRACORE
MSV	21307242105-4	B	36.05	42.10	**6.05**	CLH	07/24/13 15:38	SODIUM BISULFATE	TERRACORE
MSV	21307242105-5	A	35.91	41.87	**5.96**	CLH	07/24/13 15:38	SODIUM BISULFATE	TERRACORE
MSV	21307242106-2	D	33.53	39.91	**6.38**	CLH	07/24/13 15:46	METHANOL	TERRACORE
MSV	21307242106-3	C	33.77	39.62	**5.85**	CLH	07/24/13 15:46	METHANOL	TERRACORE
MSV	21307242106-4	B	35.92	42.01	**6.09**	CLH	07/24/13 15:46	SODIUM BISULFATE	TERRACORE
MSV	21307242106-5	A	36.13	42.02	**5.89**	CLH	07/24/13 15:44	SODIUM BISULFATE	TERRACORE
MSV	21307242107-2	D	32.57	39.10	**6.53**	CLH	07/24/13 15:52	METHANOL	TERRACORE
MSV	21307242107-3	C	33.15	39.31	**6.16**	CLH	07/24/13 15:52	METHANOL	TERRACORE
MSV	21307242107-4	B	34.64	41	**6.36**	CLH	07/24/13 15:52	SODIUM BISULFATE	TERRACORE
MSV	21307242107-5	A	35.74	42.24	**6.50**	CLH	07/24/13 15:52	SODIUM BISULFATE	TERRACORE
MSV	21307242108-2	D	32.76	38.87	**6.11**	CLH	07/24/13 15:55	METHANOL	TERRACORE
MSV	21307242108-3	C	32.53	38.68	**6.15**	CLH	07/24/13 15:55	METHANOL	TERRACORE
MSV	21307242108-4	B	35.05	41.19	**6.14**	CLH	07/24/13 15:55	SODIUM BISULFATE	TERRACORE
MSV	21307242108-5	A	35.68	41.60	**5.92**	CLH	07/24/13 15:54	SODIUM BISULFATE	TERRACORE
MSV	21307242109-2	D	32.73	38.47	**5.74**	CLH	07/24/13 15:57	METHANOL	TERRACORE
MSV	21307242109-3	C	32.62	38.47	**5.85**	CLH	07/24/13 15:57	METHANOL	TERRACORE
MSV	21307242109-4	B	35.13	40.87	**5.74**	CLH	07/24/13 15:56	SODIUM BISULFATE	TERRACORE
MSV	21307242109-5	A	35.62	42.05	**6.43**	CLH	07/24/13 15:56	SODIUM BISULFATE	TERRACORE
MSV	21307242110-3	D	33.60	39.27	**5.67**	CLH	07/24/13 15:59	METHANOL	TERRACORE

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Sample Weights - SDG/Fraction: 213072421

Dept	Container ID	Vial	Initial Wgt	Final Wgt	Sample Wgt	Analyst	Date	Preservative	Comments
MSV	21307242110-4	C	33.79	39.47	**5.68**	CLH	07/24/13 15:58	METHANOL	TERRACORE
MSV	21307242110-5	B	35.92	41.89	**5.97**	CLH	07/24/13 15:58	SODIUM BISULFATE	TERRACORE
MSV	21307242110-6	A	36.10	41.91	**5.81**	CLH	07/24/13 15:58	SODIUM BISULFATE	TERRACORE
MSV	21307242111-2	D	32.59	39.33	**6.74**	CLH	07/24/13 16:00	METHANOL	TERRACORE
MSV	21307242111-3	C	32.72	39.10	**6.38**	CLH	07/24/13 16:00	METHANOL	TERRACORE
MSV	21307242111-4	B	35.72	42.30	**6.58**	CLH	07/24/13 16:00	SODIUM BISULFATE	TERRACORE
MSV	21307242111-5	A	35.35	41.81	**6.46**	CLH	07/24/13 15:59	SODIUM BISULFATE	TERRACORE
MSV	21307242112-3	D	32.59	38.54	**5.95**	CLH	07/24/13 16:02	METHANOL	TERRACORE
MSV	21307242112-4	C	32.95	32.95	**0**	CLH	07/24/13 16:02	METHANOL	TERRACORE
MSV	21307242112-5	B	35.21	41.31	**6.10**	CLH	07/24/13 16:01	SODIUM BISULFATE	TERRACORE
MSV	21307242112-6	A	35.21	41.50	**6.29**	CLH	07/24/13 16:01	SODIUM BISULFATE	TERRACORE
MSV	21307242113-2	D	33.90	40.20	**6.30**	CLH	07/24/13 16:55	METHANOL	TERRACORE
MSV	21307242113-3	C	33.31	38.80	**5.49**	CLH	07/24/13 16:54	METHANOL	TERRACORE
MSV	21307242113-5	A	36.10	41.90	**5.80**	CLH	07/24/13 16:53	SODIUM BISULFATE	TERRACORE
MSV	21307242114-3	D	32.49	37.95	**5.46**	CLH	07/24/13 16:57	METHANOL	TERRACORE
MSV	21307242114-4	C	32.78	38.16	**5.38**	CLH	07/24/13 16:57	METHANOL	TERRACORE
MSV	21307242114-5	B	35.02	40.72	**5.70**	CLH	07/24/13 16:56	SODIUM BISULFATE	TERRACORE
MSV	21307242114-6	A	35.40	41.82	**6.42**	CLH	07/24/13 16:56	SODIUM BISULFATE	TERRACORE
MSV	21307242116-3	D	32.70	39.74	**7.04**	CLH	07/24/13 16:59	METHANOL	TERRACORE
MSV	21307242116-4	C	32.55	38.27	**5.72**	CLH	07/24/13 16:59	METHANOL	TERRACORE
MSV	21307242116-5	B	35.48	41.58	**6.10**	CLH	07/24/13 16:58	SODIUM BISULFATE	TERRACORE
MSV	21307242116-6	A	35.43	41.73	**6.30**	CLH	07/24/13 16:58	SODIUM BISULFATE	TERRACORE
MSV	21307242117-2	D	32.52	38.91	**6.39**	CLH	07/24/13 17:01	METHANOL	TERRACORE
MSV	21307242117-3	C	32.77	38.27	**5.50**	CLH	07/24/13 17:01	METHANOL	TERRACORE
MSV	21307242117-4	B	35.23	41.35	**6.12**	CLH	07/24/13 17:00	SODIUM BISULFATE	TERRACORE
MSV	21307242117-5	A	35.23	41.55	**6.32**	CLH	07/24/13 17:00	SODIUM BISULFATE	TERRACORE

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 22-JUL-2013
Instrument: msv7.i
Analyst(s): CGC

Standard	Std ID#	Conc ppm	Expiry
BFB IS/SS	7-57-07	50	12/15/13
8260 IS/SS	7-57-07	50	12/15/13
8260	7-60-11	50	07/31/13
Ac/Ac/VA	7-61-01	250/50	09/20/13
8260 ICV	7-57-08	50	12/15/13
Ac/AC/VA ICV	7-60-06	250/50	09/20/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		e9990.d	0.00 ml	22-JUL-2013 10:30	1.000	CLH	2
BLANK		e9991.d	5.00 g	22-JUL-2013 11:25	1.000	CGC	1
1201	SOIL LOW ICAL	e9992.d	5.00 g	22-JUL-2013 12:06	1.000	CGC	2
1202		e9993.d	5.00 g	22-JUL-2013 12:28	1.000	CGC	3
1203		e9994.d	5.00 g	22-JUL-2013 12:50	1.000	CGC	4
1204		e9995.d	5.00 g	22-JUL-2013 13:12	1.000	CGC	5
1205		e9996.d	5.00 g	22-JUL-2013 13:33	1.000	CGC	6
1206		e9997.d	5.00 g	22-JUL-2013 13:55	1.000	CGC	7
1207		e9998.d	5.00 g	22-JUL-2013 14:17	1.000	CGC	8
BLANK		e9999.d	5.00 g	22-JUL-2013 14:38	1.000	CGC	9
1600		f0000.d	5.00 g	22-JUL-2013 15:59	1.000	CGC	10
1216085		f0001.d	5.00 g	22-JUL-2013 16:51	1.000	CGC	11
1216086		f0002.d	5.00 g	22-JUL-2013 17:13	1.000	CGC	12
BLANK		f0003.d	5.00 g	22-JUL-2013 18:10	1.000	CGC	1
BLANK		f0004.d	5.00 g	22-JUL-2013 18:32	1.000	CGC	2
1216084		f0005.d	5.00 g	22-JUL-2013 18:54	1.000	CGC	3
21307182001		f0006.d	6.53 g	22-JUL-2013 19:30	1.000	CGC	1
21307182002		f0007.d	6.73 g	22-JUL-2013 19:52	1.000	CGC	2
21307182003		f0008.d	7.88 g	22-JUL-2013 20:14	1.000	CGC	3
21307182301		f0009.d	9.44 g	22-JUL-2013 20:35	1.000	CGC	4
21307182302		f0010.d	9.68 g	22-JUL-2013 20:57	1.000	CGC	5
21307182303	RR AS MEDIUM	f0011.d	8.63 g	22-JUL-2013 21:19	1.000	CGC	6
21307182304	RR - C/O	f0012.d	7.90 g	22-JUL-2013 21:46	1.000	CGC	7
BLANK		f0013.d	5.00 g	22-JUL-2013 22:11	1.000	CGC	10
BLANK		f0014.d	5.00 g	22-JUL-2013 22:32	1.000	CGC	11
BLANK		f0015.d	5.00 g	22-JUL-2013 22:54	1.000	CGC	12

TUNE TIME | 22-JUL-2013 22:30

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 26-JUL-2013
Instrument: msv7.i
Analyst(s): CGC

Standard	Std ID#	Conc ppm	Expires
BFB IS/SS	7-57-07	50	12/15/13
8260 IS/SS	7-57-07	50	12/15/13
8260	7-60-11	50	07/31/13
Ac/Ac/VA	7-61-01	250/50	09/20/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		f0092.d	0.00 ml	26-JUL-2013 13:56	1.000	CGC	2
1000		f0092s.d	0.00 ml	26-JUL-2013 13:56	1.000	CGC	2
BLANK		f0093.d	5.00 g	26-JUL-2013 14:16	1.000	CGC	1
BLANK		f0094.d	5.00 g	26-JUL-2013 14:48	1.000	CGC	1
1400		f0095.d	5.00 g	26-JUL-2013 15:09	1.000	CGC	2
1400		f0095s.d	5.00 g	26-JUL-2013 15:09	1.000	CGC	2
1217851		f0096.d	5.00 g	26-JUL-2013 15:31	1.000	CGC	3
LCS		f0096s.d	5.00 g	26-JUL-2013 15:31	1.000	CGC	3
1217852		f0097.d	5.00 g	26-JUL-2013 15:53	1.000	CGC	4
1217875		f0097s.d	5.00 g	26-JUL-2013 15:53	1.000	CGC	4
BLANK		f0098.d	5.00 g	26-JUL-2013 16:31	1.000	CGC	1
BLANK		f0099.d	5.00 g	26-JUL-2013 16:53	1.000	CGC	2
1217850		f0100.d	5.00 g	26-JUL-2013 17:14	1.000	CGC	3
1217873		f0100s.d	5.00 g	26-JUL-2013 17:14	1.000	CGC	3
21307240202	-----DOD SOILS-----	f0101.d	6.09 g	26-JUL-2013 17:51	1.000	CGC	1
21307240210		f0102.d	6.01 g	26-JUL-2013 18:13	1.000	CGC	2
21307240211		f0103.d	5.86 g	26-JUL-2013 18:35	1.000	CGC	3
21307242104		f0104.d	6.11 g	26-JUL-2013 18:56	1.000	CGC	4
21307242106		f0105.d	5.89 g	26-JUL-2013 19:18	1.000	CGC	5
21307242107		f0106.d	6.50 g	26-JUL-2013 19:40	1.000	CGC	6
21307242108		f0107.d	5.92 g	26-JUL-2013 20:02	1.000	CGC	7
21307252401	---THESE SOILS WERE, FOR THE MOST ---	f0108.d	4.05 g	26-JUL-2013 20:23	1.000	CGC	8
21307252402	---PART, ON HOLD. SAMPLES 2402, 05,---	f0109.d	3.56 g	26-JUL-2013 20:45	1.000	CGC	9
21307252403	---07, 10, & 13 HAVE BEEN RELEASED ---	f0110.d	4.43 g	26-JUL-2013 21:07	1.000	CGC	10
21307252404		f0111.d	4.39 g	26-JUL-2013 21:28	1.000	CGC	11
21307252405		f0112.d	4.37 g	26-JUL-2013 21:50	1.000	CGC	12
21307252406		f0113.d	4.86 g	26-JUL-2013 22:12	1.000	CGC	13
21307252407		f0114.d	4.23 g	26-JUL-2013 22:34	1.000	CGC	14
21307252408		f0115.d	5.17 g	26-JUL-2013 22:55	1.000	CGC	15
21307252409		f0116.d	5.50 g	26-JUL-2013 23:17	1.000	CGC	16
21307252410		f0117.d	7.79 g	26-JUL-2013 23:39	1.000	CGC	17
21307252411		f0118.d	4.93 g	27-JUL-2013 00:01	1.000	CGC	18
21307252412		f0119.d	5.22 g	27-JUL-2013 00:23	1.000	CGC	19
21307252413		f0120.d	4.12 g	27-JUL-2013 00:47	1.000	CGC	20

TUNE TIME | 27-JUL-2013 01:56

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 29-JUL-2013
Instrument: msv7.i
Analyst(s): CEK

Standard	Std ID#	Conc ppm	Expires
BFB IS/SS	7-57-07	50	12/15/13
8260 IS/SS	7-57-07	50	12/15/13
8260	7-60-11	50	07/31/13
Ac/Ac/VA	7-61-04	250/50	09/20/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		f0165.d	0.00 ml	29-JUL-2013 10:32	1.000	CLH	2
1000		f0165d.d	0.00 ml	29-JUL-2013 10:32	1.000	CLH	2
BLANK		f0166.d	5.00 g	29-JUL-2013 11:17	1.000	CEK	1
1400		f0167.d	5.00 g	29-JUL-2013 11:39	1.000	CEK	2
1400		f0167d.d	5.00 g	29-JUL-2013 11:39	1.000	CEK	2
LCS		f0168.d	5.00 g	29-JUL-2013 12:01	1.000	CEK	3
1218600		f0168d.d	5.00 g	29-JUL-2013 12:01	1.000	CEK	3
LCSD		f0169.d	5.00 g	29-JUL-2013 12:23	1.000	CEK	4
1218601		f0169d.d	5.00 g	29-JUL-2013 12:23	1.000	CEK	4
BLANK		f0170.d	5.00 g	29-JUL-2013 12:44	1.000	CEK	5
MB		f0171.d	5.00 g	29-JUL-2013 13:06	1.000	CEK	6
1218599		f0171d.d	5.00 g	29-JUL-2013 13:06	1.000	CEK	6
21307242110		f0172.d	5.81 g	29-JUL-2013 15:50	1.000	CEK	7
21307242117		f0173.d	6.32 g	29-JUL-2013 16:42	1.000	CEK	8
BLANK		f0174.d	5.00 g	29-JUL-2013 17:06	1.000	CEK	9
21307271008	RR AT 50X (MEDIUM)	f0175.d	5.63 g	29-JUL-2013 17:54	1.000	CEK	10
21307271003	RR CO	f0176.d	5.12 g	29-JUL-2013 18:15	1.000	CEK	11
21307271007	RR AT 50X	f0177.d	5.71 g	29-JUL-2013 18:37	1.000	CEK	12
BLANK		f0178.d	5.00 g	29-JUL-2013 19:02	1.000	CEK	13
21307271003	(ON HOLD)	f0179.d	5.42 g	29-JUL-2013 19:45	1.000	CEK	14
BLANK		f0180.d	5.00 ml	29-JUL-2013 20:09	1.000	CEK	15
LCS	624 NOT USED	f0181.d	5.00 ml	29-JUL-2013 20:28	1.000	CEK	14
BLANK		f0182.d	5.00 ml	29-JUL-2013 20:48	1.000	CEK	15

TUNE TIME: 22:32

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 21-JUL-2013
Instrument: msv12.i
Analyst(s): CEK

Standard	Conc	Std ID#	Expiration
BFB IS/SS	50	7-57-7	12/15/13
8260 IS/SS	50	7-57-7	12/15/13
8260	50	7-60-11	07/31/13
AC/AC/VA	250/50	7-61-1	09/20/13
2-CVE	50	7-58-13	12/28/13
8260 ICV	50	7-57-8	12/15/13
AC/AC/VA ICV	250/50	7-60-10	09/20/13
2-CVE ICV	50	7-54-12	10/30/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		j8199bfb.d	0.00 ml	21-JUL-2013 17:21	1.000	LBH	2
1000		j8199wbfb.d	0.00 ml	21-JUL-2013 17:21	1.000	LBH	2
1203		j8200.d	5.00 ml	21-JUL-2013 18:18	1.000	CLH	13
1203		j8200w.d	5.00 ml	21-JUL-2013 18:18	1.000	CLH	13
1204		j8201.d	5.00 ml	21-JUL-2013 18:40	1.000	CLH	14
1204		j8201w.d	5.00 ml	21-JUL-2013 18:40	1.000	CLH	14
1205		j8202.d	5.00 ml	21-JUL-2013 19:02	1.000	CLH	15
1205		j8202w.d	5.00 ml	21-JUL-2013 19:02	1.000	CLH	15
1206		j8203.d	5.00 ml	21-JUL-2013 19:23	1.000	CLH	16
1206		j8203w.d	5.00 ml	21-JUL-2013 19:23	1.000	CLH	16
1207		j8204.d	5.00 ml	21-JUL-2013 19:45	1.000	CLH	17
1207		j8204w.d	5.00 ml	21-JUL-2013 19:45	1.000	CLH	17
1208		j8205.d	5.00 ml	21-JUL-2013 20:06	1.000	CLH	18
1208		j8205w.d	5.00 ml	21-JUL-2013 20:06	1.000	CLH	18
1209		j8206.d	5.00 ml	21-JUL-2013 20:28	1.000	CLH	19
1209		j8206w.d	5.00 ml	21-JUL-2013 20:28	1.000	CLH	19
BLANK		j8207.d	5.00 ml	21-JUL-2013 20:50	1.000	CLH	81
1600		j8208.d	5.00 ml	21-JUL-2013 21:11	1.000	CLH	82
1600		j8208w.d	5.00 ml	21-JUL-2013 21:11	1.000	CLH	82
1215754		j8209.d	5.00 ml	21-JUL-2013 21:33	1.000	CLH	83
1215755		j8210.d	5.00 ml	21-JUL-2013 21:54	1.000	CLH	84
BLANK		j8211.d	5.00 ml	21-JUL-2013 22:16	1.000	CLH	85
1400		j8212.d	5.00 ml	21-JUL-2013 23:10	1.000	CLH	86
1215943		j8212L.d	5.00 ml	21-JUL-2013 23:10	1.000	CLH	86
1215944		j8213.d	5.00 ml	21-JUL-2013 23:32	1.000	CLH	87
MB		j8214.d	5.00 ml	21-JUL-2013 23:53	1.000	CLH	88
1215753		j8215.d	5.00 ml	22-JUL-2013 00:14	1.000	CLH	89
21307181712		j8216.d	5.00 ml	22-JUL-2013 00:36	1.000	CLH	1
21307181714		j8217.d	5.00 ml	22-JUL-2013 00:58	1.000	CLH	2
21307181715		j8218.d	5.00 ml	22-JUL-2013 01:19	1.000	CLH	3
BLANK		j8219.d	5.00 ml	22-JUL-2013 01:40	1.000	CLH	4
21307181701		j8220.d	5.00 ml	22-JUL-2013 02:02	1.000	CLH	5
21307181702		j8221.d	5.00 ml	22-JUL-2013 02:23	1.000	CLH	6
21307181703		j8222.d	5.00 ml	22-JUL-2013 02:44	1.000	CLH	7
21307181704		j8223.d	5.00 ml	22-JUL-2013 03:06	1.000	CLH	8
21307181705		j8224.d	5.00 ml	22-JUL-2013 03:27	1.000	CLH	9

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 21-JUL-2013
Instrument: msv12.i
Analyst(s): LBH

Standard	Conc ppm
Int. Standard	50
Surrogate	50
8260	50
Ac/Ac/VA	250/50
CVE	50

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
21307181706		j8225.d	5.00 ml	22-JUL-2013 03:49	1.000	CLH	10
21307181707		j8226.d	5.00 ml	22-JUL-2013 04:10	1.000	CLH	11
21307181708		j8227.d	5.00 ml	22-JUL-2013 04:32	1.000	CLH	12
21307181709		j8228.d	5.00 ml	22-JUL-2013 04:53	1.000	CLH	13
21307181710		j8229.d	5.00 ml	22-JUL-2013 05:15	1.000	CLH	14

TUNE TIME = 05:21 07-22-13

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 26-JUL-2013
Instrument: msv12.i
Analyst(s): JCK

Standard	Conc	Std ID#	Expiration
BFB IS/SS	50	7-54-11	10/27/13
8260 IS/SS	50	7-54-11	10/27/13
8260	50	7-60-11	07/31/13
AC/AC/VA	250/50	7-61-1	09/20/13
2-CVE	50	7-58-13	12/28/13
THF	50	7-59-8	01/08/14
APP 9-1	250	7-59-9	08/30/13
APP 9-2	50	7-58-6	12/20/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		j8415.d	0.00 ml	26-JUL-2013 12:22	1.000	JCK	2
1000		j8415s.d	0.00 ml	26-JUL-2013 12:22	1.000	JCK	2
1400	RR	j8416.d	5.00 ml	26-JUL-2013 12:58	1.000	JCK	1
LCS	RR	j8417.d	5.00 ml	26-JUL-2013 13:19	1.000	JCK	1
LCSD	RR	j8418.d	5.00 ml	26-JUL-2013 13:49	1.000	JCK	1
1400	8260	j8419.d	5.00 ml	26-JUL-2013 14:11	1.000	JCK	1
1217862		j8419L.d	5.00 ml	26-JUL-2013 14:11	1.000	JCK	1
1217871		j8419Ls.d	5.00 g	26-JUL-2013 14:11	50.000	JCK	1
1400		j8419s.d	5.00 ml	26-JUL-2013 14:11	1.000	JCK	1
1400	RR, BAD PURGE	j8420.d	5.00 ml	26-JUL-2013 14:59	1.000	JCK	2
1400	APP9	j8421.d	5.00 ml	26-JUL-2013 15:20	1.000	JCK	2
1217864		j8421L.d	5.00 ml	26-JUL-2013 15:20	1.000	JCK	2
1217865		j8422.d	5.00 ml	26-JUL-2013 15:51	1.000	JCK	3
1217863		j8423.d	5.00 ml	26-JUL-2013 16:35	1.000	JCK	4
1217872		j8423s.d	5.00 g	26-JUL-2013 16:35	50.000	JCK	4
MB		j8424.d	5.00 ml	26-JUL-2013 17:17	1.000	JCK	5
1217861		j8425.d	5.00 ml	26-JUL-2013 17:39	1.000	JCK	6
1217870		j8426s.d	5.00 g	26-JUL-2013 18:01	50.000	JCK	7
21307181711		j8427.d	5.00 ml	26-JUL-2013 18:26	1.000	JCK	8
21307181713		j8428.d	5.00 ml	26-JUL-2013 18:48	1.000	JCK	9
21307240214		j8429.d	5.00 ml	26-JUL-2013 19:10	1.000	JCK	10
21307240215		j8430.d	5.00 ml	26-JUL-2013 19:32	1.000	JCK	11
21307242115		j8431.d	5.00 ml	26-JUL-2013 19:54	1.000	JCK	12
21307242118		j8432.d	5.00 ml	26-JUL-2013 20:16	1.000	JCK	13
21307170102	DIL DUE TO NT	j8433s.d	7.00 g	26-JUL-2013 20:37	50.000	JCK	14
21307170103		j8434s.d	4.96 g	26-JUL-2013 20:59	50.000	JCK	15
21307170107		j8435s.d	6.22 g	26-JUL-2013 21:21	50.000	JCK	16
21307251405		j8436.d	5.00 ml	26-JUL-2013 21:43	25.000	JCK	17
21307251406		j8437.d	5.00 ml	26-JUL-2013 22:05	25.000	JCK	18
BLANK		j8438.d	5.00 ml	26-JUL-2013 22:26	1.000	JCK	19
21307251401		j8439.d	5.00 ml	26-JUL-2013 22:48	1.000	JCK	20
21307251402		j8440.d	5.00 ml	26-JUL-2013 23:10	1.000	JCK	21
21307251403		j8441.d	5.00 ml	26-JUL-2013 23:31	1.000	JCK	22
21307251404		j8442.d	5.00 ml	26-JUL-2013 23:53	1.000	JCK	23
21307251407		j8443.d	5.00 ml	27-JUL-2013 00:15	1.000	JCK	24
BLANK		j8444.d	5.00 ml	27-JUL-2013 00:36	1.000	JCK	25

TUNE = 00:22

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 29-JUL-2013
Instrument: msv12.i
Analyst(s): CEK
CLH

Standard	Conc	Std ID#	Expiration
BFB IS/SS	50	7-54-11	10/27/13
8260 IS/SS	50	7-54-11	10/27/13
8260	50	7-61-5	08/08/13
AC/AC/VA	250/50	7-61-4	09/20/13
2-CVE	50	7-58-13	12/28/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		j8552.d	0.00 ml	29-JUL-2013 10:35	1.000	CLH	2
1000		j8552d.d	0.00 ml	29-JUL-2013 10:35	1.000	CLH	2
1000		j8552w.d	0.00 ml	29-JUL-2013 10:35	1.000	CLH	2
1400	RR	j8553.d	5.00 ml	29-JUL-2013 11:16	1.000	CEK	1
1400		j8554.d	5.00 ml	29-JUL-2013 11:37	1.000	CEK	1
1400		j8554d.d	5.00 ml	29-JUL-2013 11:37	1.000	CEK	1
1218479		j8554dL.d	5.00 g	29-JUL-2013 11:37	50.000	CEK	1
1218482		j8554L.d	5.00 g	29-JUL-2013 11:37	50.000	CEK	1
1400		j8554w.d	5.00 ml	29-JUL-2013 11:37	1.000	CEK	1
1218596		j8554wL.d	5.00 ml	29-JUL-2013 11:37	1.000	CEK	1
1218483		j8555.d	5.00 g	29-JUL-2013 12:09	50.000	CEK	2
1218480		j8555d.d	5.00 g	29-JUL-2013 12:09	50.000	CEK	2
1218597		j8555w.d	5.00 ml	29-JUL-2013 12:09	1.000	CEK	2
BLANK		j8556.d	5.00 ml	29-JUL-2013 12:31	1.000	CEK	3
BLANK		j8557.d	5.00 ml	29-JUL-2013 12:53	1.000	CLH	4
1218595		j8558w.d	5.00 ml	29-JUL-2013 13:15	1.000	CLH	4
1218481		j8559.d	5.00 g	29-JUL-2013 13:37	50.000	CLH	5
1218478		j8559d.d	5.00 g	29-JUL-2013 13:37	50.000	CLH	5
21307242111		j8560.d	6.38 g	29-JUL-2013 13:59	50.000	CLH	6
21307242113		j8561.d	5.49 g	29-JUL-2013 14:22	50.000	CLH	7
21307242114		j8562.d	5.38 g	29-JUL-2013 14:43	50.000	CLH	8
21307242110		j8563.d	5.68 g	29-JUL-2013 15:05	100.000	CEK	9
21307242117		j8564.d	6.38 g	29-JUL-2013 15:27	100.000	CEK	10
21307242101		j8565.d	6.52 g	29-JUL-2013 15:49	50.000	CEK	11
21307242102	(FAILURES, BUT MATCH)	j8566ms.d	6.52 g	29-JUL-2013 16:11	50.000	JCK	12
21307242103	"	j8567msd.d	6.52 g	29-JUL-2013 16:33	50.000	JCK	12
BLANK		j8568.d	5.00 ml	29-JUL-2013 16:55	1.000	JCK	13
21307271008	(CONFIRMED NOT LOW ON MSV7)	j8569.d	5.02 g	29-JUL-2013 17:16	50.000	CEK	14
21307271001		j8570.d	5.30 g	29-JUL-2013 17:39	50.000	CEK	15
21307242105		j8571.d	6.11 g	29-JUL-2013 18:01	100.000	CEK	16
21307242109		j8572.d	5.85 g	29-JUL-2013 18:23	5000.000	CEK	17
21307242112	RR AS LOW	j8573.d	5.00 g	29-JUL-2013 18:45	50.000	CEK	18
21307242116	RR AT 5000X	j8574.d	5.72 g	29-JUL-2013 19:09	25000.000	CEK	19
21307293001		j8575.d	5.00 ml	29-JUL-2013 20:43	1.000	CEK	21
21307293002		j8576.d	5.00 ml	29-JUL-2013 21:05	1.000	CEK	22
21307293003		j8577.d	5.00 ml	29-JUL-2013 21:27	1.000	CEK	23
21307293004		j8578.d	5.00 ml	29-JUL-2013 21:48	1.000	CEK	24
21307293005		j8579.d	5.00 ml	29-JUL-2013 22:10	1.000	CEK	25
21307293006		j8580.d	5.00 ml	29-JUL-2013 22:32	1.000	CEK	26

TUNE TIME: 22:35

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 01-AUG-2013
Instrument: msv12.i
Analyst(s): JCK

Standard	Conc	Std ID#	Expiration
BFB IS/SS	50	7-54-11	10/27/13
8260 IS/SS	50	7-54-11	10/27/13
8260	50	7-61-05	08/08/13
AC/AC/VA	250/50	7-61-04	09/20/13
2-CVE	50	7-58-13	12/28/13
THF	50	7-59-8	01/08/14
APP 9-1	250	7-59-9	08/30/13
APP 9-2	50	7-58-6	12/20/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000	RR	j8666.d	0.00 ml	01-AUG-2013 07:49	1.000	JCK	2
1000	RR	j8667.d	0.00 ml	01-AUG-2013 08:11	1.000	JCK	2
1000		j8668bfb.d	0.00 ml	01-AUG-2013 08:32	1.000	JCK	2
1000		j8668bfbDs.d	0.00 ml	01-AUG-2013 08:32	1.000	JCK	2
1000		j8668bfbs.d	0.00 ml	01-AUG-2013 08:32	1.000	JCK	2
1400	RR	j8669.d	5.00 ml	01-AUG-2013 09:16	1.000	JCK	1
1400	8260	j8670.d	5.00 ml	01-AUG-2013 10:00	1.000	JCK	1
1219628		j8670DLs.d	5.00 g	01-AUG-2013 10:00	50.000	JCK	1
1400		j8670Ds.d	5.00 ml	01-AUG-2013 10:00	1.000	JCK	1
1219589		j8670L.d	5.00 ml	01-AUG-2013 10:00	1.000	JCK	1
1219824		j8670Ls.d	5.00 g	01-AUG-2013 10:00	50.000	JCK	1
1400		j8670s.d	5.00 ml	01-AUG-2013 10:00	1.000	JCK	1
1219590		j8671.d	5.00 ml	01-AUG-2013 10:22	1.000	JCK	1
1219629		j8671Ds.d	5.00 g	01-AUG-2013 10:22	50.000	JCK	1
1219825		j8671s.d	5.00 g	01-AUG-2013 10:22	50.000	JCK	1
1400	APP9	j8672.d	5.00 ml	01-AUG-2013 10:56	1.000	JCK	2
LCS		j8672L.d	5.00 ml	01-AUG-2013 10:56	1.000	JCK	2
LCSD		j8673.d	5.00 ml	01-AUG-2013 11:17	1.000	JCK	2
MB		j8674.d	5.00 ml	01-AUG-2013 11:44	1.000	JCK	3
1219588		j8675.d	5.00 ml	01-AUG-2013 12:06	1.000	JCK	4
1219627		j8676Ds.d	5.00 g	01-AUG-2013 12:28	50.000	JCK	5
1219823		j8676s.d	5.00 g	01-AUG-2013 12:28	50.000	JCK	5
21307263903		j8677.d	5.00 ml	01-AUG-2013 12:58	1.000	JCK	6
21307263905	DIL DUE TO FOAMING	j8678.d	5.00 ml	01-AUG-2013 13:38	5.000	JCK	7
21308012401	RR 10X, MULT DIL	j8679.d	5.00 ml	01-AUG-2013 14:00	100.000	JCK	8
21308012401	LR/NO	j8680.d	5.00 ml	01-AUG-2013 14:22	10.000	JCK	9
BLANK		j8681.d	5.00 ml	01-AUG-2013 14:44	1.000	JCK	10
21307291901	RR 20X	j8682.d	5.00 ml	01-AUG-2013 15:08	100.000	JCK	11
21307291901		j8683.d	5.00 ml	01-AUG-2013 15:31	20.000	JCK	12
21307291901		j8683T.d	5.00 ml	01-AUG-2013 15:31	20.000	JCK	12
BLANK		j8684.d	5.00 ml	01-AUG-2013 15:53	1.000	JCK	13
21307242112		j8685.d	5.95 g	01-AUG-2013 16:15	50.000	AMD	14
21307242113		j8686.d	5.49 g	01-AUG-2013 16:37	50.000	AMD	15
21307242116		j8687.d	5.72 g	01-AUG-2013 16:59	5000.000	AMD	16
BLANK		j8688.d	5.00 ml	01-AUG-2013 17:22	1.000	JCK	17
21307271002		j8689.d	5.13 g	01-AUG-2013 17:44	50.000	JCK	18

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 01-AUG-2013
Instrument: msv12.i
Analyst(s): JCK

Standard	Conc ppm
Int. Standard	50
Surrogate	50
8260	50
Ac/Ac/VA	250/50
CVE	50

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
21307271003		j8690.d	5.02 g	01-AUG-2013 18:06	50.000	JCK	19
21307271004		j8691.d	5.06 g	01-AUG-2013 18:28	50.000	JCK	20
21307271005		j8692.d	5.27 g	01-AUG-2013 18:51	50.000	JCK	21
21307271006		j8693.d	5.10 g	01-AUG-2013 19:13	50.000	JCK	22
21307271007		j8694.d	5.22 g	01-AUG-2013 19:35	50.000	JCK	23

TUNE = 20:32

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 6.26 Units: g

Level: (low/med) LOW

% Moisture: 7.3 decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 512882

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1102

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242101

Date Collected: 07/23/13 Time: 1030

Date Received: 07/24/13

Date Extracted:

Date Analyzed: 08/01/13 Time: 1614

Dilution Factor: 50 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A

Lab File ID: 2130801/v9006

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	20200		422	4310

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 6.33 Units: g
Level: (low/med) LOW
% Moisture: 11.3 decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 512882

Sample ID: B398SB1106
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242104
Date Collected: 07/23/13 Time: 1040
Date Received: 07/24/13
Date Extracted:
Date Analyzed: 08/01/13 Time: 2158
Dilution Factor: 50 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A
Lab File ID: 2130801/v9023

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	436	U	436	4450

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 5.96 Units: g
Level: (low/med) LOW
% Moisture: 10.9 decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 512882

Sample ID: B398SB1202
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242105
Date Collected: 07/23/13 Time: 1100
Date Received: 07/24/13
Date Extracted:
Date Analyzed: 08/01/13 Time: 2218
Dilution Factor: 100 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A
Lab File ID: 2130801/v9024

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	35100	Q	922	9410

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 6.38 Units: g

Level: (low/med) LOW

% Moisture: 11.9 decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 512882

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1206

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242106

Date Collected: 07/23/13 Time: 1107

Date Received: 07/24/13

Date Extracted:

Date Analyzed: 08/01/13 Time: 1754

Dilution Factor: 50 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A

Lab File ID: 2130801/v9011

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	1210	J	435	4450

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 6.53 Units: g
Level: (low/med) LOW
% Moisture: 7.6 decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 512882

Sample ID: B398SB1302
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242107
Date Collected: 07/23/13 Time: 1125
Date Received: 07/24/13
Date Extracted:
Date Analyzed: 08/01/13 Time: 1814
Dilution Factor: 50 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A
Lab File ID: 2130801/v9012

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	405	U	405	4140

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 6.11 Units: g

Level: (low/med) LOW

% Moisture: 14.8 decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 512882

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1306

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242108

Date Collected: 07/23/13 Time: 1140

Date Received: 07/24/13

Date Extracted:

Date Analyzed: 08/01/13 Time: 1834

Dilution Factor: 50 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A

Lab File ID: 2130801/v9013

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	470	U	470	4800

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 5.74 Units: g

Level: (low/med) LOW

% Moisture: 14.7 decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 512882

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1405

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242109

Date Collected: 07/23/13 Time: 1318

Date Received: 07/24/13

Date Extracted:

Date Analyzed: 08/01/13 Time: 1914

Dilution Factor: 5000 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A

Lab File ID: 2130801/v9015

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5850000		50000	511000

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 5.67 Units: g

Level: (low/med) LOW

% Moisture: 15.0 decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513016

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1408

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242110

Date Collected: 07/23/13 Time: 1332

Date Received: 07/24/13

Date Extracted:

Date Analyzed: 08/02/13 Time: 1240

Dilution Factor: 50 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A

Lab File ID: 2130802/v9005

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	1230	J	508	5190

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 6.74 Units: g

Level: (low/med) LOW

% Moisture: 8.9 decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 512882

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1504

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242111

Date Collected: 07/23/13 Time: 1342

Date Received: 07/24/13

Date Extracted:

Date Analyzed: 08/01/13 Time: 1954

Dilution Factor: 50 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A

Lab File ID: 2130801/v9017

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	2070	J	399	4070

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 5.95 Units: g

Level: (low/med) LOW

% Moisture: 16.6 decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 512882

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1508

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242112

Date Collected: 07/23/13 Time: 1355

Date Received: 07/24/13

Date Extracted:

Date Analyzed: 08/01/13 Time: 2014

Dilution Factor: 50 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A

Lab File ID: 2130801/v9018

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	2600	J	493	5040

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 6.3 Units: g
Level: (low/med) LOW
% Moisture: 10.8 decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513016
CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1606
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242113
Date Collected: 07/23/13 Time: 1418
Date Received: 07/24/13
Date Extracted:
Date Analyzed: 08/02/13 Time: 1340
Dilution Factor: 50 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A
Lab File ID: 2130802/v9008

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	3460	J	435	4450

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 5.46 Units: g
Level: (low/med) LOW
% Moisture: 9.6 decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513016
CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1608
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242114
Date Collected: 07/23/13 Time: 1429
Date Received: 07/24/13
Date Extracted:
Date Analyzed: 08/02/13 Time: 1400
Dilution Factor: 50 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A
Lab File ID: 2130802/v9009

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	1690	J	496	5070

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 512883

Sample ID: EB072313
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242115
Date Collected: 07/23/13 Time: 1200
Date Received: 07/24/13
Date Extracted:
Date Analyzed: 08/02/13 Time: 1210
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130802/v6005

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5.50	U	5.50	100

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 7.04 Units: g
Level: (low/med) LOW
% Moisture: 16.4 decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 512882
CONCENTRATION UNITS: ug/kg

Sample ID: DUP072313
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242116
Date Collected: 07/23/13 Time: 0000
Date Received: 07/24/13
Date Extracted:
Date Analyzed: 08/01/13 Time: 2114
Dilution Factor: 5000 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A
Lab File ID: 2130801/v9021

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	10200000		41600	425000

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 6.39 Units: g
Level: (low/med) LOW
% Moisture: 15.7 decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513016

Sample ID: DUP2072313
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242117
Date Collected: 07/23/13 Time: 0000
Date Received: 07/24/13
Date Extracted:
Date Analyzed: 08/02/13 Time: 1420
Dilution Factor: 50 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A
Lab File ID: 2130802/v9010

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	946	J	455	4640

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 512883

Sample ID: TRIP BLANK
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242118
Date Collected: 07/23/13 Time: 0000
Date Received: 07/24/13
Date Extracted:
Date Analyzed: 08/02/13 Time: 1224
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130802/v6006

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5.50	U	5.50	100

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 5 Units: g
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 512882

Sample ID: MB1219562
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 1219562
Date Collected: Time:
Date Received:
Date Extracted:
Date Analyzed: 08/01/13 Time: 1454
Dilution Factor: 50 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A
Lab File ID: 2130801/v9004

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	490	U	490	5000

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 512883

CONCENTRATION UNITS: ug/L

Sample ID: MB1219564

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 1219564

Date Collected: Time:

Date Received:

Date Extracted:

Date Analyzed: 08/02/13 Time: 1156

Dilution Factor: 1 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130802/v6004

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5.50	U	5.50	100

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Sample ID: MB1220340
Lab Code: LA024 Case No.:
Contract:
Matrix: Solid
SAS No.: SDG No.: 213072421
Sample wt/vol: 5 Units: g
Lab Sample ID: 1220340
Level: (low/med) LOW
Date Collected: Time:
% Moisture: decanted: (Y/N)
Date Received:
GC Column: ID: (mm)
Date Extracted:
Concentrated Extract Volume: 5000 (µL)
Date Analyzed: 08/02/13 Time: 1220
Soil Aliquot Volume: (µL)
Dilution Factor: 50 Analyst: BMR
Injection Volume: 1 (µL)
Prep Method: 8015C
GPC Cleanup: (Y/N) N pH:
Analytical Method: SW846 8015C
Prep Batch: Analytical Batch: 513016
Sulfur Cleanup: (Y/N) N Instrument ID: GCV9A
CONCENTRATION UNITS: ug/kg
Lab File ID: 2130802/v9004

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	490	U	490	5000

2E

WATER ORGANIC SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

GC Column (1): ID: (mm) GC Cloumn (2): ID: (mm)

Method: SW846 8015C

EPA SAMPLE NO.	SMC1 1-(1)	Lo	Hi	F	SMC2 2	Lo	Hi	F	SMC3 3	Lo	Hi	F	SMC4 4	Lo	Hi	F	TOT OUT
1. EB072313	67	49	136														0
2. TRIP BLANK	69	49	136														0
3. MB1219564	70	49	136														0
4. LCS1219565	85	49	136														0
5. LCSD1219566	87	49	136														0

SMC 1 : Bromochlorobenzene SMC 2 :

SMC 3 : SMC 4 :

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

2F

ORGANICS SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

GC Column (1) : ID: (mm) GC Cloumn (2) : ID: (mm)

Method: SW846 8015C

EPA SAMPLE NO.	SMC1 1	#	SMC2 2	#	SMC3 3	#	SMC4 4	#	TOT OUT
1. B398SB1102	140								0
2. B398SB1102 MS	154								0
3. B398SB1102 MSD	161								0
4. B398SB1106	97								0
5. B398SB1202	779	*							1
6. B398SB1206	109								0
7. B398SB1302	100								0
8. B398SB1306	99								0
9. B398SB1405	113								0
10. B398SB1408	98								0
11. B398SB1504	97								0
12. B398SB1508	96								0
13. B398SB1606	97								0
14. B398SB1608	103								0
15. DUP072313	105								0
16. DUP2072313	89								0
17. MB1219562	92								0
18. LCS1219563	94								0
19. MB1220340	96								0
20. LCS1220341	103								0
21. B398SB1408MS	103								0
22. B398SB1408MSD	101								0

		CONTROL LIMITS	
SMC 1 :	Bromochlorobenzene	47	164
SMC 2 :			
SMC 3 :			
SMC 4 :			

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

3E

WATER ORGANICS LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW846 8015C

Prep Batch: Analytical Batch: 512883

SAMPLE NO : 1219565

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	LCS % REC FLAG	QC. LIMITS
GRO	ug/L	500	0	446	89		70 - 128

SAMPLE NO : 1219566

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
GRO	ug/L	500	470	94		5		70 - 128	0 - 25

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

3F

SOILORGANIC MS/MSD RECOVERY

Lab Name: GCAL Sample ID: B398SB1408

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW846 8015C

Prep Batch: Analytical Batch: 513016

Spike HSN : 1220342

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC	MS % REC FLAG	QC. LIMITS
GRO	ug/kg	25900	1240	26300	97		67 - 127

Spike Dupe HSN : 1220343

COMPOUND	UNITS	SPIKE ADDED	MSD CONC.	MSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
GRO	ug/kg	25900	27300	100		4		67 - 127	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

FORM III ORG-2

3F

SOILORGANIC MS/MSD RECOVERY

Lab Name: GCAL Sample ID: B398SB1102

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW846 8015C

Prep Batch: Analytical Batch: 512882

Spike HSN : 21307242102

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC	MS % REC FLAG	QC. LIMITS
GRO	ug/kg	21600	20200	45200	116		67 - 127

Spike Dupe HSN : 21307242103

COMPOUND	UNITS	SPIKE ADDED	MSD CONC.	MSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
GRO	ug/kg	21600	46300	121		3		67 - 127	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

FORM III ORG-2

3F

SOIL ORGANIC LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW846 8015C

Prep Batch: Analytical Batch: 513016

Spike HSN : 1220341

COMPOUND	*UNITS*	*SPIKE ADDED*	*SAMPLE CONCENTRATION*	*LCS CONCENTRATION*	*LCS % REC*	*LCS % REC FLAG*	*QC. LIMITS*
GRO	ug/kg	25000	0	24000	96		67 - 127

RPD : 0 out of 0 outside limits

Spike Recovery: 0 out of 1 outside limits

FORM III ORG-2

3F

SOIL ORGANIC LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW846 8015C

Prep Batch: Analytical Batch: 512882

Spike HSN : 1219563

COMPOUND	*UNITS*	*SPIKE ADDED*	*SAMPLE CONCENTRATION*	*LCS CONCENTRATION*	*LCS % REC*	*LCS % REC FLAG*	*QC. LIMITS*
GRO	ug/kg	25000	0	23500	94		67 - 127

RPD : 0 out of 0 outside limits

Spike Recovery: 0 out of 1 outside limits

FORM III ORG-2

4C

ORGANIC METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1219564

Lab Code: LA024 Case No.:

Contract:

Lab Sample ID: 1219564

SAS No.: SDG No.: 213072421

Matrix: Water Sulfur Cleanup: (Y/N) N

Date Extracted:

Date Analyzed (1): 08/02/13 Time (1): 1156

Date Analyzed (2): Time (2):

Instrument ID (1): GCV6A

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

Method: SW846 8015C

Prep Batch: Analytical Batch: 512883

Lab File ID: 2130802/v6004

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS1219565	1219565	08/02/13	1128	GCV6A
2.	LCSD1219566	1219566	08/02/13	1142	GCV6A
3.	EB072313	21307242115	08/02/13	1210	GCV6A
4.	TRIP BLANK	21307242118	08/02/13	1224	GCV6A

4C

ORGANIC METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1219562

Lab Code: LA024 Case No.:

Contract:

Lab Sample ID: 1219562

SAS No.: SDG No.: 213072421

Matrix: Solid Sulfur Cleanup: (Y/N) N

Date Extracted:

Date Analyzed (1): 08/01/13 Time (1): 1454

Date Analyzed (2): Time (2):

Instrument ID (1): GCV9A

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

Method: SW846 8015C

Prep Batch: Analytical Batch: 512882

Lab File ID: 2130801/v9004

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS1219563	1219563	08/01/13	1434	GCV9A
2.	B398SB1102	21307242101	08/01/13	1614	GCV9A
3.	B398SB1102 MS	21307242102	08/01/13	1634	GCV9A
4.	B398SB1102 MSD	21307242103	08/01/13	1654	GCV9A
5.	B398SB1206	21307242106	08/01/13	1754	GCV9A
6.	B398SB1302	21307242107	08/01/13	1814	GCV9A
7.	B398SB1306	21307242108	08/01/13	1834	GCV9A
8.	B398SB1405	21307242109	08/01/13	1914	GCV9A
9.	B398SB1504	21307242111	08/01/13	1954	GCV9A
10.	B398SB1508	21307242112	08/01/13	2014	GCV9A
11.	DUP072313	21307242116	08/01/13	2114	GCV9A
12.	B398SB1106	21307242104	08/01/13	2158	GCV9A
13.	B398SB1202	21307242105	08/01/13	2218	GCV9A

FORM IV ORGANIC

4C

ORGANIC METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1220340

Lab Code: LA024 Case No.:

Contract:

Lab Sample ID: 1220340

SAS No.: SDG No.: 213072421

Matrix: Solid Sulfur Cleanup: (Y/N) N

Date Extracted:

Date Analyzed (1): 08/02/13 Time (1): 1220

Date Analyzed (2): Time (2):

Instrument ID (1): GCV9A

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

Method: SW846 8015C

Prep Batch: Analytical Batch: 513016

Lab File ID: 2130802/v9004

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS1220341	1220341	08/02/13	1200	GCV9A
2.	B398SB1408	21307242110	08/02/13	1240	GCV9A
3.	B398SB1408MS	1220342	08/02/13	1300	GCV9A
4.	B398SB1408MSD	1220343	08/02/13	1320	GCV9A
5.	B398SB1606	21307242113	08/02/13	1340	GCV9A
6.	B398SB1608	21307242114	08/02/13	1400	GCV9A
7.	DUP2072313	21307242117	08/02/13	1420	GCV9A

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-APR-2013 15:42
End Cal Date : 04-APR-2013 16:38
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Cal Date : 05-Apr-2013 11:18 bmr
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcv6a.i/2130404p.b/v6002.d
Level 2: /var/chem/gcv6a.i/2130404p.b/v6003.d
Level 3: /var/chem/gcv6a.i/2130404p.b/v6004.d
Level 4: /var/chem/gcv6a.i/2130404p.b/v6005.d
Level 5: /var/chem/gcv6a.i/2130404p.b/v6006.d

Compound	100.000 Level 1	500.000 Level 2	800.000 Level 3	1000.000 Level 4	3000.000 Level 5	RRF	% RSD
S 1 Total TPHG	14923	17696	14850	14949	15165	15517	7.888
2 Fluorobenzene	57035	78297	69511	67027	90466	72467	17.379
3 TPHG 1	4385	5372	4389	4431	4374	4590	9.535
4 TPHG 2	917	1110	925	933	951	967	8.359
5 TPHG 3	3523	4372	3587	3583	3675	3748	9.422
6 TPHG 4	1440	1728	1434	1477	1506	1517	8.015
7 TPHG 5	2068	2337	2022	2032	2086	2109	6.159
8 TPHG 6	2591	2777	2493	2493	2573	2585	4.489
$ 9 Bromochlorobenzene	25045	30214	34019	35801	49379	34892	26.044
GRO	39,287	49,130	40,756	39,683	40,825	41,936	9.72%

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: ICV6/16/2
Level: LOW
Data Type: GC MULTI COMP
SpikeList File: TPHG.spk
Sublist File: all.sub
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Misc Info: 6/16/16

Client SDG: 2130404p
Fraction: VOA
Client Smp ID: ICV6/16/2
Operator: BMR
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
S 1 Total TPHG	500	499	99.81	67-127

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 9 Bromochlorobenzene	30.0	28.5	94.88	49-136

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv6a.i
Lab File ID: v6002.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/gcv6a.i/2130802.b/GASHBw.m

Injection Date: 02-AUG-2013 11:28
Init. Cal. Date(s): 04-APR-2013 04-APR-2013
Init. Cal. Times: 15:42 16:38
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	15517	14805	0.010	4.58385	20.00000	Averaged
2 Fluorobenzene	72467	69783	0.010	3.70401	20.00000	Averaged
3 TPHG 1	4590	4305	0.010	6.21609	20.00000	Averaged
4 TPHG 2	967	935	0.010	3.31182	20.00000	Averaged
5 TPHG 3	3748	3610	0.010	3.69522	20.00000	Averaged
6 TPHG 4	1517	1446	0.010	4.66956	20.00000	Averaged
7 TPHG 5	2109	2020	0.010	4.23799	20.00000	Averaged
8 TPHG 6	2585	2490	0.010	3.68201	20.00000	Averaged
$ 9 Bromochlorobenzene	34892	29767	0.010	14.68640	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 5.42077
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

Data File: /var/chem/gcv6a.i/2130802.b/v6010.d
Report Date: 02-Aug-2013 16:07

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv6a.i
Lab File ID: v6010.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/gcv6a.i/2130802.b/GASHBw.m

Injection Date: 02-AUG-2013 14:08
Init. Cal. Date(s): 04-APR-2013 04-APR-2013
Init. Cal. Times: 15:42 16:38
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	15517	15517	0.010	-0.00018	20.00000	Averaged
2 Fluorobenzene	72467	73733	0.010	-1.74618	20.00000	Averaged
3 TPHG 1	4590	4280	0.010	6.74645	20.00000	Averaged
4 TPHG 2	967	1013	0.010	-4.73287	20.00000	Averaged
5 TPHG 3	3748	3682	0.010	1.76745	20.00000	Averaged
6 TPHG 4	1517	1449	0.010	4.47269	20.00000	Averaged
7 TPHG 5	2109	2207	0.010	-4.64801	20.00000	Averaged
8 TPHG 6	2585	2885	0.010	-11.60286	20.00000	Averaged
$ 9 Bromochlorobenzene	34892	32210	0.010	7.68671	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 4.82260
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-JUL-2013 16:04
End Cal Date : 25-JUL-2013 17:48
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /var/chem/gcv9a.i/2130725p.b/GASHBw.m
Cal Date : 25-Jul-2013 18:13 jar
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcv9a.i/2130725p.b/v9002.d
Level 2: /var/chem/gcv9a.i/2130725p.b/v9007.d
Level 3: /var/chem/gcv9a.i/2130725p.b/v9004.d
Level 4: /var/chem/gcv9a.i/2130725p.b/v9005.d
Level 5: /var/chem/gcv9a.i/2130725p.b/v9006.d

	Compound	100.000 Level 1	500.000 Level 2	800.000 Level 3	1000.000 Level 4	3000.000 Level 5	RRF	% RSD
S	1 Total TPHG	5757	5126	5661	5679	5496	5544	4.552
	2 Fluorobenzene	24351	26777	28475	31123	37427	29631	16.906
	3 TPHG 1	1868	1626	1807	1816	1772	1778	5.162
	4 TPHG 2	338	319	356	354	342	342	4.315
	5 TPHG 3	1415	1288	1441	1440	1397	1396	4.527
	6 TPHG 4	578	516	573	575	556	560	4.582
	7 TPHG 5	692	624	672	679	646	663	4.097
	8 TPHG 6	865	752	812	816	783	806	5.225
$	9 Bromochlorobenzene	9142	9297	9521	9834	10132	9585	4.189
	GRO	13,276	12,818	14,018	14,396	14,320	13,766	5.028

Data File: /var/chem/gcv9a.i/2130725p.b/v9008.d
Report Date: 01-Aug-2013 11:57

GCAL, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 2130725p
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: ICV6/18/2
Level: LOW
Operator: BMR
Data Type: GC MULTI COMP
SampleType: LCS
SpikeList File: TPHG.spk
Quant Type: ESTD
Sublist File: all.sub
Method File: /var/chem/gcv9a.i/2130725p.b/GASHBw.m
Misc Info: 6/16/7

SPIKE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
S 1 Total TPHG	500	532	106.32	67-127

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 9 Bromochlorobenzene	30.0	27.2	90.80	49-136

Data File: /var/chem/gcv9a.i/2130801.b/v9002.d
Report Date: 02-Aug-2013 16:33

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv9a.i
Lab File ID: v9002.d
Analysis Type: SOIL
Lab Sample ID: 1400
Method: /var/chem/gcv9a.i/2130801.b/GASHBw.m

Injection Date: 01-AUG-2013 14:14
Init. Cal. Date(s): 25-JUL-2013 25-JUL-2013
Init. Cal. Times: 16:04 17:48
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
S 1 Total TPHG	5544	5171	0.010	6.72265	20.00000	Averaged	
2 Fluorobenzene	29631	26824	0.010	9.47346	20.00000	Averaged	
3 TPHG 1	1778	1833	0.010	-3.08549	20.00000	Averaged	
4 TPHG 2	342	355	0.010	-3.90144	20.00000	Averaged	
5 TPHG 3	1396	1446	0.010	-3.57496	20.00000	Averaged	
6 TPHG 4	560	585	0.010	-4.53501	20.00000	Averaged	
7 TPHG 5	663	143	0.010	78.39940	20.00000	Averaged	<-
8 TPHG 6	806	809	0.010	-0.39910	20.00000	Averaged	
$ 9 Bromochlorobenzene	9585	9321	0.010	2.75741	30.00000	Averaged	

Average %D / Drift Results.

Calculated Average %D/Drift = 7.65307
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv9a.i
Lab File ID: v9014.d
Analysis Type: SOIL
Lab Sample ID: 1400
Method: /var/chem/gcv9a.i/2130801.b/GASHBw.m

Injection Date: 01-AUG-2013 18:54
Init. Cal. Date(s): 25-JUL-2013 25-JUL-2013
Init. Cal. Times: 16:04 17:48
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	5544	5701	0.010	-2.84418	20.00000	Averaged
2 Fluorobenzene	29631	27125	0.010	8.45447	20.00000	Averaged
3 TPHG 1	1778	1828	0.010	-2.80795	20.00000	Averaged
4 TPHG 2	342	361	0.010	-5.48960	20.00000	Averaged
5 TPHG 3	1396	1458	0.010	-4.41838	20.00000	Averaged
6 TPHG 4	560	589	0.010	-5.26147	20.00000	Averaged
7 TPHG 5	663	667	0.010	-0.62488	20.00000	Averaged
8 TPHG 6	806	799	0.010	0.78198	20.00000	Averaged
$ 9 Bromochlorobenzene	9585	9627	0.010	-0.44131	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 3.45825
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

Report Date: 02-Aug-2013 16:30

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv9a.i
Lab File ID: v9026.d
Analysis Type: SOIL
Lab Sample ID: 1400
Method: /var/chem/gcv9a.i/2130801.b/GASHBw.m

Injection Date: 01-AUG-2013 22:58
Init. Cal. Date(s): 25-JUL-2013 25-JUL-2013
Init. Cal. Times: 16:04 17:48
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	5544	5973	0.010	-7.75151	20.00000	Averaged
2 Fluorobenzene	29631	26838	0.010	9.42295	20.00000	Averaged
3 TPHG 1	1778	1877	0.010	-5.56343	20.00000	Averaged
4 TPHG 2	342	376	0.010	-9.91842	20.00000	Averaged
5 TPHG 3	1396	1530	0.010	-9.57958	20.00000	Averaged
6 TPHG 4	560	608	0.010	-8.67651	20.00000	Averaged
7 TPHG 5	663	713	0.010	-7.63106	20.00000	Averaged
8 TPHG 6	806	870	0.010	-7.94814	20.00000	Averaged
$ 9 Bromochlorobenzene	9585	9814	0.010	-2.38600	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 7.65307
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv9a.i
Lab File ID: v9002.d
Analysis Type: SOIL
Lab Sample ID: 1400
Method: /var/chem/gcv9a.i/2130802.b/GASHBw.m

Injection Date: 02-AUG-2013 11:40
Init. Cal. Date(s): 25-JUL-2013 25-JUL-2013
Init. Cal. Times: 16:04 17:48
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	5544	5790	0.010	-4.43704	20.00000	Averaged
2 Fluorobenzene	29631	26683	0.010	9.94729	20.00000	Averaged
3 TPHG 1	1778	1839	0.010	-3.45539	20.00000	Averaged
4 TPHG 2	342	359	0.010	-4.96625	20.00000	Averaged
5 TPHG 3	1396	1462	0.010	-4.72563	20.00000	Averaged
6 TPHG 4	560	593	0.010	-5.99579	20.00000	Averaged
7 TPHG 5	663	694	0.010	-4.82110	20.00000	Averaged
8 TPHG 6	806	842	0.010	-4.47963	20.00000	Averaged
$ 9 Bromochlorobenzene	9585	9302	0.010	2.95147	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 5.08662
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv9a.i
Lab File ID: v9011.d
Analysis Type: SOIL
Lab Sample ID: 1400
Method: /var/chem/gcv9a.i/2130802.b/GASHBw.m

Injection Date: 02-AUG-2013 16:26
Init. Cal. Date(s): 25-JUL-2013 25-JUL-2013
Init. Cal. Times: 16:04 17:48
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	5544	6188	0.010	-11.61921	20.00000	Averaged
2 Fluorobenzene	29631	27368	0.010	7.63707	20.00000	Averaged
3 TPHG 1	1778	1937	0.010	-8.97974	20.00000	Averaged
4 TPHG 2	342	392	0.010	-14.73435	20.00000	Averaged
5 TPHG 3	1396	1586	0.010	-13.59354	20.00000	Averaged
6 TPHG 4	560	623	0.010	-11.26790	20.00000	Averaged
7 TPHG 5	663	759	0.010	-14.59921	20.00000	Averaged
8 TPHG 6	806	890	0.010	-10.49279	20.00000	Averaged
$ 9 Bromochlorobenzene	9585	9357	0.010	2.38113	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 10.58944
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

Sample Weights - SDG/Fraction: 213072421

Dept	Container ID	Vial	Initial Wgt	Final Wgt	Sample Wgt	Analyst	Date	Preservative	Comments
MSV	21307242101-2	D	32.71	38.97	**6.26**	CLH	07/24/13 15:34	METHANOL	JAR MEOH LOT 125253
MSV	21307242101-3	C	32.69	39.21	**6.52**	CLH	07/24/13 15:34	METHANOL	JAR MEOH LOT 125253
MSV	21307242101-4	B	35.78	41.96	**6.18**	CLH	07/24/13 15:34	SODIUM BISULFATE	JAR MEOH LOT 125253
MSV	21307242101-5	A	36.12	42.30	**6.18**	CLH	07/24/13 15:33	SODIUM BISULFATE	TERRACORE
MSV	21307242104-3	D	33.55	39.88	**6.33**	CLH	07/24/13 15:37	METHANOL	TERRACORE
MSV	21307242104-4	C	33.08	39.37	**6.29**	CLH	07/24/13 15:37	METHANOL	TERRACORE
MSV	21307242104-5	B	35.70	41.43	**5.73**	CLH	07/24/13 15:36	SODIUM BISULFATE	TERRACORE
MSV	21307242104-6	A	35.13	41.24	**6.11**	CLH	07/24/13 15:36	SODIUM BISULFATE	TERRACORE
MSV	21307242105-2	D	33.48	39.44	**5.96**	CLH	07/24/13 15:39	METHANOL	TERRACORE
MSV	21307242105-3	C	33.72	39.83	**6.11**	CLH	07/24/13 15:39	METHANOL	TERRACORE
MSV	21307242105-4	B	36.05	42.10	**6.05**	CLH	07/24/13 15:38	SODIUM BISULFATE	TERRACORE
MSV	21307242105-5	A	35.91	41.87	**5.96**	CLH	07/24/13 15:38	SODIUM BISULFATE	TERRACORE
MSV	21307242106-2	D	33.53	39.91	**6.38**	CLH	07/24/13 15:46	METHANOL	TERRACORE
MSV	21307242106-3	C	33.77	39.62	**5.85**	CLH	07/24/13 15:46	METHANOL	TERRACORE
MSV	21307242106-4	B	35.92	42.01	**6.09**	CLH	07/24/13 15:46	SODIUM BISULFATE	TERRACORE
MSV	21307242106-5	A	36.13	42.02	**5.89**	CLH	07/24/13 15:44	SODIUM BISULFATE	TERRACORE
MSV	21307242107-2	D	32.57	39.10	**6.53**	CLH	07/24/13 15:52	METHANOL	TERRACORE
MSV	21307242107-3	C	33.15	39.31	**6.16**	CLH	07/24/13 15:52	METHANOL	TERRACORE
MSV	21307242107-4	B	34.64	41	**6.36**	CLH	07/24/13 15:52	SODIUM BISULFATE	TERRACORE
MSV	21307242107-5	A	35.74	42.24	**6.50**	CLH	07/24/13 15:52	SODIUM BISULFATE	TERRACORE
MSV	21307242108-2	D	32.76	38.87	**6.11**	CLH	07/24/13 15:55	METHANOL	TERRACORE
MSV	21307242108-3	C	32.53	38.68	**6.15**	CLH	07/24/13 15:55	METHANOL	TERRACORE
MSV	21307242108-4	B	35.05	41.19	**6.14**	CLH	07/24/13 15:55	SODIUM BISULFATE	TERRACORE
MSV	21307242108-5	A	35.68	41.60	**5.92**	CLH	07/24/13 15:54	SODIUM BISULFATE	TERRACORE
MSV	21307242109-2	D	32.73	38.47	**5.74**	CLH	07/24/13 15:57	METHANOL	TERRACORE
MSV	21307242109-3	C	32.62	38.47	**5.85**	CLH	07/24/13 15:57	METHANOL	TERRACORE
MSV	21307242109-4	B	35.13	40.87	**5.74**	CLH	07/24/13 15:56	SODIUM BISULFATE	TERRACORE
MSV	21307242109-5	A	35.62	42.05	**6.43**	CLH	07/24/13 15:56	SODIUM BISULFATE	TERRACORE

MSV	21307242110-3	D	33.60	39.27	**5.67**	CLH	07/24/13 15:59	METHANOL	TERRACORE

Sample Weights - SDG/Fraction: 213072421

Dept	Container ID	Vial	Initial Wgt	Final Wgt	Sample Wgt	Analyst	Date	Preservative	Comments
MSV	21307242110-4	C	33.79	39.47	**5.68**	CLH	07/24/13 15:58	METHANOL	TERRACORE
MSV	21307242110-5	B	35.92	41.89	**5.97**	CLH	07/24/13 15:58	SODIUM BISULFATE	TERRACORE
MSV	21307242110-6	A	36.10	41.91	**5.81**	CLH	07/24/13 15:58	SODIUM BISULFATE	TERRACORE
MSV	21307242111-2	D	32.59	39.33	**6.74**	CLH	07/24/13 16:00	METHANOL	TERRACORE
MSV	21307242111-3	C	32.72	39.10	**6.38**	CLH	07/24/13 16:00	METHANOL	TERRACORE
MSV	21307242111-4	B	35.72	42.30	**6.58**	CLH	07/24/13 16:00	SODIUM BISULFATE	TERRACORE
MSV	21307242111-5	A	35.35	41.81	**6.46**	CLH	07/24/13 15:59	SODIUM BISULFATE	TERRACORE
MSV	21307242112-3	D	32.59	38.54	**5.95**	CLH	07/24/13 16:02	METHANOL	TERRACORE
MSV	21307242112-4	C	32.95	32.95	**0**	CLH	07/24/13 16:02	METHANOL	TERRACORE
MSV	21307242112-5	B	35.21	41.31	**6.10**	CLH	07/24/13 16:01	SODIUM BISULFATE	TERRACORE
MSV	21307242112-6	A	35.21	41.50	**6.29**	CLH	07/24/13 16:01	SODIUM BISULFATE	TERRACORE
MSV	21307242113-2	D	33.90	40.20	**6.30**	CLH	07/24/13 16:55	METHANOL	TERRACORE
MSV	21307242113-3	C	33.31	38.80	**5.49**	CLH	07/24/13 16:54	METHANOL	TERRACORE
MSV	21307242113-5	A	36.10	41.90	**5.80**	CLH	07/24/13 16:53	SODIUM BISULFATE	TERRACORE
MSV	21307242114-3	D	32.49	37.95	**5.46**	CLH	07/24/13 16:57	METHANOL	TERRACORE
MSV	21307242114-4	C	32.78	38.16	**5.38**	CLH	07/24/13 16:57	METHANOL	TERRACORE
MSV	21307242114-5	B	35.02	40.72	**5.70**	CLH	07/24/13 16:56	SODIUM BISULFATE	TERRACORE
MSV	21307242114-6	A	35.40	41.82	**6.42**	CLH	07/24/13 16:56	SODIUM BISULFATE	TERRACORE
MSV	21307242116-3	D	32.70	39.74	**7.04**	CLH	07/24/13 16:59	METHANOL	TERRACORE
MSV	21307242116-4	C	32.55	38.27	**5.72**	CLH	07/24/13 16:59	METHANOL	TERRACORE
MSV	21307242116-5	B	35.48	41.58	**6.10**	CLH	07/24/13 16:58	SODIUM BISULFATE	TERRACORE
MSV	21307242116-6	A	35.43	41.73	**6.30**	CLH	07/24/13 16:58	SODIUM BISULFATE	TERRACORE
MSV	21307242117-2	D	32.52	38.91	**6.39**	CLH	07/24/13 17:01	METHANOL	TERRACORE
MSV	21307242117-3	C	32.77	38.27	**5.50**	CLH	07/24/13 17:01	METHANOL	TERRACORE
MSV	21307242117-4	B	35.23	41.35	**6.12**	CLH	07/24/13 17:00	SODIUM BISULFATE	TERRACORE
MSV	21307242117-5	A	35.23	41.55	**6.32**	CLH	07/24/13 17:00	SODIUM BISULFATE	TERRACORE

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 05/24/2013
Instrument: gcv6a.i
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Batch: /var/chem/gcv6a.i/2130404p.b
Column-Detector: DB-624-30

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
GROMARKER		v6001C.d	0.00 ml	04-APR-2013 15:28	1.000	BMR	1	all
TPHG6/16/9		v6002.d	0.00 ml	04-APR-2013 15:42	1.000	BMR	1	all
TPHG500/6/17/2		v6003.d	0.00 ml	04-APR-2013 15:56	1.000	BMR	1	all
TPHG800/6/17/2		v6004.d	0.00 ml	04-APR-2013 16:10	1.000	BMR	1	all
TPHG1000/6/17/		v6005.d	0.00 ml	04-APR-2013 16:24	1.000	BMR	1	all
TPHG3000/6/17/		v6006.d	0.00 ml	04-APR-2013 16:38	1.000	BMR	1	all
ICV6/16/2		v6007.d	0.00 ml	04-APR-2013 16:52	1.000	BMR	1	all
LOD		v6008.d	0.00 ml	04-APR-2013 17:06	1.000	BMR	1	all
LOQ		v6009.d	0.00 ml	04-APR-2013 17:20	1.000	BMR	1	all
LOD40		v6010.d	5.00 g	04-APR-2013 17:34	50.000	BMR	1	all
LOQ100		v6011.d	5.00 g	04-APR-2013 17:48	50.000	BMR	1	all

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 08/02/2013
Instrument: gcv6a.i
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Batch: /var/chem/gcv6a.i/2130802.b
Column-Detector: DB-624-30

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
GROMARKER		v6001C.d	0.00 ml	04-APR-2013 15:28	1.000	BMR	1	all
GROMARKER		v6001.d	0.00 ml	02-AUG-2013 11:14	1.000	JAR	1	all
1400		v6002.d	0.00 ml	02-AUG-2013 11:28	1.000	BMR	1	all
LCS6/18/1		v6003.d	0.00 ml	02-AUG-2013 11:42	1.000	BMR	1	all
BLK		v6004.d	0.00 ml	02-AUG-2013 11:56	1.000	BMR	1	all
21307242115		v6005.d	0.00 ml	02-AUG-2013 12:10	1.000	BMR	1	all
21307242118		v6006.d	0.00 ml	02-AUG-2013 12:24	1.000	BMR	1	all
TCLP BLK		v6007.d	0.00 ml	02-AUG-2013 12:38	1.000	BMR	1	all
21307303501		v6008.d	0.00 ml	02-AUG-2013 12:52	1.000	BMR	1	all
21307303502		v6009.d	0.00 ml	02-AUG-2013 13:06	1.000	BMR	1	all
1400		v6010.d	0.00 ml	02-AUG-2013 14:08	1.000	BMR	1	all
TEST		v6011.d	0.00 ml	02-AUG-2013 15:12	5.000	BMR	1	all

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 08/01/2013
Instrument: gcv9a.i
Method File: /var/chem/gcv9a.i/2130725p.b/GASHBw.m
Batch: /var/chem/gcv9a.i/2130725p.b
Column-Detector: RTX-VMS

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
GROMARKER		v9001C.d	5.00 g	25-JUL-2013 12:14	50.000	JAR	1	all
TPHG100/6/18/1		v9002.d	0.00 ml	25-JUL-2013 16:04	1.000	BMR	1	all
TPHG500/6/18/1		v9003.d	0.00 ml	25-JUL-2013 16:24	1.000	BMR	1	all
TPHG800/6/18/1		v9004.d	0.00 ml	25-JUL-2013 16:44	1.000	BMR	1	all
TPHG1000/6/18/		v9005.d	0.00 ml	25-JUL-2013 17:08	1.000	BMR	1	all
TPHG3000/6/18/		v9006.d	0.00 ml	25-JUL-2013 17:28	1.000	BMR	1	all
TPHG500/6/18/1		v9007.d	0.00 ml	25-JUL-2013 17:48	1.000	BMR	1	all
21307170403		v9008.d	5.00 g	25-JUL-2013 18:26	10.000	BMR	1	all

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 08/02/2013
Instrument: gcv9a.i
Method File: /var/chem/gcv9a.i/2130725p.b/GASHBw.m
Batch: /var/chem/gcv9a.i/2130801.b
Column-Detector: RTX-VMS

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
GROMARKER		v9001C.d	5.00 g	25-JUL-2013 12:14	50.000	JAR	1	all
GROMARKER		v9001.d	5.00 g	01-AUG-2013 13:54	50.000	BMR	1	all
1400		v9002.d	5.00 g	01-AUG-2013 14:14	1.000	BMR	1	all
1219563		v9003.d	5.00 g	01-AUG-2013 14:34	50.000	BMR	1	all
1219562		v9004.d	5.00 g	01-AUG-2013 14:54	50.000	BMR	1	all
21307242101		v9005.d	5.00 g	01-AUG-2013 15:14	500.000	BMR	1	all
21307242101		v9006.d	6.26 g	01-AUG-2013 16:14	50.000	BMR	1	all
21307242102		v9007.d	6.26 g	01-AUG-2013 16:34	50.000	BMR	1	all
21307242103		v9008.d	6.26 g	01-AUG-2013 16:54	50.000	BMR	1	all
21307242104		v9009.d	5.00 g	01-AUG-2013 17:14	50.000	BMR	1	all
21307242105		v9010.d	5.00 g	01-AUG-2013 17:34	1000.000	BMR	1	all
21307242106		v9011.d	6.38 g	01-AUG-2013 17:54	50.000	BMR	1	all
21307242107		v9012.d	6.53 g	01-AUG-2013 18:14	50.000	BMR	1	all
21307242108		v9013.d	6.11 g	01-AUG-2013 18:34	50.000	BMR	1	all
1400		v9014.d	5.00 g	01-AUG-2013 18:54	1.000	BMR	1	all
21307242109		v9015.d	5.74 g	01-AUG-2013 19:14	5000.000	BMR	1	all
21307242110		v9016.d	5.00 g	01-AUG-2013 19:34	50.000	BMR	1	all
21307242111		v9017.d	6.74 g	01-AUG-2013 19:54	50.000	BMR	1	all
21307242112		v9018.d	5.95 g	01-AUG-2013 20:14	50.000	BMR	1	all
21307242113		v9019.d	5.00 g	01-AUG-2013 20:34	100.000	BMR	1	all
21307242114		v9020.d	5.00 g	01-AUG-2013 20:54	500.000	BMR	1	all
21307242116		v9021.d	7.04 g	01-AUG-2013 21:14	5000.000	BMR	1	all
21307242117		v9022.d	5.00 g	01-AUG-2013 21:38	50.000	BMR	1	all
21307242104		v9023.d	6.33 g	01-AUG-2013 21:58	50.000	BMR	1	all
21307242105		v9024.d	5.96 g	01-AUG-2013 22:18	100.000	BMR	1	all
1400		v9026.d	5.00 g	01-AUG-2013 22:58	1.000	BMR	1	all

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 08/02/2013
Instrument: gcv9a.i
Method File: /var/chem/gcv9a.i/2130725p.b/GASHBw.m
Batch: /var/chem/gcv9a.i/2130802.b
Column-Detector: RTX-VMS

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
GROMARKER		v9001C.d	5.00 g	25-JUL-2013 12:14	50.000	JAR	1	all
GROMARKER		v9001.d	5.00 g	02-AUG-2013 11:20	50.000	BMR	1	all
1400		v9002.d	5.00 g	02-AUG-2013 11:40	1.000	BMR	1	all
LCS6/18/1		v9003.d	5.00 g	02-AUG-2013 12:00	50.000	BMR	1	all
BLK		v9004.d	5.00 g	02-AUG-2013 12:20	50.000	BMR	1	all
21307242110		v9005.d	5.00 g	02-AUG-2013 12:40	50.000	BMR	1	all
		v9006.d	5.00 g	02-AUG-2013 13:00	50.000	BMR	1	all
MSD		v9007.d	5.00 g	02-AUG-2013 13:20	50.000	BMR	1	all
21307242113		v9008.d	5.00 g	02-AUG-2013 13:40	50.000	BMR	1	all
21307242114		v9009.d	5.00 g	02-AUG-2013 14:00	50.000	BMR	1	all
21307242117		v9010.d	5.00 g	02-AUG-2013 14:20	50.000	BMR	1	all
1400		v9011.d	5.00 g	02-AUG-2013 16:26	1.000	BMR	1	all

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30.1 Units: g

Level: (low/med) LOW

% Moisture: 7.3 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1102

Contract:

Lab File ID: 2130729/i6463

Lab Sample ID: 21307242101

Date Collected: 07/23/13 Time: 1030

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1548

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	1680		0.750	3.22
83-32-9	Acenaphthene	1.17	U	1.17	3.22
208-96-8	Acenaphthylene	1.41	U	1.41	3.22
120-12-7	Anthracene	0.289	U	0.289	3.22
56-55-3	Benzo(a)anthracene	13.3		1.66	3.22
50-32-8	Benzo(a)pyrene	21.9		0.333	3.22
205-99-2	Benzo(b)fluoranthene	20.2		1.06	3.22
191-24-2	Benzo(g,h,i)perylene	0.639	U	0.639	3.22
207-08-9	Benzo(k)fluoranthene	3.94		0.417	3.22
218-01-9	Chrysene	6.31		1.19	3.22
206-44-0	Fluoranthene	7.18		0.393	3.22
86-73-7	Fluorene	95.2		0.438	3.22
193-39-5	Indeno(1,2,3-cd)pyrene	0.452	U	0.452	3.22
91-20-3	Naphthalene	350		0.400	3.22
85-01-8	Phenanthrene	137		0.509	3.22
129-00-0	Pyrene	10.2		0.593	3.22

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 7.3 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1102 MS

Contract:

Lab File ID: 2130729/i6464

Lab Sample ID: 21307242102

Date Collected: 07/23/13 Time: 1030

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1602

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	6030		0.753	3.23
83-32-9	Acenaphthene	3880		1.18	3.23
208-96-8	Acenaphthylene	2840		1.41	3.23
120-12-7	Anthracene	2840		0.290	3.23
56-55-3	Benzo(a)anthracene	3050		1.66	3.23
50-32-8	Benzo(a)pyrene	2940		0.334	3.23
205-99-2	Benzo(b)fluoranthene	3050		1.07	3.23
191-24-2	Benzo(g,h,i)perylene	3420		0.642	3.23
207-08-9	Benzo(k)fluoranthene	2970		0.418	3.23
218-01-9	Chrysene	3000		1.20	3.23
206-44-0	Fluoranthene	3110		0.395	3.23
86-73-7	Fluorene	2980		0.440	3.23
193-39-5	Indeno(1,2,3-cd)pyrene	3360		0.454	3.23
91-20-3	Naphthalene	3350		0.401	3.23
85-01-8	Phenanthrene	3120		0.511	3.23
129-00-0	Pyrene	3070		0.595	3.23

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 7.3 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1102 MSD

Contract:

Lab File ID: 2130730/i6493

Lab Sample ID: 21307242103

Date Collected: 07/23/13 Time: 1030

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/30/13 Time: 1316

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512756

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	6070		0.753	3.23
83-32-9	Acenaphthene	3480		1.18	3.23
208-96-8	Acenaphthylene	2780		1.41	3.23
120-12-7	Anthracene	2790		0.290	3.23
56-55-3	Benzo(a)anthracene	3030		1.66	3.23
50-32-8	Benzo(a)pyrene	2980		0.334	3.23
205-99-2	Benzo(b)fluoranthene	3130		1.07	3.23
191-24-2	Benzo(g,h,i)perylene	3030		0.642	3.23
207-08-9	Benzo(k)fluoranthene	3090		0.418	3.23
218-01-9	Chrysene	2990		1.20	3.23
206-44-0	Fluoranthene	3080		0.395	3.23
86-73-7	Fluorene	2840		0.440	3.23
193-39-5	Indeno(1,2,3-cd)pyrene	3130		0.454	3.23
91-20-3	Naphthalene	3360		0.401	3.23
85-01-8	Phenanthrene	3150		0.511	3.23
129-00-0	Pyrene	3050		0.595	3.23

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30.1 Units: g

Level: (low/med) LOW

% Moisture: 11.3 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1106

Contract:

Lab File ID: 2130729/i6466

Lab Sample ID: 21307242104

Date Collected: 07/23/13 Time: 1040

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1628

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.784	U	0.784	3.37
83-32-9	Acenaphthene	1.22	U	1.22	3.37
208-96-8	Acenaphthylene	1.47	U	1.47	3.37
120-12-7	Anthracene	0.302	U	0.302	3.37
56-55-3	Benzo(a)anthracene	1.73	U	1.73	3.37
50-32-8	Benzo(a)pyrene	0.348	U	0.348	3.37
205-99-2	Benzo(b)fluoranthene	1.11	U	1.11	3.37
191-24-2	Benzo(g,h,i)perylene	0.668	U	0.668	3.37
207-08-9	Benzo(k)fluoranthene	0.436	U	0.436	3.37
218-01-9	Chrysene	1.25	U	1.25	3.37
206-44-0	Fluoranthene	0.411	U	0.411	3.37
86-73-7	Fluorene	0.458	U	0.458	3.37
193-39-5	Indeno(1,2,3-cd)pyrene	0.473	U	0.473	3.37
91-20-3	Naphthalene	13.7		0.418	3.37
85-01-8	Phenanthrene	0.532	U	0.532	3.37
129-00-0	Pyrene	0.620	U	0.620	3.37

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30.2 Units: g

Level: (low/med) LOW

% Moisture: 10.9 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1202

Contract:

Lab File ID: 2130729/i6467

Lab Sample ID: 21307242105

Date Collected: 07/23/13 Time: 1100

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1642

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	535		0.778	3.34
83-32-9	Acenaphthene	1.22	U	1.22	3.34
208-96-8	Acenaphthylene	1.46	U	1.46	3.34
120-12-7	Anthracene	0.300	U	0.300	3.34
56-55-3	Benzo(a)anthracene	1.72	U	1.72	3.34
50-32-8	Benzo(a)pyrene	0.346	U	0.346	3.34
205-99-2	Benzo(b)fluoranthene	1.10	U	1.10	3.34
191-24-2	Benzo(g,h,i)perylene	0.663	U	0.663	3.34
207-08-9	Benzo(k)fluoranthene	0.432	U	0.432	3.34
218-01-9	Chrysene	1.24	U	1.24	3.34
206-44-0	Fluoranthene	6.19		0.408	3.34
86-73-7	Fluorene	53.7		0.455	3.34
193-39-5	Indeno(1,2,3-cd)pyrene	0.469	U	0.469	3.34
91-20-3	Naphthalene	38.2		0.415	3.34
85-01-8	Phenanthrene	47.7		0.528	3.34
129-00-0	Pyrene	6.40		0.615	3.34

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 11.9 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1206

Contract:

Lab File ID: 2130729/i6468

Lab Sample ID: 21307242106

Date Collected: 07/23/13 Time: 1107

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1655

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.792	U	0.792	3.41
83-32-9	Acenaphthene	1.24	U	1.24	3.41
208-96-8	Acenaphthylene	1.49	U	1.49	3.41
120-12-7	Anthracene	0.305	U	0.305	3.41
56-55-3	Benzo(a)anthracene	1.75	U	1.75	3.41
50-32-8	Benzo(a)pyrene	0.352	U	0.352	3.41
205-99-2	Benzo(b)fluoranthene	1.12	U	1.12	3.41
191-24-2	Benzo(g,h,i)perylene	0.675	U	0.675	3.41
207-08-9	Benzo(k)fluoranthene	0.440	U	0.440	3.41
218-01-9	Chrysene	1.26	U	1.26	3.41
206-44-0	Fluoranthene	0.415	U	0.415	3.41
86-73-7	Fluorene	0.463	U	0.463	3.41
193-39-5	Indeno(1,2,3-cd)pyrene	0.478	U	0.478	3.41
91-20-3	Naphthalene	0.422	U	0.422	3.41
85-01-8	Phenanthrene	0.538	U	0.538	3.41
129-00-0	Pyrene	0.627	U	0.627	3.41

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 7.6 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1302

Contract:

Lab File ID: 2130729/i6469

Lab Sample ID: 21307242107

Date Collected: 07/23/13 Time: 1125

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1708

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.755	U	0.755	3.25
83-32-9	Acenaphthene	1.18	U	1.18	3.25
208-96-8	Acenaphthylene	1.42	U	1.42	3.25
120-12-7	Anthracene	0.291	U	0.291	3.25
56-55-3	Benzo(a)anthracene	1.67	U	1.67	3.25
50-32-8	Benzo(a)pyrene	0.335	U	0.335	3.25
205-99-2	Benzo(b)fluoranthene	1.07	U	1.07	3.25
191-24-2	Benzo(g,h,i)perylene	0.644	U	0.644	3.25
207-08-9	Benzo(k)fluoranthene	0.420	U	0.420	3.25
218-01-9	Chrysene	1.20	U	1.20	3.25
206-44-0	Fluoranthene	0.396	U	0.396	3.25
86-73-7	Fluorene	0.441	U	0.441	3.25
193-39-5	Indeno(1,2,3-cd)pyrene	0.455	U	0.455	3.25
91-20-3	Naphthalene	0.402	U	0.402	3.25
85-01-8	Phenanthrene	0.513	U	0.513	3.25
129-00-0	Pyrene	0.597	U	0.597	3.25

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 14.8 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1306

Contract:

Lab File ID: 2130730/i6498

Lab Sample ID: 21307242108

Date Collected: 07/23/13 Time: 1140

Date Received: 07/24/13

Date Extracted: 07/30/13

Date Analyzed: 07/30/13 Time: 1422

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512730 Analytical Batch: 512756

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.820	U	0.820	3.52
83-32-9	Acenaphthene	1.28	U	1.28	3.52
208-96-8	Acenaphthylene	1.54	U	1.54	3.52
120-12-7	Anthracene	0.316	U	0.316	3.52
56-55-3	Benzo(a)anthracene	1.81	U	1.81	3.52
50-32-8	Benzo(a)pyrene	0.364	U	0.364	3.52
205-99-2	Benzo(b)fluoranthene	1.16	U	1.16	3.52
191-24-2	Benzo(g,h,i)perylene	0.699	U	0.699	3.52
207-08-9	Benzo(k)fluoranthene	0.456	U	0.456	3.52
218-01-9	Chrysene	1.30	U	1.30	3.52
206-44-0	Fluoranthene	0.430	U	0.430	3.52
86-73-7	Fluorene	0.479	U	0.479	3.52
193-39-5	Indeno(1,2,3-cd)pyrene	0.494	U	0.494	3.52
91-20-3	Naphthalene	0.437	U	0.437	3.52
85-01-8	Phenanthrene	0.557	U	0.557	3.52
129-00-0	Pyrene	0.648	U	0.648	3.52

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30.1 Units: g

Level: (low/med) LOW

% Moisture: 14.7 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1405

Contract:

Lab File ID: 2130729/i6471

Lab Sample ID: 21307242109

Date Collected: 07/23/13 Time: 1318

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1735

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	4380		0.816	3.51
83-32-9	Acenaphthene	1.27	U	1.27	3.51
208-96-8	Acenaphthylene	1.53	U	1.53	3.51
120-12-7	Anthracene	6.72		0.314	3.51
56-55-3	Benzo(a)anthracene	14.7		1.80	3.51
50-32-8	Benzo(a)pyrene	0.362	U	0.362	3.51
205-99-2	Benzo(b)fluoranthene	1.15	U	1.15	3.51
191-24-2	Benzo(g,h,i)perylene	0.695	U	0.695	3.51
207-08-9	Benzo(k)fluoranthene	0.453	U	0.453	3.51
218-01-9	Chrysene	4.67		1.30	3.51
206-44-0	Fluoranthene	8.97		0.428	3.51
86-73-7	Fluorene	104		0.477	3.51
193-39-5	Indeno(1,2,3-cd)pyrene	0.492	U	0.492	3.51
91-20-3	Naphthalene	2920		0.435	3.51
85-01-8	Phenanthrene	54.0		0.554	3.51
129-00-0	Pyrene	15.2		0.645	3.51

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30.2 Units: g

Level: (low/med) LOW

% Moisture: 15.0 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1408

Contract:

Lab File ID: 2130729/i6472

Lab Sample ID: 21307242110

Date Collected: 07/23/13 Time: 1332

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1748

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	17.5		0.816	3.51
83-32-9	Acenaphthene	1.27	U	1.27	3.51
208-96-8	Acenaphthylene	1.53	U	1.53	3.51
120-12-7	Anthracene	0.314	U	0.314	3.51
56-55-3	Benzo(a)anthracene	1.80	U	1.80	3.51
50-32-8	Benzo(a)pyrene	0.362	U	0.362	3.51
205-99-2	Benzo(b)fluoranthene	1.15	U	1.15	3.51
191-24-2	Benzo(g,h,i)perylene	0.695	U	0.695	3.51
207-08-9	Benzo(k)fluoranthene	0.453	U	0.453	3.51
218-01-9	Chrysene	1.30	U	1.30	3.51
206-44-0	Fluoranthene	0.428	U	0.428	3.51
86-73-7	Fluorene	0.477	U	0.477	3.51
193-39-5	Indeno(1,2,3-cd)pyrene	0.492	U	0.492	3.51
91-20-3	Naphthalene	9.02		0.435	3.51
85-01-8	Phenanthrene	0.554	U	0.554	3.51
129-00-0	Pyrene	0.645	U	0.645	3.51

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 8.9 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1504

Contract:

Lab File ID: 2130729/i6473

Lab Sample ID: 21307242111

Date Collected: 07/23/13 Time: 1342

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1801

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.766	U	0.766	3.29
83-32-9	Acenaphthene	1.20	U	1.20	3.29
208-96-8	Acenaphthylene	1.44	U	1.44	3.29
120-12-7	Anthracene	0.295	U	0.295	3.29
56-55-3	Benzo(a)anthracene	1.69	U	1.69	3.29
50-32-8	Benzo(a)pyrene	0.340	U	0.340	3.29
205-99-2	Benzo(b)fluoranthene	1.08	U	1.08	3.29
191-24-2	Benzo(g,h,i)perylene	0.653	U	0.653	3.29
207-08-9	Benzo(k)fluoranthene	0.426	U	0.426	3.29
218-01-9	Chrysene	1.22	U	1.22	3.29
206-44-0	Fluoranthene	0.402	U	0.402	3.29
86-73-7	Fluorene	0.448	U	0.448	3.29
193-39-5	Indeno(1,2,3-cd)pyrene	0.462	U	0.462	3.29
91-20-3	Naphthalene	0.408	U	0.408	3.29
85-01-8	Phenanthrene	0.520	U	0.520	3.29
129-00-0	Pyrene	0.606	U	0.606	3.29

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 16.6 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1508

Contract:

Lab File ID: 2130729/i6474

Lab Sample ID: 21307242112

Date Collected: 07/23/13 Time: 1355

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1814

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.837	U	0.837	3.60
83-32-9	Acenaphthene	1.31	U	1.31	3.60
208-96-8	Acenaphthylene	1.57	U	1.57	3.60
120-12-7	Anthracene	0.323	U	0.323	3.60
56-55-3	Benzo(a)anthracene	1.85	U	1.85	3.60
50-32-8	Benzo(a)pyrene	0.372	U	0.372	3.60
205-99-2	Benzo(b)fluoranthene	1.18	U	1.18	3.60
191-24-2	Benzo(g,h,i)perylene	0.714	U	0.714	3.60
207-08-9	Benzo(k)fluoranthene	0.465	U	0.465	3.60
218-01-9	Chrysene	1.33	U	1.33	3.60
206-44-0	Fluoranthene	0.439	U	0.439	3.60
86-73-7	Fluorene	0.489	U	0.489	3.60
193-39-5	Indeno(1,2,3-cd)pyrene	0.505	U	0.505	3.60
91-20-3	Naphthalene	24.7		0.446	3.60
85-01-8	Phenanthrene	0.568	U	0.568	3.60
129-00-0	Pyrene	0.662	U	0.662	3.60

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30.2 Units: g

Level: (low/med) LOW

% Moisture: 10.8 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1606

Contract:

Lab File ID: 2130729/i6475

Lab Sample ID: 21307242113

Date Collected: 07/23/13 Time: 1418

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1828

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	252		0.777	3.34
83-32-9	Acenaphthene	1.21	U	1.21	3.34
208-96-8	Acenaphthylene	1.46	U	1.46	3.34
120-12-7	Anthracene	0.300	U	0.300	3.34
56-55-3	Benzo(a)anthracene	1.71	U	1.71	3.34
50-32-8	Benzo(a)pyrene	0.345	U	0.345	3.34
205-99-2	Benzo(b)fluoranthene	1.10	U	1.10	3.34
191-24-2	Benzo(g,h,i)perylene	0.662	U	0.662	3.34
207-08-9	Benzo(k)fluoranthene	0.432	U	0.432	3.34
218-01-9	Chrysene	1.24	U	1.24	3.34
206-44-0	Fluoranthene	0.408	U	0.408	3.34
86-73-7	Fluorene	0.454	U	0.454	3.34
193-39-5	Indeno(1,2,3-cd)pyrene	0.469	U	0.469	3.34
91-20-3	Naphthalene	291		0.414	3.34
85-01-8	Phenanthrene	0.528	U	0.528	3.34
129-00-0	Pyrene	0.615	U	0.615	3.34

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 9.6 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1608

Contract:

Lab File ID: 2130729/i6476

Lab Sample ID: 21307242114

Date Collected: 07/23/13 Time: 1429

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1841

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	18.3		0.772	3.32
83-32-9	Acenaphthene	1.21	U	1.21	3.32
208-96-8	Acenaphthylene	1.45	U	1.45	3.32
120-12-7	Anthracene	0.298	U	0.298	3.32
56-55-3	Benzo(a)anthracene	1.70	U	1.70	3.32
50-32-8	Benzo(a)pyrene	0.343	U	0.343	3.32
205-99-2	Benzo(b)fluoranthene	1.09	U	1.09	3.32
191-24-2	Benzo(g,h,i)perylene	0.658	U	0.658	3.32
207-08-9	Benzo(k)fluoranthene	0.429	U	0.429	3.32
218-01-9	Chrysene	1.23	U	1.23	3.32
206-44-0	Fluoranthene	0.405	U	0.405	3.32
86-73-7	Fluorene	0.451	U	0.451	3.32
193-39-5	Indeno(1,2,3-cd)pyrene	0.466	U	0.466	3.32
91-20-3	Naphthalene	96.4		0.412	3.32
85-01-8	Phenanthrene	0.524	U	0.524	3.32
129-00-0	Pyrene	0.611	U	0.611	3.32

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: EB072313

Contract:

Lab File ID: 2130729/i6441

Lab Sample ID: 21307242115

Date Collected: 07/23/13 Time: 1200

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1024

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.030	U	0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.00970	U	0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 16.4 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: DUP072313

Contract:

Lab File ID: 2130729/i6477

Lab Sample ID: 21307242116

Date Collected: 07/23/13 Time: 0000

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1854

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
83-32-9	Acenaphthene	1.30	U	1.30	3.59
208-96-8	Acenaphthylene	1.57	U	1.57	3.59
120-12-7	Anthracene	24.5		0.322	3.59
56-55-3	Benzo(a)anthracene	17.8		1.84	3.59
50-32-8	Benzo(a)pyrene	0.371	U	0.371	3.59
205-99-2	Benzo(b)fluoranthene	23.6		1.18	3.59
191-24-2	Benzo(g,h,i)perylene	0.711	U	0.711	3.59
207-08-9	Benzo(k)fluoranthene	4.33		0.464	3.59
218-01-9	Chrysene	9.64		1.33	3.59
206-44-0	Fluoranthene	18.7		0.438	3.59
86-73-7	Fluorene	237		0.488	3.59
193-39-5	Indeno(1,2,3-cd)pyrene	0.503	U	0.503	3.59
91-20-3	Naphthalene	6690		0.445	3.59
85-01-8	Phenanthrene	127		0.567	3.59
129-00-0	Pyrene	34.7		0.660	3.59
91-57-6	2-Methylnaphthalene	9800	E	0.834	3.59

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 16.4 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: DUP072313DL

Contract:

Lab File ID: 2130730/i6494

Lab Sample ID: 21307242116DL

Date Collected: 07/23/13 Time: 0000

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 07/30/13 Time: 1329

Dilution Factor: 2 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512756

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	10200		1.67	7.17

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 15.7 decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: DUP2072313

Contract:

Lab File ID: 2130730/i6499

Lab Sample ID: 21307242117

Date Collected: 07/23/13 Time: 0000

Date Received: 07/24/13

Date Extracted: 07/30/13

Date Analyzed: 07/30/13 Time: 1436

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512730 Analytical Batch: 512756

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	9.37		0.828	3.56
83-32-9	Acenaphthene	1.29	U	1.29	3.56
208-96-8	Acenaphthylene	8.33		1.55	3.56
120-12-7	Anthracene	0.319	U	0.319	3.56
56-55-3	Benzo(a)anthracene	1.83	U	1.83	3.56
50-32-8	Benzo(a)pyrene	0.368	U	0.368	3.56
205-99-2	Benzo(b)fluoranthene	1.17	U	1.17	3.56
191-24-2	Benzo(g,h,i)perylene	0.706	U	0.706	3.56
207-08-9	Benzo(k)fluoranthene	0.460	U	0.460	3.56
218-01-9	Chrysene	1.32	U	1.32	3.56
206-44-0	Fluoranthene	0.434	U	0.434	3.56
86-73-7	Fluorene	0.484	U	0.484	3.56
193-39-5	Indeno(1,2,3-cd)pyrene	0.500	U	0.500	3.56
91-20-3	Naphthalene	40.0		0.441	3.56
85-01-8	Phenanthrene	0.562	U	0.562	3.56
129-00-0	Pyrene	0.655	U	0.655	3.56

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: MB1216821

Contract:

Lab File ID: 2130729/i6460

Lab Sample ID: 1216821

Date Collected: Time:

Date Received:

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1436

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512350 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
83-32-9	Acenaphthene	1.09	U	1.09	3.00
208-96-8	Acenaphthylene	1.31	U	1.31	3.00
120-12-7	Anthracene	0.269	U	0.269	3.00
56-55-3	Benzo(a)anthracene	1.54	U	1.54	3.00
205-99-2	Benzo(b)fluoranthene	0.988	U	0.988	3.00
207-08-9	Benzo(k)fluoranthene	0.388	U	0.388	3.00
191-24-2	Benzo(g,h,i)perylene	0.595	U	0.595	3.00
50-32-8	Benzo(a)pyrene	0.310	U	0.310	3.00
218-01-9	Chrysene	1.11	U	1.11	3.00
206-44-0	Fluoranthene	0.366	U	0.366	3.00
86-73-7	Fluorene	0.408	U	0.408	3.00
193-39-5	Indeno(1,2,3-cd)pyrene	0.421	U	0.421	3.00
91-20-3	Naphthalene	0.372	U	0.372	3.00
85-01-8	Phenanthrene	0.474	U	0.474	3.00
129-00-0	Pyrene	0.552	U	0.552	3.00
91-57-6	2-Methylnaphthalene	0.698	U	0.698	3.00

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: MB1217456

Contract:

Lab File ID: 2130729/i6438

Lab Sample ID: 1217456

Date Collected: Time:

Date Received:

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 0944

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.00970	U	0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100
91-57-6	2-Methylnaphthalene	0.030	U	0.030	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/kg

Sample ID: MB1218714

Contract:

Lab File ID: 2130730/i6495

Lab Sample ID: 1218714

Date Collected: Time:

Date Received:

Date Extracted: 07/30/13

Date Analyzed: 07/30/13 Time: 1342

Dilution Factor: 1 Analyst: KCB

Prep Method: 3550B

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512730 Analytical Batch: 512756

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
83-32-9	Acenaphthene	1.09	U	1.09	3.00
208-96-8	Acenaphthylene	1.31	U	1.31	3.00
120-12-7	Anthracene	0.269	U	0.269	3.00
56-55-3	Benzo(a)anthracene	1.54	U	1.54	3.00
205-99-2	Benzo(b)fluoranthene	0.988	U	0.988	3.00
207-08-9	Benzo(k)fluoranthene	0.388	U	0.388	3.00
191-24-2	Benzo(g,h,i)perylene	0.595	U	0.595	3.00
50-32-8	Benzo(a)pyrene	0.310	U	0.310	3.00
218-01-9	Chrysene	1.11	U	1.11	3.00
206-44-0	Fluoranthene	0.366	U	0.366	3.00
86-73-7	Fluorene	0.408	U	0.408	3.00
193-39-5	Indeno(1,2,3-cd)pyrene	0.421	U	0.421	3.00
91-20-3	Naphthalene	0.372	U	0.372	3.00
85-01-8	Phenanthrene	0.474	U	0.474	3.00
129-00-0	Pyrene	0.552	U	0.552	3.00
91-57-6	2-Methylnaphthalene	0.698	U	0.698	3.00

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Method: 8270D SIM Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	SMC5	#	SMC6	#	TOT OUT
1.	EB072313	72		59		84								0
2.	MB1217456	74		69		94								0
3.	LCS1217457	74		68		91								0
4.	LCSD1217458	71		71		84								0

CONTROL LIMITS

SMC 1	Nitrobenzene-d5	43	110
SMC 2	2-Fluorobiphenyl	16	128
SMC 3	Terphenyl-d14	47	121
SMC 4			
SMC 5			
SMC 6			

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Method: 8270D SIM Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	SMC5	#	SMC6	#	TOT OUT
1.	B398SB1102	48		51		60								0
2.	B398SB1102 MS	68		70		85								0
3.	B398SB1102 MSD	42	*	64		84								1
4.	B398SB1106	63		62		86								0
5.	B398SB1202	54		60		77								0
6.	B398SB1206	56		58		82								0
7.	B398SB1302	58		55		87								0
8.	B398SB1306	68		67		91								0
9.	B398SB1405	63		61		83								0
10.	B398SB1408	60		51		86								0
11.	B398SB1504	52		48		83								0
12.	B398SB1508	50		47		74								0
13.	B398SB1606	56		61		83								0
14.	B398SB1608	55		56		86								0
15.	DUP072313	70		68		82								0
16.	DUP072313DL	97		59		83								0
17.	DUP2072313	68		58		87								0
18.	MB1216821	64		67		86								0
19.	LCS1216822	68		65		89								0
20.	LCSD1216823	66		74		85								0
21.	MB1218714	68		60		91								0
22.	LCS1218715	72		71		91								0
23.	LCSD1218716	72		64		89								0

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Method: 8270D SIM Level: (low/med) LOW

EPA SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	SMC5	#	SMC6	#	TOT OUT

		CONTROL LIMITS	
SMC 1	Nitrobenzene-d5	46	123
SMC 2	2-Fluorobiphenyl	47	127
SMC 3	Terphenyl-d14	38	167
SMC 4			
SMC 5			
SMC 6			

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

3C

WATER SEMIVOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: 8270D SIM

Prep Batch: 512477 Analytical Batch.: 512612

Spike HSN : 1217457

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	REC FLAG	QC. LIMITS
2-Methylnaphthalene	ug/L	100	0	81.8	82		30 - 120
Acenaphthene	ug/L	100	0	102	102		30 - 120
Acenaphthylene	ug/L	100	0	82	82		30 - 130
Anthracene	ug/L	100	0	80.9	81		50 - 120
Benzo(a)anthracene	ug/L	100	0	90.7	91		44 - 123
Benzo(a)pyrene	ug/L	100	0	88	88		42 - 128
Benzo(b)fluoranthene	ug/L	100	0	84.1	84		43 - 129
Benzo(g,h,i)perylene	ug/L	100	0	87.9	88		49 - 120
Benzo(k)fluoranthene	ug/L	100	0	94.7	95		46 - 126
Chrysene	ug/L	100	0	83.2	83		47 - 120
Fluoranthene	ug/L	100	0	91.7	92		37 - 129
Fluorene	ug/L	100	0	79.7	80		30 - 125
Indeno(1,2,3-cd)pyrene	ug/L	100	0	93.6	94		35 - 138
Naphthalene	ug/L	100	0	76.9	77		30 - 120
Phenanthrene	ug/L	100	0	84.4	84		43 - 120
Pyrene	ug/L	100	0	92.4	92		47 - 120

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

FORM III SV-1

3C

WATER SEMIVOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: 8270D SIM

Prep Batch: 512477 Analytical Batch.: 512612

Spike Dupe HSN : 1217458

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
2-Methylnaphthalene	ug/L	100	82.8	83		1		30 - 120	0 - 40
Acenaphthene	ug/L	100	106	106		4		30 - 120	0 - 40
Acenaphthylene	ug/L	100	77.7	78		5		30 - 130	0 - 40
Anthracene	ug/L	100	78.2	78		3		50 - 120	0 - 40
Benzo(a)anthracene	ug/L	100	84.5	85		7		44 - 123	0 - 40
Benzo(a)pyrene	ug/L	100	85.6	86		3		42 - 128	0 - 40
Benzo(b)fluoranthene	ug/L	100	83.9	84		.2		43 - 129	0 - 40
Benzo(g,h,i)perylene	ug/L	100	84.3	84		4		49 - 120	0 - 40
Benzo(k)fluoranthene	ug/L	100	91.2	91		4		46 - 126	0 - 40
Chrysene	ug/L	100	82.4	82		1		47 - 120	0 - 40
Fluoranthene	ug/L	100	84	84		9		37 - 129	0 - 40
Fluorene	ug/L	100	81.5	82		2		30 - 125	0 - 40
Indeno(1,2,3-cd)pyrene	ug/L	100	90.5	91		3		35 - 138	0 - 40
Naphthalene	ug/L	100	76.1	76		1		30 - 120	0 - 40
Phenanthrene	ug/L	100	81.6	82		3		43 - 120	0 - 40
Pyrene	ug/L	100	86.3	86		7		47 - 120	0 - 40

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

FORM III SV-1

3D
SOIL SEMIVOLATILE MS/MSD RECOVERY

Lab Name: GCAL Sample ID: B398SB1102

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Analytical Method: 8270D SIM

Prep Batch: 512350 Analytical Batch.: 512612

Spike HSN : 21307242102

COMPOUND	*UNITS*	*SPIKE ADDED*	*SAMPLE CONCENTRATION*	*MS CONCENTRATION*	*MS % REC*	*MS % REC FLAG*	*QC. LIMITS*
2-Methylnaphthalene	ug/kg	3590	1680	6030	121		40 - 140
Acenaphthene	ug/kg	3590	0	3880	108		40 - 140
Acenaphthylene	ug/kg	3590	0	2840	79		40 - 140
Anthracene	ug/kg	3590	0	2840	79		40 - 140
Benzo(a)anthracene	ug/kg	3590	13.3	3050	85		40 - 140
Benzo(a)pyrene	ug/kg	3590	21.9	2940	81		40 - 140
Benzo(b)fluoranthene	ug/kg	3590	20.2	3050	84		40 - 140
Benzo(g,h,i)perylene	ug/kg	3590	0	3420	95		40 - 140
Benzo(k)fluoranthene	ug/kg	3590	3.94	2970	82		40 - 140
Chrysene	ug/kg	3590	6.31	3000	83		40 - 140
Fluoranthene	ug/kg	3590	7.18	3110	86		40 - 140
Fluorene	ug/kg	3590	95.2	2980	80		40 - 140
Indeno(1,2,3-cd)pyrene	ug/kg	3590	0	3360	94		40 - 140
Naphthalene	ug/kg	3590	350	3350	84		40 - 140
Phenanthrene	ug/kg	3590	137	3120	83		40 - 140
Pyrene	ug/kg	3590	10.2	3070	85		40 - 140

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

3D
SOIL SEMIVOLATILE MS/MSD RECOVERY

Lab Name: GCAL Sample ID: B398SB1102

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Analytical Method: 8270D SIM

Prep Batch: 512350 Analytical Batch.: 512612

Spike Dupe HSN : 21307242103

COMPOUND	UNITS	SPIKE ADDED	MSD CONC.	MSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
2-Methylnaphthalene	ug/kg	3590	6070	122		.7		40 - 140	0 - 30
Acenaphthene	ug/kg	3590	3480	97		11		40 - 140	0 - 30
Acenaphthylene	ug/kg	3590	2780	77		2		40 - 140	0 - 30
Anthracene	ug/kg	3590	2790	78		2		40 - 140	0 - 30
Benzo(a)anthracene	ug/kg	3590	3030	84		.7		40 - 140	0 - 30
Benzo(a)pyrene	ug/kg	3590	2980	82		1		40 - 140	0 - 30
Benzo(b)fluoranthene	ug/kg	3590	3130	86		2		40 - 140	0 - 30
Benzo(g,h,i)perylene	ug/kg	3590	3030	84		12		40 - 140	0 - 30
Benzo(k)fluoranthene	ug/kg	3590	3090	86		4		40 - 140	0 - 30
Chrysene	ug/kg	3590	2990	83		.4		40 - 140	0 - 30
Fluoranthene	ug/kg	3590	3080	86		.7		40 - 140	0 - 30
Fluorene	ug/kg	3590	2840	76		5		40 - 140	0 - 30
Indeno(1,2,3-cd)pyrene	ug/kg	3590	3130	87		7		40 - 140	0 - 30
Naphthalene	ug/kg	3590	3360	84		.3		40 - 140	0 - 30
Phenanthrene	ug/kg	3590	3150	84		1		40 - 140	0 - 30
Pyrene	ug/kg	3590	3050	85		.7		40 - 140	0 - 30

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

3D
SOIL SEMIVOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Analytical Method: 8270D SIM

Prep Batch: 512730 Analytical Batch.: 512756

Spike HSN : 1218715

COMPOUND	*UNITS*	*SPIKE ADDED*	*SAMPLE CONCENTRATION*	*LCS CONCENTRATION*	*LCS % REC*	*LCS % REC FLAG*	*QC. LIMITS*
2-Methylnaphthalene	ug/kg	3330	0	2930	88		40 - 140
Acenaphthene	ug/kg	3330	0	3400	102		40 - 140
Acenaphthylene	ug/kg	3330	0	2710	81		40 - 140
Anthracene	ug/kg	3330	0	2710	81		40 - 140
Benzo(a)anthracene	ug/kg	3330	0	2840	85		40 - 140
Benzo(a)pyrene	ug/kg	3330	0	2860	86		40 - 140
Benzo(b)fluoranthene	ug/kg	3330	0	2780	83		40 - 140
Benzo(g,h,i)perylene	ug/kg	3330	0	2800	84		40 - 140
Benzo(k)fluoranthene	ug/kg	3330	0	3130	94		40 - 140
Chrysene	ug/kg	3330	0	2820	85		40 - 140
Fluoranthene	ug/kg	3330	0	2910	87		40 - 140
Fluorene	ug/kg	3330	0	2620	79		40 - 140
Indeno(1,2,3-cd)pyrene	ug/kg	3330	0	2960	89		40 - 140
Naphthalene	ug/kg	3330	0	2700	81		40 - 140
Phenanthrene	ug/kg	3330	0	2750	83		40 - 140
Pyrene	ug/kg	3330	0	2970	89		40 - 140

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

3D
SOIL SEMIVOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Analytical Method: 8270D SIM

Prep Batch: 512730 Analytical Batch.: 512756

Spike Dupe HSN : 1218716

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
2-Methylnaphthalene	ug/kg	3330	2970	89		1		40 - 140	0 - 30
Acenaphthene	ug/kg	3330	3000	90		13		40 - 140	0 - 30
Acenaphthylene	ug/kg	3330	2700	81		.4		40 - 140	0 - 30
Anthracene	ug/kg	3330	2720	82		.4		40 - 140	0 - 30
Benzo(a)anthracene	ug/kg	3330	2950	89		4		40 - 140	0 - 30
Benzo(a)pyrene	ug/kg	3330	2910	87		2		40 - 140	0 - 30
Benzo(b)fluoranthene	ug/kg	3330	3020	91		8		40 - 140	0 - 30
Benzo(g,h,i)perylene	ug/kg	3330	2870	86		2		40 - 140	0 - 30
Benzo(k)fluoranthene	ug/kg	3330	3040	91		3		40 - 140	0 - 30
Chrysene	ug/kg	3330	2760	83		2		40 - 140	0 - 30
Fluoranthene	ug/kg	3330	2950	89		1		40 - 140	0 - 30
Fluorene	ug/kg	3330	2460	74		6		40 - 140	0 - 30
Indeno(1,2,3-cd)pyrene	ug/kg	3330	2920	88		1		40 - 140	0 - 30
Naphthalene	ug/kg	3330	2780	83		3		40 - 140	0 - 30
Phenanthrene	ug/kg	3330	2800	84		2		40 - 140	0 - 30
Pyrene	ug/kg	3330	3020	91		2		40 - 140	0 - 30

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

3D
SOIL SEMIVOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Analytical Method: 8270D SIM

Prep Batch: 512350 Analytical Batch.: 512612

Spike HSN : 1216822

COMPOUND	*UNITS*	*SPIKE ADDED*	*SAMPLE CONCENTRATION*	*LCS CONCENTRATION*	*LCS % REC*	*LCS % REC FLAG*	*QC. LIMITS*
2-Methylnaphthalene	ug/kg	3330	0	2800	84		40 - 140
Acenaphthene	ug/kg	3330	0	2930	88		40 - 140
Acenaphthylene	ug/kg	3330	0	2540	76		40 - 140
Anthracene	ug/kg	3330	0	2550	77		40 - 140
Benzo(a)anthracene	ug/kg	3330	0	2770	83		40 - 140
Benzo(a)pyrene	ug/kg	3330	0	2780	83		40 - 140
Benzo(b)fluoranthene	ug/kg	3330	0	2600	78		40 - 140
Benzo(g,h,i)perylene	ug/kg	3330	0	2950	89		40 - 140
Benzo(k)fluoranthene	ug/kg	3330	0	3090	93		40 - 140
Chrysene	ug/kg	3330	0	2690	81		40 - 140
Fluoranthene	ug/kg	3330	0	2740	82		40 - 140
Fluorene	ug/kg	3330	0	2310	69		40 - 140
Indeno(1,2,3-cd)pyrene	ug/kg	3330	0	2730	82		40 - 140
Naphthalene	ug/kg	3330	0	2610	78		40 - 140
Phenanthrene	ug/kg	3330	0	2630	79		40 - 140
Pyrene	ug/kg	3330	0	2940	88		40 - 140

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

3D
SOIL SEMIVOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Analytical Method: 8270D SIM

Prep Batch: 512350 Analytical Batch.: 512612

Spike Dupe HSN : 1216823

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
2-Methylnaphthalene	ug/kg	3330	2770	83		1		40 - 140	0 - 30
Acenaphthene	ug/kg	3330	3740	112		24		40 - 140	0 - 30
Acenaphthylene	ug/kg	3330	2580	77		2		40 - 140	0 - 30
Anthracene	ug/kg	3330	2600	78		2		40 - 140	0 - 30
Benzo(a)anthracene	ug/kg	3330	2800	84		1		40 - 140	0 - 30
Benzo(a)pyrene	ug/kg	3330	2780	83		0		40 - 140	0 - 30
Benzo(b)fluoranthene	ug/kg	3330	2580	77		.8		40 - 140	0 - 30
Benzo(g,h,i)perylene	ug/kg	3330	2850	86		3		40 - 140	0 - 30
Benzo(k)fluoranthene	ug/kg	3330	3150	95		2		40 - 140	0 - 30
Chrysene	ug/kg	3330	2670	80		.7		40 - 140	0 - 30
Fluoranthene	ug/kg	3330	2780	83		1		40 - 140	0 - 30
Fluorene	ug/kg	3330	2750	83		17		40 - 140	0 - 30
Indeno(1,2,3-cd)pyrene	ug/kg	3330	2750	83		.7		40 - 140	0 - 30
Naphthalene	ug/kg	3330	2590	78		.8		40 - 140	0 - 30
Phenanthrene	ug/kg	3330	2670	80		2		40 - 140	0 - 30
Pyrene	ug/kg	3330	2900	87		1		40 - 140	0 - 30

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: GCAL

Lab Code: LA024 Case No.:

Lab File ID: 2130729/i6438

GC Column: RTX-5MS-30 ID: .25 (mm)

Instrument ID: MSSV5 Matrix: Water

Level: LOW

Sample ID: MB1217456

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 1217456 Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 0944

Method: 8270D SIM

Prep Batch: 512477 Analytical Batch: 512612

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1217457	1217457	2130729/i6439	07/29/13	0957
2.	LCSD1217458	1217458	2130729/i6440	07/29/13	1011
3.	EB072313	21307242115	2130729/i6441	07/29/13	1024

FORM IV SV

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1216821

Lab Code: LA024 Case No.:

Contract:

Lab File ID: 2130729/i6460

SAS No.: SDG No.: 213072421

GC Column: RTX-5MS-30 ID: .25 (mm)

Lab Sample ID: 1216821 Date Extracted: 07/26/13

Instrument ID: MSSV5 Matrix: Solid

Date Analyzed: 07/29/13 Time: 1436

Level: LOW

Method: 8270D SIM

Prep Batch: 512350 Analytical Batch: 512612

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1216822	1216822	2130729/i6461	07/29/13	1522
2.	LCSD1216823	1216823	2130729/i6462	07/29/13	1535
3.	B398SB1102	21307242101	2130729/i6463	07/29/13	1548
4.	B398SB1102 MS	21307242102	2130729/i6464	07/29/13	1602
5.	B398SB1106	21307242104	2130729/i6466	07/29/13	1628
6.	B398SB1202	21307242105	2130729/i6467	07/29/13	1642
7.	B398SB1206	21307242106	2130729/i6468	07/29/13	1655
8.	B398SB1302	21307242107	2130729/i6469	07/29/13	1708
9.	B398SB1405	21307242109	2130729/i6471	07/29/13	1735
10.	B398SB1408	21307242110	2130729/i6472	07/29/13	1748
11.	B398SB1504	21307242111	2130729/i6473	07/29/13	1801
12.	B398SB1508	21307242112	2130729/i6474	07/29/13	1814
13.	B398SB1606	21307242113	2130729/i6475	07/29/13	1828
14.	B398SB1608	21307242114	2130729/i6476	07/29/13	1841
15.	DUP072313	21307242116	2130729/i6477	07/29/13	1854
16.	B398SB1102 MSD	21307242103	2130730/i6493	07/30/13	1316
17.	DUP072313DL	21307242116DL	2130730/i6494	07/30/13	1329

FORM IV SV

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: GCAL

Lab Code: LA024 Case No.:

Lab File ID: 2130730/i6495

GC Column: RTX-5MS-30 ID: .25 (mm)

Instrument ID: MSSV5 Matrix: Solid

Level: LOW

Sample ID: MB1218714

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 1218714 Date Extracted: 07/30/13

Date Analyzed: 07/30/13 Time: 1342

Method: 8270D SIM

Prep Batch: 512730 Analytical Batch: 512756

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1218715	1218715	2130730/i6496	07/30/13	1356
2.	LCSD1218716	1218716	2130730/i6497	07/30/13	1409
3.	B398SB1306	21307242108	2130730/i6498	07/30/13	1422
4.	DUP2072313	21307242117	2130730/i6499	07/30/13	1436

FORM IV SV

5B
Semivolatile Organics Instrument Performance Check
Decafluorotriphenylphosphine (DFTPP)

Lab Name: GCAL Contract:
Lab Code: LA024 Case No: SAS No: SDG No: 213072421
Lab File ID: 2130711/i6074s DFTPP Inj. Date: 07/11/13
Instrument ID Number: MSSV5 DFTPP Inj. Time: 0853
GC Column: RTX-5MS-30M ID: .25 (mm)
Analytical Batch: 511562

m/e	ION ABUNDANCE CRITERIA		%Relative Abundance	
51	30.0-60.0% of mass 198	35.85	( )	( )
68	Less than 2% of mass 69	0.43	(1.21)	(1)
69	Mass 69 relative abundance	35.69	( )	( )
70	Less than 2.0% of mass 69	0	(0)	(1)
127	40.0-60.0% of mass 198	48.11	( )	( )
197	Less than 1.0% of mass 198	0.68	( )	( )
198	Base Peak, 100% relative abundance	100	( )	( )
199	5.0-9.0% of mass 198	7.03	( )	( )
275	10.0-30.0% of mass 198	27.8	( )	( )
365	Greater than 1.0% of mass 198	3.44	( )	( )
441	Present, but less than mass 443	12.6	( )	( )
442	Greater than 40.00% of mass 198	133.41	( )	( )
443	17.0-23.0% of mass 442	24.45	(18.33)	(2)

(1) - Value is % mass 69 (2) - Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

Sample No.	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
STD050	1205	2130711/i6078	07/11/13	0959
STD010	1204	2130711/i6079	07/11/13	1018
STD080	1206	2130711/i6080	07/11/13	1032
STD120	1207	2130711/i6081	07/11/13	1045
STD160	1208	2130711/i6082	07/11/13	1058
STD200	1209	2130711/i6083	07/11/13	1112
STD002	1203	2130711/i6084	07/11/13	1125
STD001	1202	2130711/i6085	07/11/13	1138
STD0.1	1201	2130711/i6086	07/11/13	1152
STDICV	1600	2130711/i6087	07/11/13	1205

FORM V SV

5B

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECI

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130729/i6431x

DFTPP Injection Date: 07/29/13 Time: 0744

GC Column: RTX-5MS-30 ID: .25 (mm)

Analytical Batch: 512612

Instrument ID: MSSV5

m / e	*ION ABUNDANCE CRITERIA*	*% Relative Abundance*
51	30.0-60.0% of mass 198	35.17 ( ) ( )
68	Less than 2% of mass 69	0 (0) (1)
69	Mass 69 relative abundance	36.41 ( ) ( )
70	Less than 2.0% of mass 69	0 (0) (1)
127	40.0-60.0% of mass 198	47.3 ( ) ( )
197	Less than 1.0% of mass 198	.37 ( ) ( )
198	Base Peak, 100% relative abundance	100 ( ) ( )
199	5.0-9.0% of mass 198	6.96 ( ) ( )
275	10.0-30.0% of mass 198	27.24 ( ) ( )
365	Greater than 1.0% of mass 198	3.37 ( ) ( )
441	Present, but less than mass 443	17.28 ( ) ( )
442	Greater than 40.00% of mass 198	141.1 ( ) ( )
443	17.0-23.0% of mass 442	26.14 (18.53) (2)

(1)-Value is % mass 69 (2)-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	*LAB SAMPLE ID*	*LAB FILE ID*	*DATE ANALYZED*	*TIME ANALYZED*
1.	STD050	1400	2130729/i6433s	07/29/13	0817
2.	MB1217456	1217456	2130729/i6438	07/29/13	0944
3.	LCS1217457	1217457	2130729/i6439	07/29/13	0957
4.	LCSD1217458	1217458	2130729/i6440	07/29/13	1011
5.	EB072313	21307242115	2130729/i6441	07/29/13	1024
6.	MB1216821	1216821	2130729/i6460	07/29/13	1436
7.	LCS1216822	1216822	2130729/i6461	07/29/13	1522
8.	LCSD1216823	1216823	2130729/i6462	07/29/13	1535
9.	B398SB1102	21307242101	2130729/i6463	07/29/13	1548
10.	B398SB1102 MS	21307242102	2130729/i6464	07/29/13	1602
11.	B398SB1106	21307242104	2130729/i6466	07/29/13	1628

FORM V SV

5B

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECI

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID: 2130729/i6431x DFTPP Injection Date: 07/29/13 Time: 0744

GC Column: RTX-5MS-30 ID: .25 (mm) Analytical Batch: 512612

Instrument ID: MSSV5

12.	B398SB1202	21307242105	2130729/i6467	07/29/13	1642
13.	B398SB1206	21307242106	2130729/i6468	07/29/13	1655
14.	B398SB1302	21307242107	2130729/i6469	07/29/13	1708
15.	B398SB1405	21307242109	2130729/i6471	07/29/13	1735
16.	B398SB1408	21307242110	2130729/i6472	07/29/13	1748
17.	B398SB1504	21307242111	2130729/i6473	07/29/13	1801
18.	B398SB1508	21307242112	2130729/i6474	07/29/13	1814
19.	B398SB1606	21307242113	2130729/i6475	07/29/13	1828
20.	B398SB1608	21307242114	2130729/i6476	07/29/13	1841
21.	DUP072313	21307242116	2130729/i6477	07/29/13	1854

5B

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECI

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072421

Lab File ID: 2130730/i6486s

DFTPP Injection Date: 07/30/13 Time: 1130

GC Column: RTX-5MS-30 ID: .25 (mm)

Analytical Batch: 512756

Instrument ID: MSSV5

m / e	*ION ABUNDANCE CRITERIA*	*% Relative Abundance*
51	30.0-60.0% of mass 198	33.58 ( ) ( )
68	Less than 2% of mass 69	0 (0) (1)
69	Mass 69 relative abundance	33.45 ( ) ( )
70	Less than 2.0% of mass 69	0 (0) (1)
127	40.0-60.0% of mass 198	45.55 ( ) ( )
197	Less than 1.0% of mass 198	0 ( ) ( )
198	Base Peak, 100% relative abundance	100 ( ) ( )
199	5.0-9.0% of mass 198	6.98 ( ) ( )
275	10.0-30.0% of mass 198	29.08 ( ) ( )
365	Greater than 1.0% of mass 198	4.3 ( ) ( )
441	Present, but less than mass 443	5.6 ( ) ( )
442	Greater than 40.00% of mass 198	154.1 ( ) ( )
443	17.0-23.0% of mass 442	29.02 (18.83) (2)

(1)-Value is % mass 69 (2)-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	*LAB SAMPLE ID*	*LAB FILE ID*	*DATE ANALYZED*	*TIME ANALYZED*
1.	STD050	1400	2130730/i6488s	07/30/13	1203
2.	B398SB1102 MSD	21307242103	2130730/i6493	07/30/13	1316
3.	DUP072313DL	21307242116DL	2130730/i6494	07/30/13	1329
4.	MB1218714	1218714	2130730/i6495	07/30/13	1342
5.	LCS1218715	1218715	2130730/i6496	07/30/13	1356
6.	LCSD1218716	1218716	2130730/i6497	07/30/13	1409
7.	B398SB1306	21307242108	2130730/i6498	07/30/13	1422
8.	DUP2072313	21307242117	2130730/i6499	07/30/13	1436

FORM V SV

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Calibration File Names:
Level 1: /var/chem/MSSV5.i/2130711.s.b/i6086.d
Level 2: /var/chem/MSSV5.i/2130711.s.b/i6085.d
Level 3: /var/chem/MSSV5.i/2130711.s.b/i6084.d
Level 4: /var/chem/MSSV5.i/2130711.s.b/i6079.d
Level 5: /var/chem/MSSV5.i/2130711.s.b/i6078.d
Level 6: /var/chem/MSSV5.i/2130711.s.b/i6080.d
Level 7: /var/chem/MSSV5.i/2130711.s.b/i6081.d
Level 8: /var/chem/MSSV5.i/2130711.s.b/i6082.d
Level 9: /var/chem/MSSV5.i/2130711.s.b/i6083.d

Compound	0.1000 Level 1 / 120 Level 7	1 Level 2 / 160 Level 8	2 Level 3 / 200 Level 9	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
6 Naphthalene	0.98618	1.06629	1.03265	1.05299	1.03573	1.01731					
	1.01194	1.00095	0.97962				AVRG		1.02041		2.86700
7 2-Methylnaphthalene	0.71608	0.63295	0.63971	0.65604	0.66792	0.64861					
	0.63690	0.63867	0.65974				AVRG		0.65518		3.91975
9 Acenaphthylene	1.95617	2.11845	2.21569	1.58088	2.31572	2.36944					
	2.36485	2.22299	2.08869				AVRG		2.13699		11.65323

2130711.211

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1 / 120 Level 7	1 Level 2 / 160 Level 8	2 Level 3 / 200 Level 9	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
11 Acenaphthene +	1.00396	1.32324	1.28101	1.08159	1.18048	1.18882						
	1.15375	1.13790	1.12985				AVRG		1.16451		8.27530	
12 Fluorene	1.66636	1.68477	1.70032	1.36353	1.60697	1.60564						
	1.58722	1.54598	1.46329				AVRG		1.58045		6.93060	
14 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
15 Pentachlorophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
17 Phenanthrene	1.45613	1.13982	1.10909	1.11654	1.10306	1.08019						
	1.07209	1.05874	1.01537				AVRG		1.12789		11.38053	
18 Anthracene	1.55274	1.08459	1.09388	1.04858	1.09327	1.09111						
	1.09650	1.09466	1.05906				AVRG		1.13493		13.88800	
19 Fluoranthene +	1.11797	1.05007	1.09661	1.16484	1.34474	1.22434						
	1.30885	1.25856	1.20745				AVRG		1.19705		8.24502	

2130724212

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1 / 120 Level 7	1 Level 2 / 160 Level 8	2 Level 3 / 200 Level 9	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
20 Pyrene	1.14724	1.07974	1.12416	1.12600	1.21377	1.09224						
	1.10688	1.12670	1.13856				AVRG		1.12837		3.41964	
22 Benzo(a)anthracene	520	3174	7714	36366	203320	311763						
	474956	679497	840715				QUAD	0.00467	0.91455	-0.00499	0.99991	
24 Chrysene	1.52294	1.27403	1.23132	1.26897	1.24532	1.24739						
	1.24250	1.17711	1.16727				AVRG		1.26409		8.21338	
25 Benzo(b)fluoranthene	239	2252	5983	33634	220402	357864						
	543365	770627	915413				QUAD	0.01169	1.01455	-0.00505	0.99909	<-
26 Benzo(k)fluoranthene	1.19900	0.97166	1.01900	1.19078	1.23114	1.23298						
	1.25556	1.20158	1.21249				AVRG		1.16824		8.62453	
27 Benzo(a)pyrene +	664	3043	7633	32420	224182	377533						
	593045	790053	952630				LINR	0.01342	1.05078		0.99982	
29 Indeno(1,2,3-cd)pyrene	369	1819	4861	24569	167746	333935						
	526299	746065	963805				QUAD	0.03474	1.18521	-0.04647	0.99922	

0130724121 21

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1 / 120 Level 7	1 Level 2 / 160 Level 8	2 Level 3 / 200 Level 9	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
30 Dibenzo(a,h)anthracene	302	2800	7010	36006	226892	404396						
	660330	865827	1032008				LINR	0.02772	1.14936		0.99915	
31 Benzo(g,h,i)perylene	1.51046	1.20433	1.22139	1.22188	1.28627	1.37476						
	1.41741	1.36755	1.31243				AVRG		1.32405		7.77599	
192 1-Methylnapthalene	0.62814	0.58994	0.58863	0.59992	0.61051	0.59123						
	0.58641	0.57791	0.59883				AVRG		0.59683		2.50870	
1 2-Fluorophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
2 Phenol-d5	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
4 Nitrobenzene-d5	0.38317	0.36079	0.39266	0.36845	0.37275	0.36906						
	0.36598	0.35987	0.35017				AVRG		0.36921		3.43773	
8 2-Fluorobiphenyl	1.57839	1.78863	1.77394	1.44215	1.69975	1.66351						
	1.71199	1.65919	1.59563				AVRG		1.65702		6.47194	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1	1 Level 2	2 Level 3	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	120 Level 7	160 Level 8	200 Level 9									
$ 13 2,4,6-Tribromophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
$ 21 Terphenyl-d14	0.67761	0.66917	0.72668	0.71467	0.77297	0.66164						
	0.68153	0.70657	0.74231				AVRG		0.70591		5.26140	

21307221 215

Data File: /var/chem/MSSV5.i/2130711.s.b/i6087.d
Report Date: 11-Jul-2013 13:38

GCAL, Inc.

RECOVERY REPORT

Client Name: 48-22-14
Sample Matrix: LIQUID
Lab Smp Id: 1600
Level: LOW
Data Type: MS DATA
SpikeList File: SIMpahICV.spk
Sublist File: sim8270pah.sub
Method File: /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Misc Info: STDICV*MSSV~9732~*

Client SDG: 2130711.s
Fraction: SV
Client Smp ID: STDICV
Operator: KCB
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
6 Naphthalene	50.0	45.5	91.01	70-130
7 2-Methylnaphthalene	50.0	45.5	91.09	70-130
9 Acenaphthylene	50.0	51.2	102.37	70-130
11 Acenaphthene +	50.0	45.9	91.77	70-130
12 Fluorene	50.0	46.3	92.63	70-130
17 Phenanthrene	50.0	44.1	88.12	70-130
18 Anthracene	50.0	43.0	86.00	70-130
19 Fluoranthene +	50.0	45.7	91.38	70-130
20 Pyrene	50.0	46.4	92.81	70-130
22 Benzo(a)anthracene	50.0	44.9	89.89	70-130
24 Chrysene	50.0	44.5	89.05	70-130
25 Benzo(b)fluoranthene	50.0	41.9	83.83	70-130
26 Benzo(k)fluoranthene	50.0	49.9	99.71	70-130
27 Benzo(a)pyrene +	50.0	44.3	88.57	70-130
29 Indeno(1,2,3-cd)pyrene	50.0	41.8	83.55	70-130
30 Dibenzo(a,h)anthracene	50.0	42.4	84.85	70-130
31 Benzo(g,h,i)perylene	50.0	47.2	94.44	70-130
192 1-Methylnapthalene	50.0	47.5	94.97	70-130

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 4 Nitrobenzene-d5	50.0	43.8	87.70	43-110
$ 8 2-Fluorobiphenyl	50.0	43.2	86.33	16-128
$ 21 Terphenyl-d14	50.0	44.1	88.17	47-121

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSSV5.i Injection Date: 29-JUL-2013 08:17
Lab File ID: i6433s.d Init. Cal. Date(s): 15-MAY-2013 11-JUL-2013
Analysis Type: WATER Init. Cal. Times: 08:17 11:52
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/MSSV5.i/2130729.s.b/SIMLS_05.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 Nitrobenzene-d5	0.36921	0.37069	0.37069	0.050	0.40090	30.00000	Averaged
6 Naphthalene	1.02041	1.03359	1.03359	0.700	1.29233	30.00000	Averaged
7 2-Methylnaphthalene	0.65518	0.66959	0.66959	0.400	2.20025	30.00000	Averaged
192 1-Methylnapthalene	0.59683	0.60761	0.60761	0.400	1.80472	30.00000	Averaged
$ 8 2-Fluorobiphenyl	1.65702	1.61363	1.61363	0.050	-2.61850	30.00000	Averaged
9 Acenaphthylene	2.13699	1.89972	1.89972	0.900	-11.10292	30.00000	Averaged
11 Acenaphthene +	1.16451	1.09033	1.09033	0.900	-6.37055	20.00000	Averaged
12 Fluorene	1.58045	1.56162	1.56162	0.900	-1.19137	30.00000	Averaged
17 Phenanthrene	1.12789	1.09674	1.09674	0.700	-2.76178	30.00000	Averaged
18 Anthracene	1.13493	1.07774	1.07774	0.700	-5.03971	30.00000	Averaged
19 Fluoranthene +	1.19705	1.23126	1.23126	0.600	2.85776	20.00000	Averaged
20 Pyrene	1.12837	1.20716	1.20716	0.600	6.98304	30.00000	Averaged
$ 21 Terphenyl-d14	0.70591	0.80213	0.80213	0.050	13.63153	30.00000	Averaged
22 Benzo(a)anthracene	52.75233	50.00000	1.15868	0.800	5.50466	30.00000	Quadratic
24 Chrysene	1.26409	1.20191	1.20191	0.700	-4.91899	30.00000	Averaged
25 Benzo(b)fluoranthene	49.33716	50.00000	0.96922	0.700	-1.32567	30.00000	Quadratic
26 Benzo(k)fluoranthene	1.16824	1.31450	1.31450	0.700	12.51934	30.00000	Averaged
27 Benzo(a)pyrene +	49.81380	50.00000	1.03558	0.700	-0.37241	30.00000	Linear
29 Indeno(1,2,3-cd)pyrene	50.03383	50.00000	0.85684	0.500	0.06765	30.00000	Quadratic
30 Dibenzo(a,h)anthracene	50.42673	50.00000	1.13368	0.400	0.85346	30.00000	Linear
31 Benzo(g,h,i)perylene	1.32405	1.31914	1.31914	0.500	-0.37111	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 4.00898
Maximun Average %D/Drift = 30.00000
* Passed Average %D/Drift Test.

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSSV5.i
Lab File ID: i6488s.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/MSSV5.i/2130730.s.b/SIMLS_05.m

Injection Date: 30-JUL-2013 12:03
Init. Cal. Date(s): 15-MAY-2013 11-JUL-2013
Init. Cal. Times: 08:17 11:52
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 Nitrobenzene-d5	0.36921	0.36891	0.36891	0.050	-0.08052	30.00000	Averaged
6 Naphthalene	1.02041	1.03792	1.03792	0.700	1.71680	30.00000	Averaged
7 2-Methylnaphthalene	0.65518	0.67148	0.67148	0.400	2.48762	30.00000	Averaged
192 1-Methylnapthalene	0.59683	0.61977	0.61977	0.400	3.84346	30.00000	Averaged
$ 8 2-Fluorobiphenyl	1.65702	1.45665	1.45665	0.050	-12.09218	30.00000	Averaged
9 Acenaphthylene	2.13699	1.85574	1.85574	0.900	-13.16105	30.00000	Averaged
11 Acenaphthene +	1.16451	1.38841	1.38841	0.900	19.22706	20.00000	Averaged
12 Fluorene	1.58045	1.39940	1.39940	0.900	-11.45586	30.00000	Averaged
17 Phenanthrene	1.12789	1.09940	1.09940	0.700	-2.52632	30.00000	Averaged
18 Anthracene	1.13493	1.07691	1.07691	0.700	-5.11237	30.00000	Averaged
19 Fluoranthene +	1.19705	1.29034	1.29034	0.600	7.79371	20.00000	Averaged
20 Pyrene	1.12837	1.22121	1.22121	0.600	8.22852	30.00000	Averaged
$ 21 Terphenyl-d14	0.70591	0.81301	0.81301	0.050	15.17249	30.00000	Averaged
22 Benzo(a)anthracene	51.88208	50.00000	1.13935	0.800	3.76417	30.00000	Quadratic
24 Chrysene	1.26409	1.21129	1.21129	0.700	-4.17703	30.00000	Averaged
25 Benzo(b)fluoranthene	49.01587	50.00000	0.96281	0.700	-1.96827	30.00000	Quadratic
26 Benzo(k)fluoranthene	1.16824	1.37761	1.37761	0.700	17.92143	30.00000	Averaged
27 Benzo(a)pyrene +	50.07255	50.00000	1.04102	0.700	0.14511	30.00000	Linear
29 Indeno(1,2,3-cd)pyrene	44.95608	50.00000	0.76376	0.500	-10.08785	30.00000	Quadratic
30 Dibenzo(a,h)anthracene	47.07545	50.00000	1.05664	0.400	-5.84910	30.00000	Linear
31 Benzo(g,h,i)perylene	1.32405	1.27020	1.27020	0.500	-4.06772	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 7.18470
Maximun Average %D/Drift = 30.00000
* Passed Average %D/Drift Test.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID (Standard): 2130729/i6433s Date Analyzed: 07/29/13 Time: 0817

Instrument ID: MSSV5 GC Column: RTX-5MS-30M ID: .25 (mm)

Analytical Batch: 512612 Method: SW-846 8270D SIM

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	128590	1.86	61914	2.87	133220	3.78
EPA Sample No.	#	#	#	#	#	#
MB1217456	122116	1.86	63547	2.87	125495	3.78
LCS1217457	106126	1.86	54954	2.87	108100	3.78
LCSD1217458	121779	1.86	60824	2.87	122525	3.78
EB072313	114954	1.86	68244	2.87	111102	3.78
MB1216821	109513	1.86	54448	2.87	107223	3.78
LCS1216822	117556	1.86	65889	2.87	115657	3.78
LCSD1216823	107072	1.86	49902	2.87	104423	3.78
B398SB1102	119803	1.86	57353	2.86	113460	3.78
B398SB1102 MS	110218	1.86	56994	2.87	112533	3.78
B398SB1106	108450	1.86	55901	2.87	109105	3.78
B398SB1202	109020	1.86	52774	2.87	111670	3.78
B398SB1206	115885	1.86	57317	2.87	113439	3.78
B398SB1302	112743	1.86	62147	2.87	114800	3.78
B398SB1405	115433	1.86	55459	2.86	118225	3.78
B398SB1408	109004	1.86	60345	2.87	106051	3.78
B398SB1504	107471	1.86	58997	2.87	111637	3.78
B398SB1508	111904	1.86	61324	2.87	110390	3.78
B398SB1606	113151	1.86	55685	2.87	109206	3.78
B398SB1608	107680	1.86	52670	2.87	106094	3.78
DUP072313	100550	1.86	51289	2.86	107086	3.78

IS 1 ID: Naphthalene-d8
IS 2 ID: Acenaphthene-d10
IS 3 ID: Phenanthrene-d10

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 internal standard values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID (Standard): 2130729/i6433s Date Analyzed: 07/29/13 Time: 0817

Instrument ID: MSSV5 GC Column: RTX-5MS-30M ID: .25 (mm)

Analytical Batch: 512612 Method: SW-846 8270D SIM

	IS4 Area	RT	IS5 Area	RT	IS6 Area	RT
STANDARD	139662	5.89	167492	8.11		

EPA Sample No.		#		#		#		#		#		#
MB1217456	129357		5.89		160562		8.11		0		0.00	
LCS1217457	118997		5.89		146831		8.11		0		0.00	
LCSD1217458	132297		5.89		163394		8.11		0		0.00	
EB072313	124249		5.89		152554		8.11		0		0.00	
MB1216821	104418		5.89		124770		8.11		0		0.00	
LCS1216822	118268		5.90		146222		8.12		0		0.00	
LCSD1216823	110223		5.89		131402		8.11		0		0.00	
B398SB1102	122707		5.88		161105		8.11		0		0.00	
B398SB1102 MS	125269		5.89		169092		8.11		0		0.00	
B398SB1106	114310		5.89		149347		8.11		0		0.00	
B398SB1202	120332		5.88		157116		8.11		0		0.00	
B398SB1206	119193		5.88		164013		8.11		0		0.00	
B398SB1302	122056		5.89		161782		8.11		0		0.00	
B398SB1405	126799		5.89		179163		8.11		0		0.00	
B398SB1408	117460		5.89		151951		8.11		0		0.00	
B398SB1504	116462		5.89		155012		8.11		0		0.00	
B398SB1508	121636		5.89		161897		8.11		0		0.00	
B398SB1606	121224		5.89		172219		8.11		0		0.00	
B398SB1608	114206		5.88		151307		8.11		0		0.00	
DUP072313	114839		5.88		165695		8.11		0		0.00	

IS 4 ID: Chrysene-d12
IS 5 ID: Perylene-d12
IS 6 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID (Standard): 2130730/i6488s Date Analyzed: 07/30/13 Time: 1203

Instrument ID: MSSV5 GC Column: RTX-5MS-30M ID: .25 (mm)

Analytical Batch: 512756 Method: SW-846 8270D SIM

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	137103	1.86	74855	2.87	141524	3.78

EPA Sample No.		#		#		#		#		#		#
B398SB1102 MSD	110727		1.86		63951		2.87		121492		3.78	
DUP072313DL	108817		1.86		60416		2.87		118566		3.78	
MB1218714	102791		1.86		60724		2.87		107670		3.78	
LCS1218715	107263		1.86		56976		2.87		111311		3.78	
LCSD1218716	108229		1.86		62734		2.87		115068		3.78	
B398SB1306	100775		1.86		52292		2.87		100669		3.78	
DUP2072313	107141		1.86		63821		2.87		108311		3.78	

IS 1 ID: Naphthalene-d8
IS 2 ID: Acenaphthene-d10
IS 3 ID: Phenanthrene-d10

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 internal standard values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Lab File ID (Standard): 2130730/i6488s Date Analyzed: 07/30/13 Time: 1203

Instrument ID: MSSV5 GC Column: RTX-5MS-30M ID: .25 (mm)

Analytical Batch: 512756 Method: SW-846 8270D SIM

	IS4 Area	RT	IS5 Area	RT	IS6 Area	RT
STANDARD	157558	5.89	174215	8.11		

EPA Sample No.		#		#		#		#		#		#
B398SB1102 MSD	136032		5.89		166409		8.11		0		0.00	
DUP072313DL	129883		5.89		155584		8.11		0		0.00	
MB1218714	117848		5.89		137854		8.11		0		0.00	
LCS1218715	120308		5.89		142172		8.11		0		0.00	
LCSD1218716	123398		5.89		145308		8.11		0		0.00	
B398SB1306	108319		5.89		126270		8.11		0		0.00	
DUP2072313	119963		5.89		137638		8.11		0		0.00	

IS 4 ID: Chrysene-d12
IS 5 ID: Perylene-d12
IS 6 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

BASE NEUTRAL/ACID SAMPLE PREPARATION FORM 8270 Ds.MS

EXTRACTION DATE/TIME: 7/26/13	Start: 6:45	End: 8:30	BATCH NO:	512477
MATRIX:	WATER ☑ SOIL ☐ OTHER ☐		LEVEL:	LOW ☑ MEDIUM ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	BN pH	Acid pH	SAMPLE TYPE	COMMENTS	METHOD
1	QC ACCOUNT	MB for HBN 512477 [EXTO/36274]	1217456	1000	1.0	>11	N/A	MB	-	LIQUID LIQUID/3520
2	QC ACCOUNT	LCS for HBN 512477 [EXTO/36274	1217457	1000	1.0	>11		LCS	-	N/A
3	QC ACCOUNT	LCSD for HBN 512477 [EXTO/3627	1217458	1000	1.0	>11		LCSD	-	SEPARATORY FUNNEL/3510
4	4841	EB072313	2130724211 5	1000	1.0	>11		EQBK	-	✓
5	4841	B398PW1-3Q13	21307251401	1000	1.0	>11		SAMPLE	-	SONICATOR/3550
6	4841	B398MW2-3Q13	21307251402	1000	1.0	>11		SAMPLE	-	N/A
7	4841	B398MW3-3Q13	21307251403	1000	1.0	>11		SAMPLE	-	SOXHLET/3540
8	4841	B398MW4-3Q13	21307251404	1000	1.0	>11		SAMPLE	-	N/A
9	4841	DUP1072413	21307251405	1000	1.0	>11		FLDDUP	-	GPC CLEANUP/3640
10	4841	B398MW5-3Q13	21307251406	1000	1.0	>11		SAMPLE	-	N/A
11	4841	B398MW6-3Q13	21307251407	1000	1.0	>11		SAMPLE	-	WASTE DILUTION/3580
12	4841	B398MW7-3Q13	21307251408	1000	1.0	>11		SAMPLE	-	N/A
13	4841	B398MW8-3Q13	21307251409	1000	1.0	>11		SAMPLE	-	TCLP EXTRACTION FLUID 1
14	4841	B398MW10-3Q13	21307251410	1000	1.0	>11		SAMPLE	-	N/A
15	4841	B398MW11-3Q13	21307251411	1000	1.0	>11		SAMPLE	-	TCLP EXTRACTION FLUID 2
16	4841	B398MW12-3Q13	21307251412	1000	1.0	>11		SAMPLE	-	N/A
17			2130726080 1	1000	1.0	>11				MECL2/Acetone No:
18		MS	2130726080 2	1000	1.0	>11				N/A
19		MSD	2130726080 3	1000	1.0	>11				ACETONE LOT NO:
20			2130726080 4	1000	1.0	>11				N/A
21			2130726 0805	1000	1.0	>11				MeCL2 Lot No:
22			2130726080 6	1000	1.0	>11				DI726
23										Sodium Sulfate Lot No:
24										0000040569
25										
26										
27										
28										

COMMENTS: SAMPLE PREPARATION INCLUDE DETERMINATION OF SAMPLE VOLUME/WEIGHT, SOLVENT EXTRACTION AND EVAPORATION OF SOLVENT TO FINAL VOLUME

BALANCE ID: N/A TEMP: 100°C

SURROGATE ID	507-100-10	8270 SPIKE ID		~~625~~ S+MS SPIKE ID	507-96-9	TECHNICIAN	DATE
VOLUME	1.0mL	VOLUME		VOLUME	1.0mL	TES	7/26/13
CONCENTRATION	96/100 µg/ml	CONCENTRATION		CONCENTRATION	100 µg/ml		
NaOH	407-20-4	ACID	N/A			SUPERVISOR	DATE
SPIKE WITNESS	BDT					SKB	7-26-13

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BASE NEUTRAL/ACID SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME: 8:30	Start: 7/26/13	End: 1324	BATCH NO:	512350	8270DS, MS
MATRIX:	WATER ☐ SOIL ☑ OTHER ☐		LEVEL:	LOW ☑ MEDIUM ☐	

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	BN pH	Acid pH	SAMPLE TYPE	COMMENTS	METHOD
1	QC ACCOUNT	MB for HBN 512350 [EXTO/36263]	1216821	30.0	1.0			MB	-	LIQUID LIQUID/3520 NA
2	QC ACCOUNT	LCS for HBN 512350 [EXTO/36263	1216822	30.0	1.0			LCS	-	
3	QC ACCOUNT	LCSD for HBN 512350 [EXTO/3626	1216823	30.0	1.0			LCSD	-	SEPARATORY FUNNEL/3510 NA
4	4841	B398SB1102	21307242101	30.1	1.0			SAMPLE	-	
5	4841	B398SB1102 MS	21307242102	30.0	1.0			MS	-	SONICATOR/3550 ✓
6	4841	B398SB1102 MSD	21307242103	30.0	1.0			MSD	-	
7	4841	B398SB1106	21307242104	30.1	1.0			SAMPLE	-	SOXHLET/3540
8	4841	B398SB1202	21307242105	30.2	1.0			SAMPLE	-	NA
9	4841	B398SB1206	21307242106	30.0	1.0			SAMPLE	-	GPC CLEANUP/3640
10	4841	B398SB1302	21307242107	30.0	1.0			SAMPLE	-	NA
11	4841	B398SB1306	21307242108	30.0	1.0			SAMPLE	- Reprepped	WASTE DILUTION/3580
12	4841	B398SB1405	21307242109	30.1	1.0			SAMPLE	-	NA
13	4841	B398SB1408	21307242110	30.2	1.0			SAMPLE	-	TCLP EXTRACTION FLUID NA
14	4841	B398SB1504	21307242111	30.0	1.0			SAMPLE	-	
15	4841	B398SB1508	21307242112	30.0	1.0			SAMPLE	-	TCLP EXTRACTION FLUID 2 NA
16	4841	B398SB1606	21307242113	30.2	1.0			SAMPLE	-	
17	4841	B398SB1608	21307242114	30.0	1.0			SAMPLE	-	MECL2/Acetone No: DH962
18	4841	DUP072313	21307242116	30.0	1.0			FLDDUP	-	
19	4841	DUP2072313	21307242117	30.0	1.0			FLDDUP	- Reprepped	ACETONE LOT NO: NA
20										
21										MeCL2 Lot No: D1726
22										
23										Sodium Sulfate Lot No: 0000030377
24										
25										
26										
27										
28										

COMMENTS: SAMPLE PREPARATION INCLUDE DETERMINATION OF SAMPLE VOLUME/WEIGHT, SOLVENT EXTRACTION AND EVAPORATION OF SOLVENT TO FINAL VOLUME

BALANCE ID: M33557 TEMP: 100°

S.MS

SURROGATE ID	507-100-10	8270 SPIKE ID		[redacted] SPIKE ID	507-96-F	TECHNICIAN	DATE
VOLUME	1 mL	VOLUME		VOLUME	1 mL	BDF	7-26-13
CONCENTRATION	50/100 µg/mL	CONCENTRATION		CONCENTRATION	100 µg/mL		
NaOH		ACID				SUPERVISOR	DATE
SPIKE WITNESS	DY					SKB	7-26-13

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BASE NEUTRAL/ACID SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME: 10:15	Start: 7/30/13	End: 12:17	BATCH NO:	512730
MATRIX:	WATER ☐ SOIL ☑ OTHER ☐		LEVEL:	LOW ☑ MEDIUM ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	BN pH	Acid pH	SAMPLE TYPE	COMMENTS	METHOD
1	QC ACCOUNT	MB for HBN 512730 [EXTO/36305]	1218714	30.0	1.0			MB	-	LIQUID LIQUID/3520
2	QC ACCOUNT	LCS for HBN 512730 [EXTO/36305	1218715	30.0	1.0			LCS	-	NA
3	QC ACCOUNT	LCSD for HBN 512730 [EXTO/3630	1218716	30.0	1.0			LCSD	-	SEPARATORY FUNNEL/3510 NA
4	4841	B398SB1306	21307242108	30.0	1.0			SAMPLE	-	
5	4841	DUP2072313	21307242117	30.0	1.0			FLDDUP	-	SONICATOR/3550 ✓
6										
7										SOXHLET/3540 NA
8										
9										GPC CLEANUP/3640 NA
10										
11										WASTE DILUTION/3580 NA
12										
13										TCLP EXTRACTION FLUID 1 NA
14										
15										TCLP EXTRACTION FLUID 2 NA
16										
17										MECL2/Acetone No: DH962
18										
19										ACETONE LOT NO: NA
20										
21										MeCL2 Lot No: D1726
22										
23										Sodium Sulfate Lot No: 000003377
24										
25										
26										
27										
28										

COMMENTS: SAMPLE PREPARATION INCLUDE DETERMINATION OF SAMPLE VOLUME/WEIGHT, SOLVENT EXTRACTION AND EVAPORATION OF SOLVENT TO FINAL VOLUME

BALANCE ID: M33557 Semi Spike TEMP: 100°

SURROGATE ID	501-100-10	8270 SPIKE ID	507916-9	625 SPIKE ID		TECHNICIAN	DATE
VOLUME	1.0 ml	VOLUME	1.0 ml	VOLUME		BLD	7-30-13
CONCENTRATION	50/100 ug/ml	CONCENTRATION	100 ug/ml	CONCENTRATION			
NaOH		ACID				SUPERVISOR	DATE
SPIKE WITNESS	SKB					SKB	7-30-13

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LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 11-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions: _____

MISC: _____

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1100	48-13-13	i6074c.d	0.00 ml	11-JUL-2013 08:53	1.000	KCB	1	all
1100	48-13-13	i6074.d	0.00 ml	11-JUL-2013 08:53	1.000	KCB	1	all
1100	48-13-13	i6074s.d	0.00 ml	11-JUL-2013 08:53	1.000	KCB	1	all
1400	48-19-1	i6075.d	1000.00 ml	11-JUL-2013 09:12	1.000	KCB	2	8270c
1400	48-19-1	i6076.d	1000.00 ml	11-JUL-2013 09:27	1.000	KCB	2	sim8270pah
1400	48-18-1	i6077.d	1000.00 ml	11-JUL-2013 09:44	1.000	KCB	3	app9
1205	48-22-4	i6078.d	1000.00 ml	11-JUL-2013 09:59	1.000	KCB	2	sim8270pah
1204	48-22-5	i6079.d	1000.00 ml	11-JUL-2013 10:18	1.000	KCB	4	sim8270pah
1206	48-22-6	i6080.d	1000.00 ml	11-JUL-2013 10:32	1.000	KCB	5	sim8270pah
1207	48-22-7	i6081.d	1000.00 ml	11-JUL-2013 10:45	1.000	KCB	6	sim8270pah
1208	48-22-8	i6082.d	1000.00 ml	11-JUL-2013 10:58	1.000	KCB	7	sim8270pah
1209	48-22-9	i6083.d	1000.00 ml	11-JUL-2013 11:12	1.000	KCB	8	sim8270pah
1203	48-22-10	i6084.d	1000.00 ml	11-JUL-2013 11:25	1.000	KCB	9	sim8270pah
1202	48-22-11	i6085.d	1000.00 ml	11-JUL-2013 11:38	1.000	KCB	10	sim8270pah
1201	48-22-13	i6086.d	1000.00 ml	11-JUL-2013 11:52	1.000	KCB	11	sim8270pah
1600	48-22-14	i6087.d	1000.00 ml	11-JUL-2013 12:05	1.000	KCB	12	sim8270pah
1211892	BLK	i6088.d	1000.00 ml	11-JUL-2013 12:38	1.000	KCB	13	sim8270pah
1211893	LCS	i6089.d	1000.00 ml	11-JUL-2013 12:52	1.000	KCB	14	sim8270pah
1211894	LCSD	i6090.d	1000.00 ml	11-JUL-2013 13:05	1.000	KCB	15	sim8270pah
21307094701	4783	i6091.d	980.00 ml	11-JUL-2013 13:18	1.000	KCB	16	sim8270pah
21307094702	MS	i6092.d	980.00 ml	11-JUL-2013 13:31	1.000	KCB	17	sim8270pah
21307094703	MSD	i6093.d	980.00 ml	11-JUL-2013 13:45	1.000	KCB	18	sim8270pah
21307094704	4783	i6094.d	980.00 ml	11-JUL-2013 13:58	1.000	KCB	19	sim8270pah
21307094705	4783	i6095.d	980.00 ml	11-JUL-2013 14:11	1.000	KCB	20	sim8270pah
21307094706	4783	i6096.d	980.00 ml	11-JUL-2013 14:25	1.000	KCB	21	sim8270pah
21307094708	4783	i6097.d	980.00 ml	11-JUL-2013 14:38	1.000	KCB	22	sim8270pah
21307080201	4817	i6098.d	900.00 ml	11-JUL-2013 14:56	1.000	KCB	23	SA8270
1212444	BLK	i6099.d	30.00 g	11-JUL-2013 15:16	1.000	KCB	24	SA8270+a9
1212445	LCS	i6100.d	30.00 g	11-JUL-2013 15:35	1.000	KCB	25	lcs
1212446	LCSD	i6101.d	30.00 g	11-JUL-2013 15:54	1.000	KCB	26	lcs
21307105801	0115	i6102.d	30.00 g	11-JUL-2013 16:13	1.000	KCB	27	SA8270+a9
1212447	MS	i6103.d	30.00 g	11-JUL-2013 16:32	1.000	KCB	28	SA8270+a9
1212448	MSD	i6104.d	30.10 g	11-JUL-2013 16:51	1.000	KCB	29	SA8270+a9
21307105802	0115	i6105.d	30.00 g	11-JUL-2013 17:10	1.000	KCB	30	SA8270+a9
21307105803	0115	i6106.d	30.00 g	11-JUL-2013 17:28	1.000	KCB	31	SA8270+a9
SOLBLK	SOLBLK	i6107.d	1000.00 ml	11-JUL-2013 17:47	1.000	KCB	99	SA8270

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 11-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions:

MISC:

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
SOLBLK	SOLBLK	i6108.d	1000.00 ml	11-JUL-2013 18:05	1.000	KCB	99	SA8270
SOLBLK	SOLBLK	i6109.d	1000.00 ml	11-JUL-2013 18:24	1.000	KCB	100	SA8270
SOLBLK	SOLBLK	i6110.d	1000.00 ml	11-JUL-2013 18:42	1.000	KCB	100	SA8270
SOLBLK	SOLBLK	i6111.d	1000.00 ml	11-JUL-2013 19:00	1.000	KCB	100	SA8270

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 29-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions: _____

MISC: _____

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1100	48-13-13	i6430.d	0.00 ml	29-JUL-2013 07:24	1.000	KCB	1	all
1100	48-13-13	i6431c.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1100	48-13-13	i6431.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1100	48-13-13	i6431s.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1100	48-13-13	i6431xd.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1400	48-24-4	i6432.d	1000.00 ml	29-JUL-2013 08:02	1.000	KCB	2	8270c
1400	48-24-4	i6432xd.d	1000.00 ml	29-JUL-2013 08:02	1.000	KCB	2	8270c
1400	48-22-4	i6433s.d	1000.00 ml	29-JUL-2013 08:17	1.000	KCB	2	sim8270pah
1400	48-18-1	i6434.d	1000.00 ml	29-JUL-2013 08:34	1.000	KCB	3	app9
21307232602	4847	i6435.d	30.00 g	29-JUL-2013 08:52	10.000	KCB	4	pah+lcs
21307232604	4847	i6436.d	30.20 g	29-JUL-2013 09:11	10.000	KCB	5	pah+lcs
21307232605	4847	i6437.d	30.00 g	29-JUL-2013 09:29	1.000	KCB	6	pah+lcs
1217456	BLK	i6438.d	1000.00 ml	29-JUL-2013 09:44	1.000	KCB	7	sim8270pah
1217457	LCS	i6439.d	1000.00 ml	29-JUL-2013 09:57	1.000	KCB	8	sim8270pah
1217458	LCSD	i6440.d	1000.00 ml	29-JUL-2013 10:11	1.000	KCB	9	sim8270pah
21307242115	4841	i6441.d	1000.00 ml	29-JUL-2013 10:24	1.000	KCB	10	sim8270pah
21307251401	4841	i6442.d	1000.00 ml	29-JUL-2013 10:37	1.000	KCB	11	sim8270pah
21307251402	4841	i6443.d	1000.00 ml	29-JUL-2013 10:50	1.000	KCB	12	sim8270pah
21307251403	4841	i6444.d	1000.00 ml	29-JUL-2013 11:03	1.000	KCB	13	sim8270pah
21307251404	4841	i6445.d	1000.00 ml	29-JUL-2013 11:17	1.000	KCB	14	sim8270pah
21307251405	4841	i6446.d	1000.00 ml	29-JUL-2013 11:30	1.000	KCB	15	sim8270pah
21307251406	4841	i6447.d	1000.00 ml	29-JUL-2013 11:43	1.000	KCB	16	sim8270pah
21307251407	4841	i6448.d	1000.00 ml	29-JUL-2013 11:57	1.000	KCB	17	sim8270pah
21307251408	4841	i6449.d	1000.00 ml	29-JUL-2013 12:10	1.000	KCB	18	sim8270pah
21307251409	4841	i6450.d	1000.00 ml	29-JUL-2013 12:23	1.000	KCB	19	sim8270pah
21307251410	4841	i6451.d	1000.00 ml	29-JUL-2013 12:36	1.000	KCB	20	sim8270pah
21307251411	4841	i6452.d	1000.00 ml	29-JUL-2013 12:50	1.000	KCB	21	sim8270pah
21307251412	4841	i6453.d	1000.00 ml	29-JUL-2013 13:03	1.000	KCB	22	sim8270pah
21307260801	4841	i6454.d	1000.00 ml	29-JUL-2013 13:16	1.000	KCB	23	sim8270pah
21307260802	MS	i6455.d	1000.00 ml	29-JUL-2013 13:29	1.000	KCB	24	sim8270pah
21307260803	MSD	i6456.d	1000.00 ml	29-JUL-2013 13:43	1.000	KCB	25	sim8270pah
21307260804	4841	i6457.d	1000.00 ml	29-JUL-2013 13:56	1.000	KCB	26	sim8270pah
21307260805	4841	i6458.d	1000.00 ml	29-JUL-2013 14:09	1.000	KCB	27	sim8270pah
21307260806	4841	i6459.d	1000.00 ml	29-JUL-2013 14:23	1.000	KCB	28	sim8270pah
1216821	BLK	i6460.d	30.00 g	29-JUL-2013 14:36	1.000	KCB	29	sim8270pah
1216822	LCS	i6461.d	30.00 g	29-JUL-2013 15:22	1.000	KCB	30	sim8270pah

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 29-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions: _____

MISC: _____

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1216823	LCSD	i6462.d	30.00 g	29-JUL-2013 15:35	1.000	KCB	31	sim8270pah
21307242101	4841	i6463.d	30.10 g	29-JUL-2013 15:48	1.000	KCB	32	sim8270pah
21307242102	MS	i6464.d	30.00 g	29-JUL-2013 16:02	1.000	KCB	33	sim8270pah
21307242103	MSD	i6465.d	30.00 g	29-JUL-2013 16:15	1.000	KCB	34	sim8270pah
21307242104	4841	i6466.d	30.10 g	29-JUL-2013 16:28	1.000	KCB	35	sim8270pah
21307242105	4841	i6467.d	30.20 g	29-JUL-2013 16:42	1.000	KCB	36	sim8270pah
21307242106	4841	i6468.d	30.00 g	29-JUL-2013 16:55	1.000	KCB	37	sim8270pah
21307242107	4841	i6469.d	30.00 g	29-JUL-2013 17:08	1.000	KCB	38	sim8270pah
21307242108	4841	i6470.d	30.00 g	29-JUL-2013 17:21	1.000	KCB	39	sim8270pah
21307242109	4841	i6471.d	30.10 g	29-JUL-2013 17:35	1.000	KCB	40	sim8270pah
21307242110	4841	i6472.d	30.20 g	29-JUL-2013 17:48	1.000	KCB	41	sim8270pah
21307242111	4841	i6473.d	30.00 g	29-JUL-2013 18:01	1.000	KCB	42	sim8270pah
21307242112	4841	i6474.d	30.00 g	29-JUL-2013 18:14	1.000	KCB	43	sim8270pah
21307242113	4841	i6475.d	30.20 g	29-JUL-2013 18:28	1.000	KCB	44	sim8270pah
21307242114	4841	i6476.d	30.00 g	29-JUL-2013 18:41	1.000	KCB	45	sim8270pah
21307242116	4841	i6477.d	30.00 g	29-JUL-2013 18:54	1.000	KCB	46	sim8270pah
21307242117	4841	i6478.d	30.00 g	29-JUL-2013 19:08	1.000	KCB	47	sim8270pah
SOLBLK	SOLBLK	i6479.d	30.00 g	29-JUL-2013 19:25	1.000	KCB	99	sim8270pah
SOLBLK	SOLBLK	i6480.d	30.00 g	29-JUL-2013 19:44	1.000	KCB	99	sim8270pah
SOLBLK	SOLBLK	i6481.d	30.00 g	29-JUL-2013 20:03	1.000	KCB	100	sim8270pah
SOLBLK	SOLBLK	i6482.d	30.00 g	29-JUL-2013 20:22	1.000	KCB	100	sim8270pah
SOLBLK	SOLBLK	i6483.d	30.00 g	29-JUL-2013 20:40	1.000	KCB	100	sim8270pah
SOLBLK	SOLBLK	i6484.d	30.00 g	29-JUL-2013 20:59	1.000	KCB	100	sim8270pah

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 30-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions:

MISC:

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1100	48-13-13	i6485.d	0.00 ml	30-JUL-2013 11:12	1.000	KCB	1	all
1100	48-13-13	i6486c.d	0.00 ml	30-JUL-2013 11:30	1.000	KCB	1	all
1100	48-13-13	i6486.d	0.00 ml	30-JUL-2013 11:30	1.000	KCB	1	all
1100	48-13-13	i6486s.d	0.00 ml	30-JUL-2013 11:30	1.000	KCB	1	all
1400	48-24-4	i6487.d	1000.00 ml	30-JUL-2013 11:49	1.000	KCB	2	8270c
1400	48-22-4	i6488s.d	1000.00 ml	30-JUL-2013 12:03	1.000	KCB	2	sim8270pah
1400	48-18-1	i6489.d	1000.00 ml	30-JUL-2013 12:21	1.000	KCB	3	app9
21307251405	4841	i6490.d	1000.00 ml	30-JUL-2013 12:36	2.000	KCB	4	sim8270pah
21307251406	4841	i6491.d	1000.00 ml	30-JUL-2013 12:49	2.000	KCB	5	sim8270pah
21307251407	4841	i6492.d	1000.00 ml	30-JUL-2013 13:02	1.000	KCB	6	sim8270pah
21307242103	MSD	i6493.d	30.00 g	30-JUL-2013 13:16	1.000	KCB	7	sim8270pah
21307242116	4841	i6494.d	30.00 g	30-JUL-2013 13:29	2.000	KCB	8	sim8270pah
1218714	BLK	i6495.d	30.00 g	30-JUL-2013 13:42	1.000	KCB	9	sim8270pah
1218715	LCS	i6496.d	30.00 g	30-JUL-2013 13:56	1.000	KCB	10	sim8270pah
1218716	LCSD	i6497.d	30.00 g	30-JUL-2013 14:09	1.000	KCB	11	sim8270pah
21307242108	4841	i6498.d	30.00 g	30-JUL-2013 14:22	1.000	KCB	12	sim8270pah
21307242117	4841	i6499.d	30.00 g	30-JUL-2013 14:36	1.000	KCB	13	sim8270pah

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 30.1 Units: g
Level: (low/med) LOW
% Moisture: 7.3 decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512349 Analytical Batch: 512870

Sample ID: B398SB1102
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242101
Date Collected: 07/23/13 Time: 1030
Date Received: 07/24/13
Date Extracted: 07/26/13
Date Analyzed: 08/01/13 Time: 1115
Dilution Factor: 20 Analyst: PMM
Prep Method: 3550B
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21B
Lab File ID: 2130801/sv21b061d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	655000	J	28100	86000

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 7.3 decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512349 Analytical Batch: 512870

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1102 MS

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242102

Date Collected: 07/23/13 Time: 1030

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 08/01/13 Time: 1130

Dilution Factor: 20 Analyst: PMM

Prep Method: 3550B

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21B

Lab File ID: 2130801/sv21b062d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	588000		28100	86300

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 30.1 Units: g
Level: (low/med) LOW
% Moisture: 7.3 decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512349 Analytical Batch: 512870

Sample ID: B398SB1102 MSD
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242103
Date Collected: 07/23/13 Time: 1030
Date Received: 07/24/13
Date Extracted: 07/26/13
Date Analyzed: 08/01/13 Time: 1145
Dilution Factor: 20 Analyst: PMM
Prep Method: 3550B
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21B
Lab File ID: 2130801/sv21b063d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	900000		28100	86000

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 30.2 Units: g
Level: (low/med) LOW
% Moisture: 11.3 decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512349 Analytical Batch: 512870

Sample ID: B398SB1106
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242104
Date Collected: 07/23/13 Time: 1040
Date Received: 07/24/13
Date Extracted: 07/26/13
Date Analyzed: 08/01/13 Time: 1200
Dilution Factor: 1 Analyst: PMM
Prep Method: 3550B
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21B
Lab File ID: 2130801/sv21b064d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	2250	J	1460	4480

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 30.5 Units: g

Level: (low/med) LOW

% Moisture: 10.9 decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512349 Analytical Batch: 512991

Sample ID: B398SB1202

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242105

Date Collected: 07/23/13 Time: 1100

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 08/02/13 Time: 1158

Dilution Factor: 2 Analyst: PMM

Prep Method: 3550B

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130802/sv21a011d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	88100		2880	8830

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 30.1 Units: g

Level: (low/med) LOW

% Moisture: 11.9 decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512349 Analytical Batch: 512870

Sample ID: B398SB1206

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242106

Date Collected: 07/23/13 Time: 1107

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 08/01/13 Time: 1231

Dilution Factor: 1 Analyst: PMM

Prep Method: 3550B

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21B

CONCENTRATION UNITS: ug/kg

Lab File ID: 2130801/sv21b066d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	9410		1480	4530

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 30.4 Units: g

Level: (low/med) LOW

% Moisture: 7.6 decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512349 Analytical Batch: 512991

CONCENTRATION UNITS: ug/kg

Sample ID: B398SB1302

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242107

Date Collected: 07/23/13 Time: 1125

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 08/02/13 Time: 1056

Dilution Factor: 1 Analyst: PMM

Prep Method: 3550B

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130802/sv21a007d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	4030	J	1390	4270

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 30.1 Units: g

Level: (low/med) LOW

% Moisture: 14.8 decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512349 Analytical Batch: 512991

Sample ID: B398SB1306

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242108

Date Collected: 07/23/13 Time: 1140

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 08/02/13 Time: 1127

Dilution Factor: 1 Analyst: PMM

Prep Method: 3550B

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130802/sv21a009d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	1530	U	1530	4680

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 30.3 Units: g

Level: (low/med) LOW

% Moisture: 14.7 decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512349 Analytical Batch: 512991

Sample ID: B398SB1405

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242109

Date Collected: 07/23/13 Time: 1318

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 08/02/13 Time: 1142

Dilution Factor: 10 Analyst: PMM

Prep Method: 3550B

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

CONCENTRATION UNITS: ug/kg

Lab File ID: 2130802/sv21a010d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	483000		15100	46400

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Sample ID: B398SB1408
Lab Code: LA024 Case No.:
Contract:
Matrix: Solid
SAS No.: SDG No.: 213072421
Sample wt/vol: 30.1 Units: g
Lab Sample ID: 21307242110
Level: (low/med) LOW
Date Collected: 07/23/13 Time: 1332
% Moisture: 15.0 decanted: (Y/N)
Date Received: 07/24/13
GC Column: RTX-5-30M ID: .53 (mm)
Date Extracted: 07/26/13
Concentrated Extract Volume: 1000 (µL)
Date Analyzed: 08/02/13 Time: 1213
Soil Aliquot Volume: (µL)
Dilution Factor: 1 Analyst: PMM
Injection Volume: 1 (µL)
Prep Method: 3550B
GPC Cleanup: (Y/N) N pH:
Analytical Method: SW846 8015C
Prep Batch: 512349 Analytical Batch: 512991
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
CONCENTRATION UNITS: ug/kg
Lab File ID: 2130802/sv21a012d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	1530	U	1530	4690

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 30 Units: g
Level: (low/med) LOW
% Moisture: 8.9 decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512349 Analytical Batch: 512991

Sample ID: B398SB1504
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242111
Date Collected: 07/23/13 Time: 1342
Date Received: 07/24/13
Date Extracted: 07/26/13
Date Analyzed: 08/02/13 Time: 1229
Dilution Factor: 1 Analyst: PMM
Prep Method: 3550B
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
Lab File ID: 2130802/sv21a013d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	1430	U	1430	4390

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 30 Units: g
Level: (low/med) LOW
% Moisture: 16.6 decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512349 Analytical Batch: 512991

Sample ID: B398SB1508
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242112
Date Collected: 07/23/13 Time: 1355
Date Received: 07/24/13
Date Extracted: 07/26/13
Date Analyzed: 08/02/13 Time: 1417
Dilution Factor: 1 Analyst: PMM
Prep Method: 3550B
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
Lab File ID: 2130802/sv21a020d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	1570	U	1570	4800

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 30 Units: g
Level: (low/med) LOW
% Moisture: 10.8 decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512349 Analytical Batch: 512991

Sample ID: B398SB1606
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 21307242113
Date Collected: 07/23/13 Time: 1418
Date Received: 07/24/13
Date Extracted: 07/26/13
Date Analyzed: 08/02/13 Time: 1331
Dilution Factor: 1 Analyst: PMM
Prep Method: 3550B
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
Lab File ID: 2130802/sv21a017d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	15400		1460	4480

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 30.1 Units: g

Level: (low/med) LOW

% Moisture: 9.6 decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512349 Analytical Batch: 512991

Sample ID: B398SB1608

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242114

Date Collected: 07/23/13 Time: 1429

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 08/02/13 Time: 1346

Dilution Factor: 1 Analyst: PMM

Prep Method: 3550B

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130802/sv21a018d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	3650	J	1440	4410

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512282 Analytical Batch: 512815

Sample ID: EB072313

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242115

Date Collected: 07/23/13 Time: 1200

Date Received: 07/24/13

Date Extracted: 07/25/13

Date Analyzed: 07/30/13 Time: 0931

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130730/sv21a005d

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	45.3	U	45.3	126

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 30 Units: g

Level: (low/med) LOW

% Moisture: 16.4 decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512349 Analytical Batch: 512991

CONCENTRATION UNITS: ug/kg

Sample ID: DUP072313

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242116

Date Collected: 07/23/13 Time: 0000

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 08/02/13 Time: 1402

Dilution Factor: 20 Analyst: PMM

Prep Method: 3550B

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130802/sv21a019d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	1120000		31200	95600

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Solid

Sample wt/vol: 30.2 Units: g

Level: (low/med) LOW

% Moisture: 15.7 decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512349 Analytical Batch: 512991

Sample ID: DUP2072313

Contract:

SAS No.: SDG No.: 213072421

Lab Sample ID: 21307242117

Date Collected: 07/23/13 Time: 0000

Date Received: 07/24/13

Date Extracted: 07/26/13

Date Analyzed: 08/02/13 Time: 1433

Dilution Factor: 1 Analyst: PMM

Prep Method: 3550B

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130802/sv21a021d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	8760		1540	4720

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 1000 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512282 Analytical Batch: 512534

Sample ID: MB1216378
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 1216378
Date Collected: Time:
Date Received:
Date Extracted: 07/24/13
Date Analyzed: 07/25/13 Time: 1901
Dilution Factor: 1 Analyst: PMM
Prep Method: 3510C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
Lab File ID: 2130725/sv21a032d

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	44.9	U	44.9	125

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Solid
Sample wt/vol: 30 Units: g
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512349 Analytical Batch: 512870

Sample ID: MB1216818
Contract:
SAS No.: SDG No.: 213072421
Lab Sample ID: 1216818
Date Collected: Time:
Date Received:
Date Extracted: 07/26/13
Date Analyzed: 08/01/13 Time: 0946
Dilution Factor: 1 Analyst: PMM
Prep Method: 3550B
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21B
Lab File ID: 2130801/sv21b057d

CONCENTRATION UNITS: ug/kg

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	1310	U	1310	4000

2E

WATER ORGANIC SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

GC Column (1): RTX-5-30M ID: .53 (mm) GC Cloumn (2): ID: (mm)

Method: SW846 8015C

	EPA SAMPLE NO.	SMC1 1-(1)	Lo	Hi	F	SMC2 2	Lo	Hi	F	SMC3 3	Lo	Hi	F	SMC4 4	Lo	Hi	F	TOT OUT
1.	EB072313	75	59	120														0
2.	MB1216378	100	59	120														0
3.	LCS1216379	95	59	120														0
4.	LCSD1216380	97	59	120														0

SMC 1 : O-Terphenyl SMC 2 :

SMC 3 : SMC 4 :

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

2F

ORGANICS SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

GC Column (1) : RTX-5-30M ID: .53 (mm) GC Cloumn (2) : ID: (mm)

Method: SW846 8015C

	EPA SAMPLE NO.	SMC1 1	#	SMC2 2	#	SMC3 3	#	SMC4 4	#	TOT OUT
1.	B398SB1102	0	D							0
2.	B398SB1102 MS	0	D							0
3.	B398SB1102 MSD	0	D							0
4.	B398SB1106	102								0
5.	B398SB1202	74								0
6.	B398SB1206	101								0
7.	B398SB1302	72								0
8.	B398SB1306	74								0
9.	B398SB1405	0	D							0
10.	B398SB1408	81								0
11.	B398SB1504	65								0
12.	B398SB1508	70								0
13.	B398SB1606	93								0
14.	B398SB1608	83								0
15.	DUP072313	0	D							0
16.	DUP2072313	78								0
17.	MB1216818	111								0
18.	LCS1216819	113								0
19.	LCSD1216820	112								0

		CONTROL LIMITS	
SMC 1 :	O-Terphenyl	63	120
SMC 2 :			
SMC 3 :			
SMC 4 :			

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

3E

WATER ORGANICS LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW846 8015C

Prep Batch: 512282 Analytical Batch: 512534

SAMPLE NO : 1216379

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	LCS % REC FLAG	QC. LIMITS
DRO	ug/L	1000	0	996	100		47 - 120

SAMPLE NO : 1216380

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
DRO	ug/L	1000	977	98		2		47 - 120	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

3F

SOILORGANIC MS/MSD RECOVERY

Lab Name: GCAL Sample ID: B398SB1102

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW846 8015C

Prep Batch: 512349 Analytical Batch: 512870

Spike HSN : 21307242102

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC	MS % REC FLAG	QC. LIMITS
DRO	ug/kg	35900	655000	589000	-185	*	50 - 124

Spike Dupe HSN : 21307242103

COMPOUND	UNITS	SPIKE ADDED	MSD CONC.	MSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
DRO	ug/kg	35800	899000	683	*	42	*	50 - 124	0 - 40

RPD : 1 out of 1 outside limits

Spike Recovery: 2 out of 2 outside limits

3F

SOIL ORGANIC LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072421

Contract: Method: SW846 8015C

Prep Batch: 512349 Analytical Batch: 512870

Spike HSN : 1216819

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	LCS % REC FLAG	QC. LIMITS
DRO	ug/kg	33300	0	35100	105		50 - 124

Spike Dupe HSN : 1216820

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
DRO	ug/kg	33300	34300	103		2		50 - 124	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

4C

ORGANIC METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1216378

Lab Code: LA024 Case No.:

Contract:

Lab Sample ID: 1216378

SAS No.: SDG No.: 213072421

Matrix: Water Sulfur Cleanup: (Y/N) N

Date Extracted: 07/24/13

Date Analyzed (1): 07/25/13 Time (1): 1901

Date Analyzed (2): Time (2):

Instrument ID (1): GCS21A

Instrument ID (2):

GC Column (1): RTX-5-30M ID: .53 (mm)

GC Column (2): ID: (mm)

Method: SW846 8015C

Prep Batch: 512282 Analytical Batch: 512534

Lab File ID: 2130725/sv21a0

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS1216379	1216379	07/25/13	1917	GCS21A
2.	LCSD1216380	1216380	07/25/13	1932	GCS21A
3.	EB072313	21307242115	07/30/13	0931	GCS21A

FORM IV ORGANIC

4C

ORGANIC METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1216818

Lab Code: LA024 Case No.:

Contract:

Lab Sample ID: 1216818

SAS No.: SDG No.: 213072421

Matrix: Solid Sulfur Cleanup: (Y/N) N

Date Extracted: 07/26/13

Date Analyzed (1): 08/01/13 Time (1): 0946

Date Analyzed (2): Time (2):

Instrument ID (1): GCS21B

Instrument ID (2):

GC Column (1): RTX-5-30M ID: .53 (mm)

GC Column (2): ID: (mm)

Method: SW846 8015C

Prep Batch: 512349 Analytical Batch: 512870

Lab File ID: 2130801/sv21b0

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS1216819	1216819	08/01/13	1001	GCS21B
2.	LCSD1216820	1216820	08/01/13	1016	GCS21B
3.	B398SB1102	21307242101	08/01/13	1115	GCS21B
4.	B398SB1102 MS	21307242102	08/01/13	1130	GCS21B
5.	B398SB1102 MSD	21307242103	08/01/13	1145	GCS21B
6.	B398SB1106	21307242104	08/01/13	1200	GCS21B
7.	B398SB1206	21307242106	08/01/13	1231	GCS21B
8.	B398SB1302	21307242107	08/02/13	1056	GCS21A
9.	B398SB1306	21307242108	08/02/13	1127	GCS21A
10.	B398SB1405	21307242109	08/02/13	1142	GCS21A
11.	B398SB1202	21307242105	08/02/13	1158	GCS21A
12.	B398SB1408	21307242110	08/02/13	1213	GCS21A
13.	B398SB1504	21307242111	08/02/13	1229	GCS21A
14.	B398SB1606	21307242113	08/02/13	1331	GCS21A
15.	B398SB1608	21307242114	08/02/13	1346	GCS21A
16.	DUP072313	21307242116	08/02/13	1402	GCS21A
17.	B398SB1508	21307242112	08/02/13	1417	GCS21A
18.	DUP2072313	21307242117	08/02/13	1433	GCS21A

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-APR-2013 11:51
End Cal Date : 25-APR-2013 09:55
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /var/chem/gcsv21a.i/2130725.b/DRO.m
Cal Date : 26-Jul-2013 15:05 pmm
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcsv21a.i/2130425.b/sv21a003s.d
Level 2: /var/chem/gcsv21a.i/2130425.b/sv21a004s.d
Level 3: /var/chem/gcsv21a.i/2130425.b/sv21a005s.d
Level 4: /var/chem/gcsv21a.i/2130425.b/sv21a006d.d
Level 5: /var/chem/gcsv21a.i/2130425.b/sv21a007s.d

Compound	125.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	2000.000 Level 5	___ RRF	% RSD
1 DRO	2498452	2859870	2719950	2724559	2669587	2694483	4.837
$ 9 O-TERPHENYL	3136601	3412360	3191419	3143747	3068959	3190617	4.119

GCAL, Inc.

Data file : /var/chem/gcsv21a.i/2130425.b/sv21a002d.d
Lab Smp Id: DCM LOT #L026260
Inj Date : 25-APR-2013 08:39
Operator : pmm Inst ID: gcsv21a.i
Smp Info : DCM LOT #L026260
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130425.b/DRO.m
Meth Date : 25-Apr-2013 14:18 pmm Quant Type: ESTD
Cal Date : 03-APR-2013 12:51 Cal File: sv21a007s.d
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (UG/ML)	CONCENTRATIONS FINAL (ug/L)
1 DRO	6.726	4.750	1.976	23079174	8.46678	8.47(M1)

QC Flag Legend

M1- Compound response manually integrated because
Target system did not integrate.

Report Date: 29-Apr-2013 11:47

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: 1600
Level: MED
Data Type: GC MULTI COMP
SpikeList File: droicv.spk
Sublist File: DRO.sub
Method File: /var/chem/gcsv21a.i/2130425.b/DRO.m
Misc Info:

Client SDG: 2130425
Fraction: SV

Operator: pmm
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 DRO	500	461	92.20	85-115

GCAL, Inc.

Data file : /var/chem/gcsv21a.i/2130725.b/sv21a002d.d
Lab Smp Id: DCM 0000045679
Inj Date : 25-JUL-2013 10:34
Operator : pmm Inst ID: gcsv21a.i
Smp Info : DCM 0000045679
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130725.b/DRO.m
Meth Date : 26-Jul-2013 15:05 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (UG/ML)	FINAL (ug/L)
1 DRO	2.482	4.747	-2.265	30943183	11.4839	11.5(M1)

QC Flag Legend

M1- Compound response manually integrated because
Target system did not integrate.

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130725.b/sv21a026d.d
DCM file : /var/chem/gcsv21a.i/2130725.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 25-JUL-2013 17:29
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130725.b/DRO.m
Meth Date : 26-Jul-2013 15:01 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 26 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{\text{(DRO Area) - (Surr Area)}}{\text{Conc}} = \frac{1419193370 - 75737687}{500.000}$$

$$= \frac{1343455683}{500.000}$$

$$= 2686911.4$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2686911.4 - 2694483}{2694483} \times 100$$

$$= -0.28\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130725.b/sv21a036d.d
DCM file : /var/chem/gcsv21a.i/2130725.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 25-JUL-2013 20:03
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130725.b/DRO.m
Meth Date : 26-Jul-2013 15:02 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 36 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{\text{(DRO Area)} - \text{(Surr Area)}}{\text{Conc}} = \frac{1373766316 - 71493929}{500.000}$$

$$= \frac{1302272387}{500.000}$$

$$= 2604544.8$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2604544.8 - 2694483}{2694483} \times 100$$

$$= -3.34\ \%$$

GCAL, Inc.

Data file : /var/chem/gcsv21a.i/2130730.b/sv21a002d.d
Lab Smp Id: DCM 0000045679
Inj Date : 30-JUL-2013 08:46
Operator : pmm Inst ID: gcsv21a.i
Smp Info : DCM 0000045679
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130730.b/DRO.m
Meth Date : 30-Jul-2013 09:25 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (UG/ML)	FINAL (ug/L)
1 DRO	1.998	4.746	-2.748	38463023	14.2747	14.3(M1)

QC Flag Legend

M1- Compound response manually integrated because
Target system did not integrate.

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130730.b/sv21a003d.d
DCM file : /var/chem/gcsv21a.i/2130730.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 30-JUL-2013 09:01
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130730.b/DRO.m
Meth Date : 31-Jul-2013 11:17 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{\text{(DRO Area) - (Surr Area)}}{\text{Conc}} = \frac{1309094663 - 68737352}{500.000}$$

$$= \frac{1240357311}{500.000}$$

$$= 2480714.6$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2480714.6 - 2694483}{2694483} \times 100$$

$$= -7.93\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130730.b/sv21a015d.d
DCM file : /var/chem/gcsv21a.i/2130730.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 30-JUL-2013 12:19
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130730.b/DRO.m
Meth Date : 31-Jul-2013 11:18 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 15 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{\text{(DRO Area) - (Surr Area)}}{\text{Conc}} = \frac{1279467331 - 68866891}{500.000}$$

$$= \frac{1210600440}{500.000}$$

$$= 2421200.9$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2421200.9 - 2694483}{2694483} \times 100$$

$$= -10.14\ \%$$

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-APR-2013 12:06
End Cal Date : 25-APR-2013 10:10
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /var/chem/gcsv21b.i/2130801.b/DRO.m
Cal Date : 02-Aug-2013 11:13 pmm
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcsv21b.i/2130425.b/sv21b053s.d
Level 2: /var/chem/gcsv21b.i/2130425.b/sv21b054s.d
Level 3: /var/chem/gcsv21b.i/2130425.b/sv21b055s.d
Level 4: /var/chem/gcsv21b.i/2130425.b/sv21b056s.d
Level 5: /var/chem/gcsv21b.i/2130425.b/sv21b057s.d

Compound	125.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	2000.000 Level 5	___ RRF	% RSD
1 DRO	2128291	2334902	2329741	2287395	2280198	2272105	3.699
$ 9 O-TERPHENYL	2578175	2590671	2576711	2516684	2528428	2558134	1.297

Report Date: 29-Apr-2013 11:58

GCAL, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 2130425
Sample Matrix: LIQUID
Fraction: SV
Lab Smp Id: 1600
Level: MED
Operator: pmm
Data Type: GC MULTI COMP
SampleType: LCS
SpikeList File: droicv.spk
Quant Type: ESTD
Sublist File: DRO.sub
Method File: /var/chem/gcsv21b.i/2130425.b/DRO.m
Misc Info:

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 DRO	500	464	92.80	85-115

GCAL, Inc.

Data file : /var/chem/gcsv21b.i/2130801.b/sv21b052d.d
Lab Smp Id: DCM 0000045679
Inj Date : 01-AUG-2013 08:29
Operator : pmm Inst ID: gcsv21b.i
Smp Info : DCM 0000045679
Misc Info :
Comment :
Method : /var/chem/gcsv21b.i/2130801.b/DRO.m
Meth Date : 02-Aug-2013 11:13 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 09:25 Cal File: sv21b054s.d
Als bottle: 52
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (UG/ML)	FINAL (ug/L)
1 DRO	2.592	5.378	-2.786	36691356	16.1486	16.1(M1)

QC Flag Legend

M1- Compound response manually integrated because
Target system did not integrate.

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21b.i/2130801.b/sv21b056d.d
DCM file : /var/chem/gcsv21b.i/2130801.b/sv21b052d.d
Lab Smp Id: 1400
Inj Date : 01-AUG-2013 09:30
Operator : pmm Inst ID: gcsv21b.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21b.i/2130801.b/DRO.m
Meth Date : 02-Aug-2013 11:12 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 09:25 Cal File: sv21b054s.d
Als bottle: 56 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{\text{(DRO Area)} - \text{(Surr Area)}}{\text{Conc}} = \frac{1356069712 - 72763411}{500.000}$$

$$= \frac{1283306301}{500.000}$$

$$= 2566612.6$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2566612.6 - 2272105}{2272105} \times 100$$

$$= 12.96\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21b.i/2130801.b/sv21b067d.d
DCM file : /var/chem/gcsv21b.i/2130801.b/sv21b052d.d
Lab Smp Id: 1400
Inj Date : 01-AUG-2013 12:47
Operator : pmm Inst ID: gcsv21b.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21b.i/2130801.b/DRO.m
Meth Date : 02-Aug-2013 11:13 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 09:25 Cal File: sv21b054s.d
Als bottle: 67 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{\text{(DRO Area) - (Surr Area)}}{\text{Conc}} = \frac{1299099440 - 74137680}{500.000}$$

$$= \frac{1224961760}{500.000}$$

$$= 2449923.5$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2449923.5 - 2272105}{2272105} \times 100$$

$$= 7.83\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21b.i/2130801.b/sv21b079d.d
DCM file : /var/chem/gcsv21b.i/2130801.b/sv21b052d.d
Lab Smp Id: 1400
Inj Date : 01-AUG-2013 16:23
Operator : pmm Inst ID: gcsv21b.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21b.i/2130801.b/DRO.m
Meth Date : 02-Aug-2013 08:04 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 09:25 Cal File: sv21b054s.d
Als bottle: 79 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1538199211 - 84767873}{500.000}$$

$$= \frac{1453431338}{500.000}$$

$$= 2906862.7$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2906862.7 - 2272105}{2272105} \times 100$$

$$= 27.94\ \%$$

TPHD/TPHO SAMPLE PREPARATION FORM

7/25/13 @ 1700

EXTRACTION DATE/TIME: 7/24/13	Start: 1400 End: 1600	BATCH NO: 512282 TPHB
MATRIX:	WATER ☑ SOIL ☐ OTHER ☐	LEVEL: LOW ☑ MEDIUM ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	Init pH	SAMPLE TYPE	COMMENTS	METHOD
1	QC ACCOUNT	MB for HBN 512282 [EXTO/36251]	1216378	1000	1.0	<2	MB		SOXHLET/3540
2	QC ACCOUNT	LCS for HBN 512282 [EXTO/36251	1216379	1000	1.0	<2	LCS		
3	QC ACCOUNT	LCSD for HBN 512282 [EXTO/3625	1216380	1000	1.0	<2	LCSD		SONICATOR/3550
4	4380	JM38-EB1-071913	21307240214	1000	1.0	<2	EQBK		
5	4841	EB072313	21307242115	990	1.0	<2	EQBK	added @ 1300	SHAKER
6	4841	B398PW1-3Q13	21307251401	990	1.0	<2	SAMPLE	7/25/13	
7	4841	B398MW2-3Q13	21307251402	990	1.0	<2	SAMPLE		SEPARATORY FUNNEL/3510
8	4841	B398MW3-3Q13	21307251403	990	1.0	<2	SAMPLE		
9	4841	B398MW4-3Q13	21307251404	1000	1.0	<2	SAMPLE		LIQUID/LIQUID
10	4841	DUP1072413	21307251405	1000	1.0	<2	FLDDUP		
11	4841	B398MW5-3Q13	21307251406	1000	1.0	<2	SAMPLE		
12	4841	B398MW6-3Q13	21307251407	980	1.0	<2	SAMPLE		
13	4841	B398MW7-3Q13	21307251408	990	1.0	<2	SAMPLE		
14	4841	B398MW8-3Q13	21307251409	990	1.0	<2	SAMPLE		
15	4841	B398MW10-3Q13	21307251410	986	1.0	<2	SAMPLE		
16	4841	B398MW11-3Q13	21307251411	990	1.0	<2	SAMPLE		
17	4841	B398MW12-3Q13	21307251412	1000	1.0	<2	SAMPLE		
18									
19									
20									
21									
22									
23									MeCL2 Lot No:
24									DK9164
25									
26									
27									Sodium Sulfate Lot No:
28									[illegible]

COMMENTS: SAMPLE PREPARATION INCLUDE DETERMINATION OF SAMPLE VOLUME/WEIGHT, SOLVENT EXTRACTION AND EVAPORATION OF SOLVENT TO FINAL VOLUME

BALANCE ID: _____ TEMP: 98

TPHD SURR ID	507-100-3	TPHD SPIKE ID	507-90-1	TPHO SPIKE ID		TECHNICIAN	DATE
VOLUME	1.0 ul	VOLUME	1.0 ul	VOLUME		AMR	7/24/13
CONCENTRATION	50 µg	CONCENTRATION	1000 µg	CONCENTRATION			
		ACID	36-102			SUPERVISOR	DATE
SPIKE WITNESS	DG					SKB	7-26-13

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213072421 272

TPHD/TPHO SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME: 10:00	Start: 7/26/13 End: 1300	BATCH NO:	512349
MATRIX:	WATER ☐ SOIL ☑ OTHER ☐	LEVEL:	LOW ☑ MEDIUM ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	Init pH	SAMPLE TYPE	COMMENTS	METHOD
1	QC ACCOUNT	MB for HBN 512349 [EXTO/36262]	1216818	30.0	1.0		MB		SOXHLET/3540
2	QC ACCOUNT	LCS for HBN 512349 [EXTO/36262	1216819	30.0	1.0		LCS		NA
3	QC ACCOUNT	LCSD for HBN 512349 [EXTO/3626	1216820	30.0	1.0		LCSD		SONICATOR/3550
4	4841	B398SB1102	21307242101	30.1	1.0		SAMPLE		✓
5	4841	B398SB1102 MS	21307242102	30.0	1.0		MS		SHAKER
6	4841	B398SB1102 MSD	21307242103	30.1	1.0		MSD		NA
7	4841	B398SB1106	21307242104	30.2	1.0		SAMPLE		SEPARATORY FUNNEL/3510
8	4841	B398SB1202	21307242105	30.5	1.0		SAMPLE		NA
9	4841	B398SB1206	21307242106	30.1	1.0		SAMPLE		LIQUID/LIQUID
10	4841	B398SB1302	21307242107	30.4	1.0		SAMPLE		NA
11	4841	B398SB1306	21307242108	30.1	1.0		SAMPLE		
12	4841	B398SB1405	21307242109	30.3	1.0		SAMPLE		
13	4841	B398SB1408	21307242110	30.1	1.0		SAMPLE		
14	4841	B398SB1504	21307242111	30.0	1.0		SAMPLE		
15	4841	B398SB1508	21307242112	30.0	1.0		SAMPLE		
16	4841	B398SB1606	21307242113	30.0	1.0		SAMPLE		
17	4841	B398SB1608	21307242114	30.1	1.0		SAMPLE		
18	4841	DUP072313	21307242116	30.0	1.0		FLDDUP		
19	4841	DUP2072313	21307242117	30.2	1.0		FLDDUP		
20									
21									
22									
23									MeCL2 Lot No:
24									D1726
25									
26									
27									Sodium Sulfate
28									Lot No: 0000030377

COMMENTS: SAMPLE PREPARATION INCLUDE DETERMINATION OF SAMPLE VOLUME/WEIGHT, SOLVENT EXTRACTION AND EVAPORATION OF SOLVENT TO FINAL VOLUME

BALANCE ID: M33557 TEMP: 100

TPHD SURR ID	501-80-3	TPHD SPIKE ID	501-90-1	TPHO SPIKE ID		TECHNICIAN	DATE
VOLUME	1.0 mL	VOLUME	1.0 mL	VOLUME		BDF	7-26-13
CONCENTRATION	50 mg/L	CONCENTRATION	1000 mg/L	CONCENTRATION			
		ACID				SUPERVISOR	DATE
SPIKE WITNESS	DT					SKB	7-26-13

Revision 3, 10/04/2010

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 04/29/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130425.b/CM.m
Batch: /var/chem/gcsv21a.i/2130425.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21a001d.d	35.00 ml	25-APR-2013 08:24	1.000	pmm	1	8015
DCM LOT #L0262		sv21a002d.d	1000.00 ml	25-APR-2013 08:39	1.000	pmm	2	DRO
DCM LOT #L0262		sv21a002o.d	1000.00 ml	25-APR-2013 08:39	1.000	pmm	2	all
1201		sv21a003d.d	1000.00 ml	25-APR-2013 08:54	1.000	pmm	3	DRO
1201		sv21a003s.d	1000.00 ml	25-APR-2013 08:54	1.000	pmm	3	O-TERPH
1202		sv21a004d.d	1000.00 ml	25-APR-2013 09:09	1.000	pmm	4	DRO
1202		sv21a004s.d	1000.00 ml	25-APR-2013 09:09	1.000	pmm	4	O-TERPH
1203		sv21a005d.d	1000.00 ml	25-APR-2013 09:25	1.000	pmm	5	DRO
1203		sv21a005s.d	1000.00 ml	25-APR-2013 09:25	1.000	pmm	5	O-TERPH
1204		sv21a006d.d	1000.00 ml	25-APR-2013 09:40	1.000	pmm	6	DRO
1204		sv21a006s.d	1000.00 ml	25-APR-2013 09:40	1.000	pmm	6	O-TERPH
1205		sv21a007d.d	1000.00 ml	25-APR-2013 09:55	1.000	pmm	7	DRO
1205		sv21a007s.d	1000.00 ml	25-APR-2013 09:55	1.000	pmm	7	O-TERPH
1600		sv21a008d.d	1.00 ml	25-APR-2013 10:10	1.000	pmm	8	DRO
DCM LOT #L0262		sv21a009d.d	1000.00 ml	25-APR-2013 10:25	1.000	pmm	9	DRO
DCM LOT #L0262		sv21a009o.d	1000.00 ml	25-APR-2013 10:25	1.000	pmm	9	all
1201		sv21a010o.d	1000.00 ml	25-APR-2013 10:41	1.000	pmm	10	all
1202		sv21a011o.d	1000.00 ml	25-APR-2013 10:56	1.000	pmm	11	all
1203		sv21a012o.d	1000.00 ml	25-APR-2013 11:11	1.000	pmm	12	all
1204		sv21a013o.d	1000.00 ml	25-APR-2013 11:26	1.000	pmm	13	all
1205		sv21a014o.d	1000.00 ml	25-APR-2013 11:41	1.000	pmm	14	all
1600		sv21a015o.d	1.00 ml	25-APR-2013 11:56	1.000	pmm	15	all
DCM LOT #L0262		sv21a016d.d	1000.00 ml	25-APR-2013 12:11	1.000	pmm	100	DRO
DCM LOT #L0262		sv21a016o.d	1000.00 ml	25-APR-2013 12:11	1.000	pmm	100	all

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/30/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130725.b/CM.m
Batch: /var/chem/gcsv21a.i/2130725.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21a001d.d	35.00 ml	25-JUL-2013 10:18	1.000	pmm	1	8015
DCM 0000045679		sv21a002d.d	1000.00 ml	25-JUL-2013 10:34	1.000	pmm	2	DRO
DCM 0000045679		sv21a002o.d	1000.00 ml	25-JUL-2013 10:34	1.000	pmm	2	all
1400		sv21a003d.d	1000.00 ml	25-JUL-2013 10:49	1.000	pmm	3	DRO
1400		sv21a003s.d	1000.00 ml	25-JUL-2013 10:49	1.000	pmm	3	O-TERPH
1216344		sv21a005d.d	30.00 g	25-JUL-2013 11:19	1.000	pmm	5	DRO
1216344		sv21a005s.d	30.00 g	25-JUL-2013 11:19	1.000	pmm	5	O-TERPH
1216345		sv21a006d.d	30.00 g	25-JUL-2013 11:35	1.000	pmm	6	DRO
1216345		sv21a006s.d	30.00 g	25-JUL-2013 11:35	1.000	pmm	6	O-TERPH
1216346		sv21a007d.d	30.00 g	25-JUL-2013 11:50	1.000	pmm	7	DRO
1216346		sv21a007s.d	30.00 g	25-JUL-2013 11:50	1.000	pmm	7	O-TERPH
21307232101		sv21a008d.d	10.00 g	25-JUL-2013 12:05	400.000	pmm	8	DRO
21307232101		sv21a008s.d	10.00 g	25-JUL-2013 12:05	400.000	pmm	8	O-TERPH
21307232102		sv21a009d.d	10.00 g	25-JUL-2013 12:21	400.000	pmm	9	DRO
21307232102		sv21a009s.d	10.00 g	25-JUL-2013 12:21	400.000	pmm	9	O-TERPH
21307232103		sv21a010d.d	10.50 g	25-JUL-2013 12:36	400.000	pmm	10	DRO
21307232103		sv21a010s.d	10.50 g	25-JUL-2013 12:36	400.000	pmm	10	O-TERPH
21307232104		sv21a011d.d	10.10 g	25-JUL-2013 12:51	400.000	pmm	11	DRO
21307232104		sv21a011s.d	10.10 g	25-JUL-2013 12:51	400.000	pmm	11	O-TERPH
1216347		sv21a012d.d	10.40 g	25-JUL-2013 13:06	400.000	pmm	12	DRO
1216347		sv21a012s.d	10.40 g	25-JUL-2013 13:06	400.000	pmm	12	O-TERPH
1216348		sv21a013d.d	10.10 g	25-JUL-2013 13:22	400.000	pmm	13	DRO
1216348		sv21a013s.d	10.10 g	25-JUL-2013 13:22	400.000	pmm	13	O-TERPH
21307232105		sv21a014d.d	10.10 g	25-JUL-2013 13:37	100.000	pmm	14	DRO
21307232105		sv21a014s.d	10.10 g	25-JUL-2013 13:37	100.000	pmm	14	O-TERPH
1400		sv21a015d.d	1000.00 ml	25-JUL-2013 13:52	1.000	pmm	15	DRO
1400		sv21a015s.d	1000.00 ml	25-JUL-2013 13:52	1.000	pmm	15	O-TERPH
21307232106		sv21a016d.d	10.20 g	25-JUL-2013 14:20	400.000	pmm	16	DRO
21307232106		sv21a016s.d	10.20 g	25-JUL-2013 14:20	400.000	pmm	16	O-TERPH
21307232107		sv21a017d.d	10.50 g	25-JUL-2013 14:35	400.000	pmm	17	DRO
21307232107		sv21a017s.d	10.50 g	25-JUL-2013 14:35	400.000	pmm	17	O-TERPH
21307232108		sv21a018d.d	10.10 g	25-JUL-2013 14:50	200.000	pmm	18	DRO
21307232108		sv21a018s.d	10.10 g	25-JUL-2013 14:50	200.000	pmm	18	O-TERPH
21307232109		sv21a019d.d	10.00 g	25-JUL-2013 15:08	400.000	pmm	19	DRO
21307232109		sv21a019s.d	10.00 g	25-JUL-2013 15:08	400.000	pmm	19	O-TERPH
21307232110		sv21a020d.d	10.20 g	25-JUL-2013 15:24	400.000	pmm	20	DRO

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/30/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130725.b/CM.m
Batch: /var/chem/gcsv21a.i/2130725.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307232110		sv21a020s.d	10.20 g	25-JUL-2013 15:24	400.000	pmm	20	O-TERPH
21307232111		sv21a021d.d	10.10 g	25-JUL-2013 15:39	400.000	pmm	21	DRO
21307232111		sv21a021s.d	10.10 g	25-JUL-2013 15:39	400.000	pmm	21	O-TERPH
21307232112		sv21a022d.d	10.40 g	25-JUL-2013 15:59	200.000	pmm	22	DRO
21307232112		sv21a022s.d	10.40 g	25-JUL-2013 15:59	200.000	pmm	22	O-TERPH
21307232113		sv21a023d.d	10.00 g	25-JUL-2013 16:24	200.000	pmm	23	DRO
21307232113		sv21a023s.d	10.00 g	25-JUL-2013 16:24	200.000	pmm	23	O-TERPH
21307232114		sv21a024d.d	10.00 g	25-JUL-2013 16:58	400.000	pmm	24	DRO
21307232114		sv21a024s.d	10.00 g	25-JUL-2013 16:58	400.000	pmm	24	O-TERPH
21307232115		sv21a025d.d	10.50 g	25-JUL-2013 17:13	200.000	pmm	25	DRO
21307232115		sv21a025s.d	10.50 g	25-JUL-2013 17:13	200.000	pmm	25	O-TERPH
1400		sv21a026d.d	1000.00 ml	25-JUL-2013 17:29	1.000	pmm	26	DRO
1400		sv21a026s.d	1000.00 ml	25-JUL-2013 17:29	1.000	pmm	26	O-TERPH
21307232116		sv21a027d.d	10.10 g	25-JUL-2013 17:44	200.000	pmm	27	DRO
21307232116		sv21a027s.d	10.10 g	25-JUL-2013 17:44	200.000	pmm	27	O-TERPH
21307232117		sv21a028d.d	10.30 g	25-JUL-2013 17:59	400.000	pmm	28	DRO
21307232117		sv21a028s.d	10.30 g	25-JUL-2013 17:59	400.000	pmm	28	O-TERPH
21307232118		sv21a029d.d	10.20 g	25-JUL-2013 18:15	200.000	pmm	29	DRO
21307232118		sv21a029s.d	10.20 g	25-JUL-2013 18:15	200.000	pmm	29	O-TERPH
21307232119		sv21a030d.d	10.50 g	25-JUL-2013 18:31	100.000	pmm	30	DRO
21307232119		sv21a030s.d	10.50 g	25-JUL-2013 18:31	100.000	pmm	30	O-TERPH
21307232120		sv21a031d.d	10.10 g	25-JUL-2013 18:46	400.000	pmm	31	DRO
21307232120		sv21a031s.d	10.10 g	25-JUL-2013 18:46	400.000	pmm	31	O-TERPH
1216378		sv21a032d.d	1000.00 ml	25-JUL-2013 19:01	1.000	pmm	32	DRO
1216378		sv21a032s.d	1000.00 ml	25-JUL-2013 19:01	1.000	pmm	32	O-TERPH
1216379		sv21a033d.d	1000.00 ml	25-JUL-2013 19:17	1.000	pmm	33	DRO
1216379		sv21a033s.d	1000.00 ml	25-JUL-2013 19:17	1.000	pmm	33	O-TERPH
1216380		sv21a034d.d	1000.00 ml	25-JUL-2013 19:32	1.000	pmm	34	DRO
1216380		sv21a034s.d	1000.00 ml	25-JUL-2013 19:32	1.000	pmm	34	O-TERPH
21307240214		sv21a035d.d	1000.00 ml	25-JUL-2013 19:47	1.000	pmm	35	DRO
21307240214		sv21a035s.d	1000.00 ml	25-JUL-2013 19:47	1.000	pmm	35	O-TERPH
1400		sv21a036d.d	1000.00 ml	25-JUL-2013 20:03	1.000	pmm	36	DRO
1400		sv21a036s.d	1000.00 ml	25-JUL-2013 20:03	1.000	pmm	36	O-TERPH

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/31/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130730.b/CM.m
Batch: /var/chem/gcsv21a.i/2130730.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21a001d.d	35.00 ml	30-JUL-2013 08:30	1.000	pmm	1	8015
DCM 0000045679		sv21a002d.d	1000.00 ml	30-JUL-2013 08:46	1.000	pmm	2	DRO
DCM 0000045679		sv21a002o.d	1000.00 ml	30-JUL-2013 08:46	1.000	pmm	2	all
1400		sv21a003d.d	1000.00 ml	30-JUL-2013 09:01	1.000	pmm	3	DRO
1400		sv21a003s.d	1000.00 ml	30-JUL-2013 09:01	1.000	pmm	3	O-TERPH
1400		sv21a004o.d	1000.00 ml	30-JUL-2013 09:16	1.000	pmm	4	all
21307242115		sv21a005d.d	990.00 ml	30-JUL-2013 09:31	1.000	pmm	5	DRO
21307242115		sv21a005s.d	990.00 ml	30-JUL-2013 09:31	1.000	pmm	5	O-TERPH
21307251401		sv21a006d.d	990.00 ml	30-JUL-2013 09:49	1.000	pmm	6	DRO
21307251401		sv21a006s.d	990.00 ml	30-JUL-2013 09:49	1.000	pmm	6	O-TERPH
21307251402		sv21a007d.d	990.00 ml	30-JUL-2013 10:04	1.000	pmm	7	DRO
21307251402		sv21a007s.d	990.00 ml	30-JUL-2013 10:04	1.000	pmm	7	O-TERPH
21307251403		sv21a008d.d	990.00 ml	30-JUL-2013 10:20	1.000	pmm	8	DRO
21307251403		sv21a008s.d	990.00 ml	30-JUL-2013 10:20	1.000	pmm	8	O-TERPH
21307251404		sv21a009d.d	1000.00 ml	30-JUL-2013 10:35	1.000	pmm	9	DRO
21307251404		sv21a009s.d	1000.00 ml	30-JUL-2013 10:35	1.000	pmm	9	O-TERPH
21307251405		sv21a010d.d	1000.00 ml	30-JUL-2013 10:50	5.000	pmm	10	DRO
21307251405		sv21a010s.d	1000.00 ml	30-JUL-2013 10:50	5.000	pmm	10	O-TERPH
21307251406		sv21a011d.d	1000.00 ml	30-JUL-2013 11:13	2.000	pmm	11	DRO
21307251406		sv21a011s.d	1000.00 ml	30-JUL-2013 11:13	2.000	pmm	11	O-TERPH
21307251407		sv21a012d.d	980.00 ml	30-JUL-2013 11:29	1.000	pmm	12	DRO
21307251407		sv21a012s.d	980.00 ml	30-JUL-2013 11:29	1.000	pmm	12	O-TERPH
21307251408		sv21a013d.d	990.00 ml	30-JUL-2013 11:48	1.000	pmm	13	DRO
21307251408		sv21a013s.d	990.00 ml	30-JUL-2013 11:48	1.000	pmm	13	O-TERPH
21307251409		sv21a014d.d	990.00 ml	30-JUL-2013 12:04	1.000	pmm	14	DRO
21307251409		sv21a014s.d	990.00 ml	30-JUL-2013 12:04	1.000	pmm	14	O-TERPH
1400		sv21a015d.d	1000.00 ml	30-JUL-2013 12:19	1.000	pmm	15	DRO
1400		sv21a015s.d	1000.00 ml	30-JUL-2013 12:19	1.000	pmm	15	O-TERPH
21307251410		sv21a016d.d	980.00 ml	30-JUL-2013 12:34	1.000	pmm	16	DRO
21307251410		sv21a016s.d	980.00 ml	30-JUL-2013 12:34	1.000	pmm	16	O-TERPH
21307251411		sv21a017d.d	990.00 ml	30-JUL-2013 12:49	1.000	pmm	17	DRO
21307251411		sv21a017s.d	990.00 ml	30-JUL-2013 12:49	1.000	pmm	17	O-TERPH
21307251412		sv21a018d.d	1000.00 ml	30-JUL-2013 13:05	1.000	pmm	18	DRO
21307251412		sv21a018s.d	1000.00 ml	30-JUL-2013 13:05	1.000	pmm	18	O-TERPH
21307232141		sv21a019d.d	10.00 g	30-JUL-2013 13:20	400.000	pmm	19	DRO
21307232141		sv21a019s.d	10.00 g	30-JUL-2013 13:20	400.000	pmm	19	O-TERPH

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/31/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130730.b/CM.m
Batch: /var/chem/gcsv21a.i/2130730.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307232142		sv21a020d.d	10.00 g	30-JUL-2013 13:36	100.000	pmm	20	DRO
21307232142		sv21a020s.d	10.00 g	30-JUL-2013 13:36	100.000	pmm	20	O-TERPH
21307232143		sv21a021d.d	10.00 g	30-JUL-2013 13:51	100.000	pmm	21	DRO
21307232143		sv21a021s.d	10.00 g	30-JUL-2013 13:51	100.000	pmm	21	O-TERPH
21307232144		sv21a022d.d	10.10 g	30-JUL-2013 14:06	200.000	pmm	22	DRO
21307232144		sv21a022s.d	10.10 g	30-JUL-2013 14:06	200.000	pmm	22	O-TERPH
21307232145		sv21a023d.d	10.20 g	30-JUL-2013 14:21	400.000	pmm	23	DRO
21307232145		sv21a023s.d	10.20 g	30-JUL-2013 14:21	400.000	pmm	23	O-TERPH
1216368		sv21a024d.d	10.00 g	30-JUL-2013 14:37	400.000	pmm	24	DRO
1216368		sv21a024s.d	10.00 g	30-JUL-2013 14:37	400.000	pmm	24	O-TERPH
1216369		sv21a025d.d	10.00 g	30-JUL-2013 14:52	400.000	pmm	25	DRO
1216369		sv21a025s.d	10.00 g	30-JUL-2013 14:52	400.000	pmm	25	O-TERPH
1400		sv21a026d.d	1000.00 ml	30-JUL-2013 15:12	1.000	pmm	26	DRO
1400		sv21a026s.d	1000.00 ml	30-JUL-2013 15:12	1.000	pmm	26	O-TERPH
21307232146		sv21a027d.d	10.10 g	30-JUL-2013 15:28	400.000	pmm	27	DRO
21307232146		sv21a027s.d	10.10 g	30-JUL-2013 15:28	400.000	pmm	27	O-TERPH
21307232147		sv21a028d.d	10.10 g	30-JUL-2013 15:44	400.000	pmm	28	DRO
21307232147		sv21a028s.d	10.10 g	30-JUL-2013 15:44	400.000	pmm	28	O-TERPH
21307232148		sv21a029d.d	10.00 g	30-JUL-2013 15:59	800.000	pmm	29	DRO
21307232148		sv21a029s.d	10.00 g	30-JUL-2013 15:59	800.000	pmm	29	O-TERPH
21307232149		sv21a030d.d	10.20 g	30-JUL-2013 16:15	800.000	pmm	30	DRO
21307232149		sv21a030s.d	10.20 g	30-JUL-2013 16:15	800.000	pmm	30	O-TERPH
21307232150		sv21a031d.d	10.30 g	30-JUL-2013 16:30	800.000	pmm	31	DRO
21307232150		sv21a031s.d	10.30 g	30-JUL-2013 16:30	800.000	pmm	31	O-TERPH
21307232151		sv21a032d.d	10.00 g	30-JUL-2013 16:46	200.000	pmm	32	DRO
21307232151		sv21a032s.d	10.00 g	30-JUL-2013 16:46	200.000	pmm	32	O-TERPH
21307232152		sv21a033d.d	10.00 g	30-JUL-2013 17:02	800.000	pmm	33	DRO
21307232152		sv21a033s.d	10.00 g	30-JUL-2013 17:02	800.000	pmm	33	O-TERPH
21307232153		sv21a034d.d	10.00 g	30-JUL-2013 17:17	400.000	pmm	34	DRO
21307232153		sv21a034s.d	10.00 g	30-JUL-2013 17:17	400.000	pmm	34	O-TERPH
21307232154		sv21a035d.d	10.00 g	30-JUL-2013 17:33	200.000	pmm	35	DRO
21307232154		sv21a035s.d	10.00 g	30-JUL-2013 17:33	200.000	pmm	35	O-TERPH
21307232155		sv21a036d.d	10.00 g	30-JUL-2013 17:48	200.000	pmm	36	DRO
21307232155		sv21a036s.d	10.00 g	30-JUL-2013 17:48	200.000	pmm	36	O-TERPH
1400		sv21a037d.d	1000.00 ml	30-JUL-2013 18:04	1.000	pmm	37	DRO
1400		sv21a037s.d	1000.00 ml	30-JUL-2013 18:04	1.000	pmm	37	O-TERPH

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/31/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130730.b/CM.m
Batch: /var/chem/gcsv21a.i/2130730.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1400		sv21a038o.d	1000.00 ml	30-JUL-2013 18:19	1.000	pmm	38	all
21307232156		sv21a039d.d	10.20 g	30-JUL-2013 18:35	800.000	pmm	39	DRO
21307232156		sv21a039s.d	10.20 g	30-JUL-2013 18:35	800.000	pmm	39	O-TERPH
21307232157		sv21a040d.d	10.10 g	30-JUL-2013 18:50	800.000	pmm	40	DRO
21307232157		sv21a040s.d	10.10 g	30-JUL-2013 18:50	800.000	pmm	40	O-TERPH
21307232158		sv21a041d.d	10.00 g	30-JUL-2013 19:06	800.000	pmm	41	DRO
21307232158		sv21a041s.d	10.00 g	30-JUL-2013 19:06	800.000	pmm	41	O-TERPH
21307251408		sv21a042d.d	990.00 ml	30-JUL-2013 19:21	1.000	pmm	42	DRO
21307251408		sv21a042s.d	990.00 ml	30-JUL-2013 19:21	1.000	pmm	42	O-TERPH
21307251411		sv21a043d.d	990.00 ml	30-JUL-2013 19:36	1.000	pmm	43	DRO
21307251411		sv21a043s.d	990.00 ml	30-JUL-2013 19:36	1.000	pmm	43	O-TERPH
1217369		sv21a044d.d	30.00 g	30-JUL-2013 19:51	1.000	pmm	44	DRO
1217375		sv21a044o.d	30.00 g	30-JUL-2013 19:51	1.000	pmm	44	all
1217369		sv21a044s.d	30.00 g	30-JUL-2013 19:51	1.000	pmm	44	O-TERPH
1217370		sv21a045d.d	30.00 g	30-JUL-2013 20:07	1.000	pmm	45	DRO
1217370		sv21a045s.d	30.00 g	30-JUL-2013 20:07	1.000	pmm	45	O-TERPH
1217371		sv21a046d.d	30.00 g	30-JUL-2013 20:22	1.000	pmm	46	DRO
1217371		sv21a046s.d	30.00 g	30-JUL-2013 20:22	1.000	pmm	46	O-TERPH
1217376		sv21a047o.d	30.00 g	30-JUL-2013 20:37	1.000	pmm	47	all
1217377		sv21a048o.d	30.00 g	30-JUL-2013 20:53	1.000	pmm	48	all
1400		sv21a049d.d	1000.00 ml	30-JUL-2013 21:08	1.000	pmm	49	DRO
1400		sv21a049s.d	1000.00 ml	30-JUL-2013 21:08	1.000	pmm	49	O-TERPH
1400		sv21a050o.d	1000.00 ml	30-JUL-2013 21:23	1.000	pmm	50	all
21307246502		sv21a051d.d	30.20 g	30-JUL-2013 21:39	400.000	pmm	51	DRO
21307246502		sv21a051s.d	30.20 g	30-JUL-2013 21:39	400.000	pmm	51	O-TERPH
21307246702		sv21a052d.d	30.20 g	30-JUL-2013 21:54	200.000	pmm	52	DRO
21307246702		sv21a052s.d	30.20 g	30-JUL-2013 21:54	200.000	pmm	52	O-TERPH
21307252401		sv21a053d.d	30.00 g	30-JUL-2013 22:09	1.000	pmm	53	DRO
21307252401		sv21a053o.d	30.00 g	30-JUL-2013 22:09	1.000	pmm	53	all
21307252401		sv21a053s.d	30.00 g	30-JUL-2013 22:09	1.000	pmm	53	O-TERPH
1217372		sv21a054d.d	30.10 g	30-JUL-2013 22:25	1.000	pmm	54	DRO
1217372		sv21a054s.d	30.10 g	30-JUL-2013 22:25	1.000	pmm	54	O-TERPH
1217373		sv21a055d.d	30.20 g	30-JUL-2013 22:40	1.000	pmm	55	DRO
1217373		sv21a055s.d	30.20 g	30-JUL-2013 22:40	1.000	pmm	55	O-TERPH
21307252402		sv21a056d.d	30.10 g	30-JUL-2013 22:55	1.000	pmm	56	DRO
21307252402		sv21a056o.d	30.10 g	30-JUL-2013 22:55	1.000	pmm	56	all

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/31/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130730.b/CM.m
Batch: /var/chem/gcsv21a.i/2130730.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307252402		sv21a056s.d	30.10 g	30-JUL-2013 22:55	1.000	pmm	56	O-TERPH
1217378		sv21a057o.d	30.10 g	30-JUL-2013 23:11	1.000	pmm	57	all
1217379		sv21a058o.d	30.00 g	30-JUL-2013 23:26	1.000	pmm	58	all
21307252403		sv21a059d.d	30.10 g	30-JUL-2013 23:41	1.000	pmm	59	DRO
21307252403		sv21a059o.d	30.10 g	30-JUL-2013 23:41	1.000	pmm	59	all
21307252403		sv21a059s.d	30.10 g	30-JUL-2013 23:41	1.000	pmm	59	O-TERPH
21307252404		sv21a060d.d	30.20 g	30-JUL-2013 23:56	1.000	pmm	60	DRO
21307252404		sv21a060o.d	30.20 g	30-JUL-2013 23:56	1.000	pmm	60	all
21307252404		sv21a060s.d	30.20 g	30-JUL-2013 23:56	1.000	pmm	60	O-TERPH
1400		sv21a061d.d	1000.00 ml	31-JUL-2013 00:12	1.000	pmm	61	DRO
1400		sv21a061s.d	1000.00 ml	31-JUL-2013 00:12	1.000	pmm	61	O-TERPH
1400		sv21a062o.d	1000.00 ml	31-JUL-2013 00:27	1.000	pmm	62	all
21307252405		sv21a063d.d	30.20 g	31-JUL-2013 00:42	1.000	pmm	63	DRO
21307252405		sv21a063o.d	30.20 g	31-JUL-2013 00:42	1.000	pmm	63	all
21307252405		sv21a063s.d	30.20 g	31-JUL-2013 00:42	1.000	pmm	63	O-TERPH
21307252406		sv21a064d.d	30.00 g	31-JUL-2013 00:57	1.000	pmm	64	DRO
21307252406		sv21a064o.d	30.00 g	31-JUL-2013 00:57	1.000	pmm	64	all
21307252406		sv21a064s.d	30.00 g	31-JUL-2013 00:57	1.000	pmm	64	O-TERPH
21307252407		sv21a065d.d	30.10 g	31-JUL-2013 01:13	1.000	pmm	65	DRO
21307252407		sv21a065o.d	30.10 g	31-JUL-2013 01:13	1.000	pmm	65	all
21307252407		sv21a065s.d	30.10 g	31-JUL-2013 01:13	1.000	pmm	65	O-TERPH
21307252408		sv21a066d.d	30.30 g	31-JUL-2013 01:28	1.000	pmm	66	DRO
21307252408		sv21a066o.d	30.30 g	31-JUL-2013 01:28	1.000	pmm	66	all
21307252408		sv21a066s.d	30.30 g	31-JUL-2013 01:28	1.000	pmm	66	O-TERPH
21307252409		sv21a067d.d	30.00 g	31-JUL-2013 01:43	1.000	pmm	67	DRO
21307252409		sv21a067o.d	30.00 g	31-JUL-2013 01:43	1.000	pmm	67	all
21307252409		sv21a067s.d	30.00 g	31-JUL-2013 01:43	1.000	pmm	67	O-TERPH
21307252410		sv21a068d.d	30.40 g	31-JUL-2013 01:58	1.000	pmm	68	DRO
21307252410		sv21a068o.d	30.40 g	31-JUL-2013 01:58	1.000	pmm	68	all
21307252410		sv21a068s.d	30.40 g	31-JUL-2013 01:58	1.000	pmm	68	O-TERPH
21307252411		sv21a069d.d	30.20 g	31-JUL-2013 02:14	1.000	pmm	69	DRO
21307252411		sv21a069o.d	30.20 g	31-JUL-2013 02:14	1.000	pmm	69	all
21307252411		sv21a069s.d	30.20 g	31-JUL-2013 02:14	1.000	pmm	69	O-TERPH
21307252412		sv21a070d.d	30.00 g	31-JUL-2013 02:29	1.000	pmm	70	DRO
21307252412		sv21a070o.d	30.00 g	31-JUL-2013 02:29	1.000	pmm	70	all
21307252412		sv21a070s.d	30.00 g	31-JUL-2013 02:29	1.000	pmm	70	O-TERPH

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/31/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130730.b/CM.m
Batch: /var/chem/gcsv21a.i/2130730.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307252413		sv21a071d.d	30.30 g	31-JUL-2013 02:44	1.000	pmm	71	DRO
21307252413		sv21a071o.d	30.30 g	31-JUL-2013 02:44	1.000	pmm	71	all
21307252413		sv21a071s.d	30.30 g	31-JUL-2013 02:44	1.000	pmm	71	O-TERPH
21307252414		sv21a072d.d	30.00 g	31-JUL-2013 02:59	1.000	pmm	72	DRO
21307252414		sv21a072o.d	30.00 g	31-JUL-2013 02:59	1.000	pmm	72	all
21307252414		sv21a072s.d	30.00 g	31-JUL-2013 02:59	1.000	pmm	72	O-TERPH
1400		sv21a073d.d	1000.00 ml	31-JUL-2013 03:14	1.000	pmm	73	DRO
1400		sv21a073s.d	1000.00 ml	31-JUL-2013 03:14	1.000	pmm	73	O-TERPH
1400		sv21a074o.d	1000.00 ml	31-JUL-2013 03:30	1.000	pmm	74	all
21307252415		sv21a075d.d	30.40 g	31-JUL-2013 03:45	1.000	pmm	75	DRO
21307252415		sv21a075o.d	30.40 g	31-JUL-2013 03:45	1.000	pmm	75	all
21307252415		sv21a075s.d	30.40 g	31-JUL-2013 03:45	1.000	pmm	75	O-TERPH
21307252302		sv21a076d.d	30.00 g	31-JUL-2013 04:00	1.000	pmm	76	DRO
21307252302		sv21a076s.d	30.00 g	31-JUL-2013 04:00	1.000	pmm	76	O-TERPH
1400		sv21a077d.d	1000.00 ml	31-JUL-2013 04:15	1.000	pmm	77	DRO
1400		sv21a077s.d	1000.00 ml	31-JUL-2013 04:15	1.000	pmm	77	O-TERPH
1400		sv21a078o.d	1000.00 ml	31-JUL-2013 04:30	1.000	pmm	78	all

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 04/29/2013
Instrument: gcsv21b.i
Method File: /var/chem/gcsv21b.i/2130425.b/CM.m
Batch: /var/chem/gcsv21b.i/2130425.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21b051d.d	35.00 ml	25-APR-2013 08:24	1.000	pmm	51	8015
DCM 0000026260		sv21b052d.d	1000.00 ml	25-APR-2013 08:39	1.000	pmm	52	DRO
DCM 0000026260		sv21b052o.d	1000.00 ml	25-APR-2013 08:39	1.000	pmm	52	all
1201		sv21b053d.d	1000.00 ml	25-APR-2013 09:09	1.000	pmm	3	DRO
1201		sv21b053s.d	1000.00 ml	25-APR-2013 09:09	1.000	pmm	3	O-TERPH
1202		sv21b054d.d	1000.00 ml	25-APR-2013 09:25	1.000	pmm	4	DRO
1202		sv21b054s.d	1000.00 ml	25-APR-2013 09:25	1.000	pmm	4	O-TERPH
1203		sv21b055d.d	1000.00 ml	25-APR-2013 09:40	1.000	pmm	5	DRO
1203		sv21b055s.d	1000.00 ml	25-APR-2013 09:40	1.000	pmm	5	O-TERPH
1204		sv21b056d.d	1000.00 ml	25-APR-2013 09:55	1.000	pmm	6	DRO
1204		sv21b056s.d	1000.00 ml	25-APR-2013 09:55	1.000	pmm	6	O-TERPH
1205		sv21b057d.d	1000.00 ml	25-APR-2013 10:10	1.000	pmm	7	DRO
1205		sv21b057s.d	1000.00 ml	25-APR-2013 10:10	1.000	pmm	7	O-TERPH
1600		sv21b058d.d	1.00 ml	25-APR-2013 10:25	1.000	pmm	8	DRO
DCM 0000026260		sv21b059d.d	1000.00 ml	25-APR-2013 10:41	1.000	pmm	9	DRO
DCM 0000026260		sv21b059o.d	1000.00 ml	25-APR-2013 10:41	1.000	pmm	9	all
1201		sv21b060o.d	1000.00 ml	25-APR-2013 10:56	1.000	pmm	10	all
1202		sv21b061o.d	1000.00 ml	25-APR-2013 11:11	1.000	pmm	11	all
1203		sv21b062o.d	1000.00 ml	25-APR-2013 11:26	1.000	pmm	12	all
1204		sv21b063o.d	1000.00 ml	25-APR-2013 11:41	1.000	pmm	13	all
1205		sv21b064o.d	1000.00 ml	25-APR-2013 11:56	1.000	pmm	14	all
1600		sv21b065o.d	1.00 ml	25-APR-2013 12:11	1.000	pmm	15	all

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 08/02/2013
Instrument: gcsv21b.i
Method File: /var/chem/gcsv21b.i/2130801.b/CM.m
Batch: /var/chem/gcsv21b.i/2130801.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21b051d.d	35.00 ml	01-AUG-2013 08:14	1.000	pmm	51	8015
DCM 0000045679		sv21b052d.d	1000.00 ml	01-AUG-2013 08:29	1.000	pmm	52	DRO
DCM 0000045679		sv21b052o.d	1000.00 ml	01-AUG-2013 08:29	1.000	pmm	52	all
1400		sv21b053d.d	1000.00 ml	01-AUG-2013 08:44	1.000	pmm	53	DRO
1400		sv21b053s.d	1000.00 ml	01-AUG-2013 08:44	1.000	pmm	53	O-TERPH
21307232132		sv21b054d.d	10.10 g	01-AUG-2013 09:00	800.000	pmm	54	DRO
21307232132		sv21b054s.d	10.10 g	01-AUG-2013 09:00	800.000	pmm	54	O-TERPH
21307232138		sv21b055d.d	10.10 g	01-AUG-2013 09:15	800.000	pmm	55	DRO
21307232138		sv21b055s.d	10.10 g	01-AUG-2013 09:15	800.000	pmm	55	O-TERPH
1400		sv21b056d.d	1000.00 ml	01-AUG-2013 09:30	1.000	pmm	56	DRO
1400		sv21b056s.d	1000.00 ml	01-AUG-2013 09:30	1.000	pmm	56	O-TERPH
1216818		sv21b057d.d	30.00 g	01-AUG-2013 09:46	1.000	pmm	57	DRO
1216818		sv21b057s.d	30.00 g	01-AUG-2013 09:46	1.000	pmm	57	O-TERPH
1216819		sv21b058d.d	30.00 g	01-AUG-2013 10:01	1.000	pmm	58	DRO
1216819		sv21b058s.d	30.00 g	01-AUG-2013 10:01	1.000	pmm	58	O-TERPH
1216820		sv21b059d.d	30.00 g	01-AUG-2013 10:16	1.000	pmm	59	DRO
1216820		sv21b059s.d	30.00 g	01-AUG-2013 10:16	1.000	pmm	59	O-TERPH
21307242101		sv21b060d.d	30.10 g	01-AUG-2013 10:31	1.000	pmm	60	DRO
21307242101		sv21b060s.d	30.10 g	01-AUG-2013 10:31	1.000	pmm	60	O-TERPH
21307242101		sv21b061d.d	30.10 g	01-AUG-2013 11:15	20.000	pmm	61	DRO
21307242101		sv21b061s.d	30.10 g	01-AUG-2013 11:15	20.000	pmm	61	O-TERPH
21307242102		sv21b062d.d	30.00 g	01-AUG-2013 11:30	20.000	pmm	62	DRO
21307242102		sv21b062s.d	30.00 g	01-AUG-2013 11:30	20.000	pmm	62	O-TERPH
21307242103		sv21b063d.d	30.10 g	01-AUG-2013 11:45	20.000	pmm	63	DRO
21307242103		sv21b063s.d	30.10 g	01-AUG-2013 11:45	20.000	pmm	63	O-TERPH
21307242104		sv21b064d.d	30.20 g	01-AUG-2013 12:00	1.000	pmm	64	DRO
21307242104		sv21b064s.d	30.20 g	01-AUG-2013 12:00	1.000	pmm	64	O-TERPH
21307242105		sv21b065d.d	30.50 g	01-AUG-2013 12:16	1.000	pmm	65	DRO
21307242105		sv21b065s.d	30.50 g	01-AUG-2013 12:16	1.000	pmm	65	O-TERPH
21307242106		sv21b066d.d	30.10 g	01-AUG-2013 12:31	1.000	pmm	66	DRO
21307242106		sv21b066s.d	30.10 g	01-AUG-2013 12:31	1.000	pmm	66	O-TERPH
1400		sv21b067d.d	1000.00 ml	01-AUG-2013 12:47	1.000	pmm	67	DRO
1400		sv21b067s.d	1000.00 ml	01-AUG-2013 12:47	1.000	pmm	67	O-TERPH
21307242107		sv21b068d.d	30.40 g	01-AUG-2013 13:02	1.000	pmm	68	DRO
21307242107		sv21b068s.d	30.40 g	01-AUG-2013 13:02	1.000	pmm	68	O-TERPH
21307242108		sv21b069d.d	30.10 g	01-AUG-2013 13:18	1.000	pmm	69	DRO

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 08/02/2013
Instrument: gcsv21b.i
Method File: /var/chem/gcsv21b.i/2130801.b/CM.m
Batch: /var/chem/gcsv21b.i/2130801.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307242108		sv21b069s.d	30.10 g	01-AUG-2013 13:18	1.000	pmm	69	O-TERPH
21307242109		sv21b070d.d	30.30 g	01-AUG-2013 13:33	1.000	pmm	70	DRO
21307242109		sv21b070s.d	30.30 g	01-AUG-2013 13:33	1.000	pmm	70	O-TERPH
21307242110		sv21b071d.d	30.10 g	01-AUG-2013 13:48	1.000	pmm	71	DRO
21307242110		sv21b071s.d	30.10 g	01-AUG-2013 13:48	1.000	pmm	71	O-TERPH
21307242111		sv21b072d.d	30.00 g	01-AUG-2013 14:04	1.000	pmm	72	DRO
21307242111		sv21b072s.d	30.00 g	01-AUG-2013 14:04	1.000	pmm	72	O-TERPH
21307242112		sv21b073d.d	30.00 g	01-AUG-2013 14:19	1.000	pmm	73	DRO
21307242112		sv21b073s.d	30.00 g	01-AUG-2013 14:19	1.000	pmm	73	O-TERPH
21307242113		sv21b074d.d	30.00 g	01-AUG-2013 14:34	1.000	pmm	74	DRO
21307242113		sv21b074s.d	30.00 g	01-AUG-2013 14:34	1.000	pmm	74	O-TERPH
21307242114		sv21b075d.d	30.10 g	01-AUG-2013 14:50	1.000	pmm	75	DRO
21307242114		sv21b075s.d	30.10 g	01-AUG-2013 14:50	1.000	pmm	75	O-TERPH
21307242116		sv21b076d.d	30.00 g	01-AUG-2013 15:05	1.000	pmm	76	DRO
21307242116		sv21b076s.d	30.00 g	01-AUG-2013 15:05	1.000	pmm	76	O-TERPH
21307242117		sv21b077d.d	30.20 g	01-AUG-2013 15:21	1.000	pmm	77	DRO
21307242117		sv21b077s.d	30.20 g	01-AUG-2013 15:21	1.000	pmm	77	O-TERPH
1400		sv21b079d.d	1000.00 ml	01-AUG-2013 16:23	1.000	pmm	79	DRO
1400		sv21b079s.d	1000.00 ml	01-AUG-2013 16:23	10.000	pmm	79	O-TERPH
1400		sv21b082d.d	1000.00 ml	01-AUG-2013 17:09	1.000	pmm	82	DRO
1400		sv21b082s.d	1000.00 ml	01-AUG-2013 17:09	1.000	pmm	82	O-TERPH

GCAL

SOLIDS DATA SHEET

TSS Oven Temp: 103 - 105 °C
TDS Oven Temp: 178 - 182 °C
TS Oven Temp: 103 - 105 °C

Test: D. wt

LCS True Value: NA

HBN: 512354

LCS Lot No.: NA

LCS Exp. Date: NA

BATCH: 20141

IW/FW1/FW2: IW	IW/FW1/FW2: FW1	IW/FW1/FW2: FW2
Balance ID: Ax504	Balance ID: Ax504	Balance ID: Ax504
Date/Time: 7/24/13 1530	Date/Time: 7/25/13 830	Date/Time: 7/25/13 1210
Analyst: DJH	Analyst: DJH	Analyst: DJH
Oven ID: 11	Oven ID: 11	Oven ID:
Oven Temp °C IN: 104	Oven Temp °C IN: 104	Oven Temp °C IN:
Date/Time IN: 7/24/13 1800	Date/Time IN: 7/25/13 845	Date/Time IN:
Date/Time OUT: 7/25/13 700	Date/Time OUT: 7/25/13 11—	Date/Time OUT:
Oven Temp °C OUT: 105	Oven Temp °C OUT: 104	Oven Temp °C OUT:
Analyst: DJH	Analyst: DJH	Analyst:
Desiccator ID: 7	Desiccator ID: 3	Desiccator ID:
Date/Time IN: 7/25/13 700	Date/Time IN: 7/25/13 1100	Date/Time IN:
Date/Time OUT: 7/25/13 830	Date/Time OUT: 7/25/13 1210	Date/Time OUT:
Analyst: DJH	Analyst: DJH	Analyst:

Comments:

IW - Initial Weight
FW1 - 1st Final Weight
FW2 - 2nd Final Weight

Secondary Reviewer/Date: KSV 7/25/2013

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TOTAL SOLIDS AND MOISTURE ANALYSIS (SOLID MATRIX)

Method 2540G

HBN	512354			ANALYST:	DJH						DATE:	7/24/2013
SOLI	20141			REVIEW:	KSV 7/24/2013						TIME:	15:30:00
Sample ID	Pan ID	Pan Mass (g)	Initial Mass (g) (Sample & Pan)	Final Wt. 1 (g) (Sample & Pan)	Final Wt. 2 (g) (Sample & Pan)	Diff (g)	Final Wt. 3 (g) (Sample & Pan)	Diff (g)	Initial Mass Less Pan (g)	Final Mass Less Pan (g)	Total Solid %	Total Moisture %
21307242101	65	1.3361	12.5274	11.7148	11.7146	0.0002			11.1913	10.3785	92.74	7.26
21307242102	65	1.3361	12.5274	11.7148	11.7146	0.0002			11.1913	10.3785	92.74	7.26
21307242103	65	1.3361	12.5274	11.7148	11.7146	0.0002			11.1913	10.3785	92.74	7.26
21307242104	66	1.3344	12.9750	11.6631	11.6635	0.0004			11.6406	10.3291	88.73	11.27
1216856 Dup	67	1.3136	13.6678	12.2957	12.2956	0.0001			12.3542	10.9820	88.89	11.11
21307242105	68	1.3162	12.7865	11.5380	11.5382	0.0002			11.4703	10.2220	89.12	10.88
21307242106	69	1.3147	14.8041	13.1973	13.1974	0.0001			13.4894	11.8827	88.09	11.91
21307242107	70	1.3259	10.2908	9.6141	9.6139	0.0002			8.9649	8.2880	92.45	7.55
21307242108	71	1.3245	13.1264	11.3748	11.3746	0.0002			11.8019	10.0501	85.16	14.84
21307242109	72	1.3064	13.7125	11.8882	11.8881	0.0001			12.4061	10.5817	85.29	14.71
21307242110	73	1.3318	15.8614	13.6846	13.6847	0.0001			14.5296	12.3529	85.02	14.98
21307242111	74	1.3273	11.7973	10.8681	10.8680	0.0001			10.4700	9.5407	91.12	8.88
21307242112	75	1.3108	13.6314	11.5840	11.5841	0.0001			12.3206	10.2733	83.38	16.62
21307242113	76	1.3239	12.8560	11.6130	11.6128	0.0002			11.5321	10.2889	89.22	10.78
21307242114	77	1.3128	11.6696	10.6737	10.6734	0.0003			10.3568	9.3606	90.38	9.62
1216857 Dup	78	1.3334	9.7241	8.9306	8.9306	0.0000			8.3907	7.5972	90.54	9.46
21307242116	79	1.3161	11.5167	9.8484	9.8485	0.0001			10.2006	8.5324	83.65	16.35
21307242117	80	1.3144	11.6348	10.0115	10.0114	0.0001			10.3204	8.6970	84.27	15.73
							DJH	7/25/13				

RPD 0.18%

RPD 0.18%

TS % = ((Final Sample Mass - Initial Sample Mass) x 100) / Initial Sample Mass

TM % = 100-TS%

Method 2540G

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Resolution Consultants / 4841 / 213072421 / 8/2/13

RESOLUTION CONSULTANTS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No.: | Page 1 of 2

Project Name: NAVFAC | PO No.: | Project No. 088881290 Phase F1

Site Location: Gulfport, MS

CTO No. | RC Project Manager: Kirk Giessinger

Sampler/Site Phone#: (601) 981-4880

Lab Name: GCAL Analytical Laboratories, LLC | Turnaround Time(specify):

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	BTEX	MTBE	PAHs	GRO	DRO						Extra Volume for MS/MSD	HOLD
								(3)→	ME	SB										
	B398SB1102		07/23/13	1030	SO	N		6	✓	✓	✓	✓	✓							
	B398SB1106			1040	SO	N		6	✓	✓	✓	✓	✓							
	B398SB1202			1100	SO	N		6												
	B398SB1206			1107	SO	N		6												
	B398SB1302			1125	SO	N		6												
	B398SB1306			1140	SO	N		6		✓										
	B398SB1405			1318	SO	N		6												
	B398SB1408			1332	SO	N		6	✓											
	B398SB1504			1342	SO	N		6												11
	B398SB1508		✓	1355	SO	N		6		✓			✓							12
	B398SB1606			1418	SO	N		6	✓	✓	✓	✓	✓							13
	B398SB1608			1429	SO	N		6		✗	✓	✗	✓							14

***Field* Comments:** Run MS/MSD on B398SB1102 if sufficient volume

***Lab* Comments:** 5.1 E22 / 5.2 E22

Sample Shipment and Delivery Details

Number of coolers in shipment: 2

Samples Iced?(check) Yes X No

Method of Shipment: Fed Ex

Airbill No: 7958 0184 0292

Date Shipped: 7/23/13

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	7/23/13	1711	1		
2 Fed Ex	7/24/13	09.45	2	7/24/13	0945
3			3		

(1) **AA**=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) **Sample Type:** **AB**=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) **Preservative added:** **HA**=Hydrochloric Acid, **NT**=Nitric Acid, **SH**=Sodium Hydroxide, **SA**=Sulfuric Acid, **ME**=Methanol, **SB**=sodium bisulfate, **ST**=Sodium Thiosulfate, If **NO preservative** added leave blank

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Resolution Consultants/4844/213072421/8/2/13

RESOLUTION CONSULTANTS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No.

Page 2 of 2

Project Name: NAVFAC

PO No.

Project No. 08888 12902 Phase F1

Site Location: Gulfport, MS

CTO No.

RC Project Manager: Kirk Giessinger

Sampler/Site Phone# (601) 981-4880

Lab Name: GCAL Analytical Laboratories, LLC

Turnaround Time(specify):

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	BTEX	MTBE	PAHs	DRO	GRO						Extra Volume for MS/MSD	HOLD
								(3)→	ME	SB	HA									
	EB072313		07/23/13	1200	WQ	EB		10	✓	✓	✓	✓	✓							
	DUP072313		↓	~~X~~	~~SQ~~ SQ	FD		6	✓	✓	✓	✓	✓							
	DUP2072313		↓	~~X~~	~~SQ~~ SQ	FD		6	✓	✓	✓	✓	✓							
	Trip Blank		↓	X	X	TB		4	✓	✓			✓							
	Temp Blank		↓	X	X	~~TB~~		2												

Field **Comments:**

Lab **Comments:** 5.8 E22/5.1 E22

Sample Shipment and Delivery Details

Number of coolers in shipment: 2

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1 [signature]	7/23/13	1711	1		
2 Fed Ex	7/23/13	0945	2 [signature]	7/24/13	0945
3			3		

Samples Iced?(check) Yes X No____

Method of Shipment: FedEx

Airbill No: ~~795~~ 8032246 09

Date Shipped: 7/23/13

(1) **AA**=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) **Sample Type: AB**=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) **Preservative added: HA**=Hydrochloric Acid, **NT**=Nitric Acid, **SH**=Sodium Hydroxide, **SA**=Sulfuric Acid, **ME**=Methanol, **SB**=sodium bisulfate, **ST**=Sodium Thiosulfate, If **NO preservative** added leave blank

Rev 5/12

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

213072421

SAMPLE DELIVERY GROUP	213072421
Client 4841 - Resolution Consultants	**Transport Method** FEDEX
Profile Number 244458	**Received By** Saucier, Charlotte
Line Item(s) 1 - Soil 2 - Water	**Receive Date(s)** 07/24/13

CHECKLIST

	Yes	No	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☑	☐	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☑	☐	☐

COOLERS

Airbill	Temp(oC)
8030 2496 0292	5.1 (E22) 5.8

DISCREPANCIES

None

LABORATORY PRESERVATIONS

None

NOTES

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GCAL
GULF COAST ANALYTICAL LABORATORIES, INC

NELAP CERTIFICATE NUMBER 01955
DOD ELAP CERTIFICATE NUMBER ADE - 1482

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.
7979 GSRI Avenue
Baton Rouge, LA 70820

Report Date 08/06/2013

GCAL Report 213072514

Deliver To	ENSAFE, INC 5724 Summer Trees Drive Memphis, TN 38134 (901) 372-7962
Attn	Tina Cantwell

Project NCBC Gulfport / JM35

CASE NARRATIVE

Client: Resolution Consultants **Report:** 213072514

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

Additional Flags:

DL – Dilution

E – concentration is above the upper calibration range of the instrument

VOLATILES MASS SPECTROMETRY

In the SW-846 8260B analysis, samples 21307251405 (DUP1072413) and 21307251406 (B398MW5-3Q13) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. The dilution is reflected in elevated detection limits.

SEMI-VOLATILES MASS SPECTROMETRY

In the SW-846 8270D SIM analysis, samples 21307251405 (DUP1072413) and 21307251406 (B398MW5-3Q13) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument. This is reflected in elevated detection limits.

In the SW-846 8270D SIM analysis, samples 21307251405 (DUP1072413), 21307251406 (B398MW5-3Q13) and 21307251407 (B398MW6-3Q13) had one surrogate recovery outside control limits in the base-neutral fraction.

VOLATILES GAS CHROMATOGRAPHY

In the SW-846 8015C GRO analysis, samples 21307251405(DUP1072413) and 21307251406(B398MW5-3Q13) had to be diluted to bracket the concentration of target analyte(s) within the calibration range of the instrument.

SEMI-VOLATILES GAS CHROMATOGRAPHY

In the SW-846 8015C DRO analysis, samples 21307251405(DUP1072413) and 21307251406(B398MW5-3Q13) had to be diluted to bracket target compounds within the calibration range of the instrument. This is reflected in elevated detection limits.

Sample Test Summary Report: 213072514

Lab Sample ID	Cust. Sample ID	Matrix	Proc. Desc.
21307251401	B398PW1-3Q13	W	SW-846 8260B
21307251401	B398PW1-3Q13	W	SW-846 8270D SIM Water
21307251401	B398PW1-3Q13	W	SW-846 3510C SIM Prep Water
21307251401	B398PW1-3Q13	W	Total Hydrocarbons Diesel Water
21307251401	B398PW1-3Q13	W	Total Hydrocarbons Diesel Water Prep
21307251401	B398PW1-3Q13	W	SW-846 8015C Modified Water
21307251402	B398MW2-3Q13	W	SW-846 8260B
21307251402	B398MW2-3Q13	W	SW-846 8270D SIM Water
21307251402	B398MW2-3Q13	W	SW-846 3510C SIM Prep Water
21307251402	B398MW2-3Q13	W	Total Hydrocarbons Diesel Water
21307251402	B398MW2-3Q13	W	Total Hydrocarbons Diesel Water Prep
21307251402	B398MW2-3Q13	W	SW-846 8015C Modified Water
21307251403	B398MW3-3Q13	W	SW-846 8260B
21307251403	B398MW3-3Q13	W	SW-846 8270D SIM Water
21307251403	B398MW3-3Q13	W	SW-846 3510C SIM Prep Water
21307251403	B398MW3-3Q13	W	Total Hydrocarbons Diesel Water
21307251403	B398MW3-3Q13	W	Total Hydrocarbons Diesel Water Prep
21307251403	B398MW3-3Q13	W	SW-846 8015C Modified Water
21307251404	B398MW4-3Q13	W	SW-846 8260B
21307251404	B398MW4-3Q13	W	SW-846 8270D SIM Water
21307251404	B398MW4-3Q13	W	SW-846 3510C SIM Prep Water
21307251404	B398MW4-3Q13	W	Total Hydrocarbons Diesel Water
21307251404	B398MW4-3Q13	W	Total Hydrocarbons Diesel Water Prep
21307251404	B398MW4-3Q13	W	SW-846 8015C Modified Water
21307251405	DUP1072413	W	SW-846 8260B
21307251405	DUP1072413	W	SW-846 8270D SIM Water
21307251405	DUP1072413	W	SW-846 3510C SIM Prep Water
21307251405	DUP1072413	W	Total Hydrocarbons Diesel Water
21307251405	DUP1072413	W	Total Hydrocarbons Diesel Water Prep
21307251405	DUP1072413	W	SW-846 8015C Modified Water
21307251406	B398MW5-3Q13	W	SW-846 8260B
21307251406	B398MW5-3Q13	W	SW-846 8270D SIM Water
21307251406	B398MW5-3Q13	W	SW-846 3510C SIM Prep Water
21307251406	B398MW5-3Q13	W	Total Hydrocarbons Diesel Water
21307251406	B398MW5-3Q13	W	Total Hydrocarbons Diesel Water Prep
21307251406	B398MW5-3Q13	W	SW-846 8015C Modified Water
21307251407	B398MW6-3Q13	W	SW-846 8260B
21307251407	B398MW6-3Q13	W	SW-846 8270D SIM Water
21307251407	B398MW6-3Q13	W	SW-846 3510C SIM Prep Water
21307251407	B398MW6-3Q13	W	Total Hydrocarbons Diesel Water
21307251407	B398MW6-3Q13	W	Total Hydrocarbons Diesel Water Prep
21307251407	B398MW6-3Q13	W	SW-846 8015C Modified Water
21307251408	B398MW7-3Q13	W	SW-846 8260B
21307251408	B398MW7-3Q13	W	SW-846 8270D SIM Water
21307251408	B398MW7-3Q13	W	SW-846 3510C SIM Prep Water
21307251408	B398MW7-3Q13	W	Total Hydrocarbons Diesel Water
21307251408	B398MW7-3Q13	W	Total Hydrocarbons Diesel Water Prep
21307251408	B398MW7-3Q13	W	SW-846 8015C Modified Water
21307251409	B398MW8-3Q13	W	SW-846 8260B

21307251409	B398MW8-3Q13	W	SW-846 8270D SIM Water	
21307251409	B398MW8-3Q13	W	SW-846 3510C SIM Prep Water	
21307251409	B398MW8-3Q13	W	Total Hydrocarbons Diesel Water	
21307251409	B398MW8-3Q13	W	Total Hydrocarbons Diesel Water Prep	
21307251409	B398MW8-3Q13	W	SW-846 8015C Modified Water	
21307251410	B398MW10-3Q13	W	SW-846 8260B	
21307251410	B398MW10-3Q13	W	SW-846 8270D SIM Water	
21307251410	B398MW10-3Q13	W	SW-846 3510C SIM Prep Water	
21307251410	B398MW10-3Q13	W	Total Hydrocarbons Diesel Water	
21307251410	B398MW10-3Q13	W	Total Hydrocarbons Diesel Water Prep	
21307251410	B398MW10-3Q13	W	SW-846 8015C Modified Water	
21307251411	B398MW11-3Q13	W	SW-846 8260B	
21307251411	B398MW11-3Q13	W	SW-846 8270D SIM Water	
21307251411	B398MW11-3Q13	W	SW-846 3510C SIM Prep Water	
21307251411	B398MW11-3Q13	W	Total Hydrocarbons Diesel Water	
21307251411	B398MW11-3Q13	W	Total Hydrocarbons Diesel Water Prep	
21307251411	B398MW11-3Q13	W	SW-846 8015C Modified Water	
21307251412	B398MW12-3Q13	W	SW-846 8260B	
21307251412	B398MW12-3Q13	W	SW-846 8270D SIM Water	
21307251412	B398MW12-3Q13	W	SW-846 3510C SIM Prep Water	
21307251412	B398MW12-3Q13	W	Total Hydrocarbons Diesel Water	
21307251412	B398MW12-3Q13	W	Total Hydrocarbons Diesel Water Prep	
21307251412	B398MW12-3Q13	W	SW-846 8015C Modified Water	
21307251413	TRIP BLANK	W	SW-846 8260B	
21307251413	TRIP BLANK	W	SW-846 8015C Modified Water	

Manual Integrations: 213072514

Lab Sample ID	Cust. Sample ID	Prod. Desc.	Compound	Comp. Name	
21307251401	B398PW1-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251402	B398MW2-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251403	B398MW3-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251404	B398MW4-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251405	DUP1072413	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251406	B398MW5-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251407	B398MW6-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251407	B398MW6-3Q13	SW-846 8270D SIM	91-57-6	2-Methylnaphthalene	
21307251408	B398MW7-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251409	B398MW8-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251410	B398MW10-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251411	B398MW11-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307251412	B398MW12-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND	Indicates the result was Not Detected at the specified RDL
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
RDL	Reporting Detection Limit
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J	Indicates the result is between the MDL and RDL
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Authorized Signature
GCAL REPORT 213072514

THIS REPORT CONTAINS 198 PAGES.

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21307251401	B398PW1-3Q13	Water	07/24/2013 12:49	07/25/2013 09:55
21307251402	B398MW2-3Q13	Water	07/24/2013 15:48	07/25/2013 09:55
21307251403	B398MW3-3Q13	Water	07/24/2013 09:30	07/25/2013 09:55
21307251404	B398MW4-3Q13	Water	07/24/2013 10:39	07/25/2013 09:55
21307251405	DUP1072413	Water	07/24/2013 00:00	07/25/2013 09:55
21307251406	B398MW5-3Q13	Water	07/24/2013 12:22	07/25/2013 09:55
21307251407	B398MW6-3Q13	Water	07/24/2013 14:57	07/25/2013 09:55
21307251408	B398MW7-3Q13	Water	07/24/2013 11:31	07/25/2013 09:55
21307251409	B398MW8-3Q13	Water	07/24/2013 14:48	07/25/2013 09:55
21307251410	B398MW10-3Q13	Water	07/24/2013 11:19	07/25/2013 09:55
21307251411	B398MW11-3Q13	Water	07/24/2013 09:41	07/25/2013 09:55
21307251412	B398MW12-3Q13	Water	07/24/2013 12:51	07/25/2013 09:55
21307251413	TRIP BLANK	Water	07/24/2013 00:00	07/25/2013 09:55

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398PW1-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307251401

Level: (low/med) Lab File ID: 2130726/j8439

% Moisture: not dec. Date Collected: 07/24/13 Time: 1249

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/25/13

Instrument ID: MSV12 Date Analyzed: 07/26/13 Time: 2248

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW2-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307251402

Level: (low/med) Lab File ID: 2130726/j8440

% Moisture: not dec. Date Collected: 07/24/13 Time: 1548

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/25/13

Instrument ID: MSV12 Date Analyzed: 07/26/13 Time: 2310

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW3-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 21307251403

Level: (low/med)

Lab File ID: 2130726/j8441

% Moisture: not dec.

Date Collected: 07/24/13 Time: 0930

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 07/25/13

Instrument ID: MSV12

Date Analyzed: 07/26/13 Time: 2331

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW4-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 21307251404

Level: (low/med)

Lab File ID: 2130726/j8442

% Moisture: not dec.

Date Collected: 07/24/13 Time: 1039

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 07/25/13

Instrument ID: MSV12

Date Analyzed: 07/26/13 Time: 2353

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DUP1072413

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 21307251405

Level: (low/med)

Lab File ID: 2130726/j8436

% Moisture: not dec.

Date Collected: 07/24/13 Time: 0000

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 07/25/13

Instrument ID: MSV12

Date Analyzed: 07/26/13 Time: 2143

Soil Extract Volume: (µL)

Dilution Factor: 25 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	499		2.78	25.0
100-41-4	Ethylbenzene	1850		2.73	25.0
108-88-3	Toluene	3900		3.05	25.0
1330-20-7	Xylene (total)	7440		4.47	75.0
1634-04-4	tert-Butyl methyl ether (MTBE)	1.94	U	1.94	25.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW5-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307251406

Level: (low/med) Lab File ID: 2130726/j8437

% Moisture: not dec. Date Collected: 07/24/13 Time: 1222

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/25/13

Instrument ID: MSV12 Date Analyzed: 07/26/13 Time: 2205

Soil Extract Volume: (µL) Dilution Factor: 25 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	504		2.78	25.0
100-41-4	Ethylbenzene	1870		2.73	25.0
108-88-3	Toluene	3930		3.05	25.0
1330-20-7	Xylene (total)	7650		4.47	75.0
1634-04-4	tert-Butyl methyl ether (MTBE)	1.94	U	1.94	25.0

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW6-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 21307251407

Level: (low/med)

Lab File ID: 2130726/j8443

% Moisture: not dec.

Date Collected: 07/24/13 Time: 1457

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 07/25/13

Instrument ID: MSV12

Date Analyzed: 07/27/13 Time: 0015

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW7-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 21307251408

Level: (low/med)

Lab File ID: 2130730/f0213

% Moisture: not dec.

Date Collected: 07/24/13 Time: 1131

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 07/25/13

Instrument ID: MSV7

Date Analyzed: 07/30/13 Time: 2328

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: AMD

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 512784

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW8-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307251409

Level: (low/med) Lab File ID: 2130730/f0214

% Moisture: not dec. Date Collected: 07/24/13 Time: 1448

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/25/13

Instrument ID: MSV7 Date Analyzed: 07/30/13 Time: 2348

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: AMD

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512784

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.490	J	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW10-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307251410

Level: (low/med) Lab File ID: 2130730/f0215

% Moisture: not dec. Date Collected: 07/24/13 Time: 1119

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/25/13

Instrument ID: MSV7 Date Analyzed: 07/31/13 Time: 0008

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: AMD

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512784

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	1.26		0.111	1.00
100-41-4	Ethylbenzene	1.47		0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW11-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307251411

Level: (low/med) Lab File ID: 2130730/f0216

% Moisture: not dec. Date Collected: 07/24/13 Time: 0941

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/25/13

Instrument ID: MSV7 Date Analyzed: 07/31/13 Time: 0028

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: AMD

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512784

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	10.9		0.078	1.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW12-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307251412

Level: (low/med) Lab File ID: 2130730/f0217

% Moisture: not dec. Date Collected: 07/24/13 Time: 1251

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/25/13

Instrument ID: MSV7 Date Analyzed: 07/31/13 Time: 0048

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: AMD

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512784

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	23.5		0.111	1.00
100-41-4	Ethylbenzene	7.71		0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.929	J	0.078	1.00

FORM I VOA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TRIP BLANK

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307251413

Level: (low/med) Lab File ID: 2130730/f0218

% Moisture: not dec. Date Collected: 07/24/13 Time: 0000

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/25/13

Instrument ID: MSV7 Date Analyzed: 07/31/13 Time: 0107

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: AMD

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512784

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1217861

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1217861

Level: (low/med) Lab File ID: 2130726/j8425

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV12 Date Analyzed: 07/26/13 Time: 1739

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512539

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
71-43-2	Benzene	0.111	U	0.111	1.00
79-01-6	Trichloroethene	0.161	U	0.161	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
108-90-7	Chlorobenzene	0.083	U	0.083	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1219067

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1219067

Level: (low/med) Lab File ID: 2130730/f0204

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV7 Date Analyzed: 07/30/13 Time: 2027

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CEK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512784

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
71-43-2	Benzene	0.111	U	0.111	1.00
79-01-6	Trichloroethene	0.161	U	0.161	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
108-90-7	Chlorobenzene	0.083	U	0.083	1.00

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Method: SW-846 8260B

	SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	TOT OUT
1.	B398PW1-3Q13	109		101		104		100		0
2.	B398MW10-3Q13	100		97		102		99		0
3.	B398MW11-3Q13	100		98		103		101		0
4.	B398MW12-3Q13	99		97		100		98		0
5.	TRIP BLANK	98		98		100		99		0
6.	LCS1217862	111		102		103		100		0
7.	LCS1219068	101		101		99		102		0
8.	LCSD1217863	113		100		102		100		0
9.	LCSD1219069	101		99		101		98		0
10.	MB1217861	111		102		105		101		0
11.	MB1219067	98		97		102		100		0
12.	B398MW2-3Q13	110		100		103		98		0
13.	B398MW3-3Q13	108		101		103		98		0
14.	B398MW4-3Q13	110		101		106		99		0
15.	DUP1072413	114		98		103		97		0
16.	B398MW5-3Q13	112		99		101		100		0
17.	B398MW6-3Q13	108		101		104		98		0
18.	B398MW7-3Q13	99		97		102		100		0
19.	B398MW8-3Q13	99		98		100		101		0

		QC LIMITS
SMC 1	4-Bromofluorobenzene	75 - 120
SMC 2	Dibromofluoromethane	85 - 115
SMC 3	Toluene-d8	85 - 120
SMC 4	1,2-Dichloroethane-d4	70 - 120

Column to be used to flag recovery values

* Values outside of contract required QC limits

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Analytical Batch: 512784

SAMPLE NO. : 1219068

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	#	QC. LIMITS
1,1-Dichloroethene	ug/L	50	0	54.7	109		70 - 130
Benzene	ug/L	50	0	53	106		80 - 120
Chlorobenzene	ug/L	50	0	53.6	107		80 - 120
Ethylbenzene	ug/L	50	0	54.5	109		75 - 125
Toluene	ug/L	50	0	53.1	106		75 - 120
Trichloroethene	ug/L	50	0	55.9	112		70 - 125
Xylene (total)	ug/L	150	0	162	108		75 - 130
tert-Butyl methyl ether (MTBE)	ug/L	50	0	54.8	110		65 - 125

SAMPLE NO. : 1219069

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1-Dichloroethene	ug/L	50	53.3	107		3		70 - 130	0 - 30
Benzene	ug/L	50	51.2	102		3		80 - 120	0 - 30
Chlorobenzene	ug/L	50	50.6	101		6		80 - 120	0 - 30
Ethylbenzene	ug/L	50	53.6	107		2		75 - 125	0 - 30
Toluene	ug/L	50	51.5	103		3		75 - 120	0 - 30
Trichloroethene	ug/L	50	50.5	101		10		70 - 125	0 - 30
Xylene (total)	ug/L	150	157	105		3		75 - 130	0 - 30
tert-Butyl methyl ether (MTBE)	ug/L	50	51	102		7		65 - 125	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 8 outside limits

Spike Recovery: 0 out of 16 outside limits

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Analytical Batch: 512539

SAMPLE NO. : 1217862

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	#	QC. LIMITS
1,1-Dichloroethene	ug/L	50	0	48.6	97		70 - 130
Benzene	ug/L	50	0	46.2	92		80 - 120
Chlorobenzene	ug/L	50	0	47.3	95		80 - 120
Ethylbenzene	ug/L	50	0	47.2	94		75 - 125
Toluene	ug/L	50	0	47.2	94		75 - 120
Trichloroethene	ug/L	50	0	48.6	97		70 - 125
Xylene (total)	ug/L	150	0	143	95		75 - 130
tert-Butyl methyl ether (MTBE)	ug/L	50	0	47.9	96		65 - 125

SAMPLE NO. : 1217863

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1-Dichloroethene	ug/L	50	46.1	92		5		70 - 130	0 - 30
Benzene	ug/L	50	45.9	92		.7		80 - 120	0 - 30
Chlorobenzene	ug/L	50	46.7	93		1		80 - 120	0 - 30
Ethylbenzene	ug/L	50	47.1	94		.2		75 - 125	0 - 30
Toluene	ug/L	50	46	92		3		75 - 120	0 - 30
Trichloroethene	ug/L	50	48.4	97		.4		70 - 125	0 - 30
Xylene (total)	ug/L	150	140	93		2		75 - 130	0 - 30
tert-Butyl methyl ether (MTBE)	ug/L	50	46.2	92		4		65 - 125	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 8 outside limits

Spike Recovery: 0 out of 16 outside limits

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1217861

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Lab File ID: 2130726/j8425

Lab Sample ID: 1217861 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 07/26/13 Time: 1739

Instrument ID: MSV12 Matrix: Water

Heated Purge: N

Level:

Prep Batch: Analytical Batch: 512539

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1217862	1217862	2130726/j8419L	07/26/13	1411
2.	LCS1217864	1217864	2130726/j8421L	07/26/13	1520
3.	LCSD1217865	1217865	2130726/j8422	07/26/13	1551
4.	LCSD1217863	1217863	2130726/j8423	07/26/13	1635
5.	DUP1072413	21307251405	2130726/j8436	07/26/13	2143
6.	B398MW5-3Q13	21307251406	2130726/j8437	07/26/13	2205
7.	B398PW1-3Q13	21307251401	2130726/j8439	07/26/13	2248
8.	B398MW2-3Q13	21307251402	2130726/j8440	07/26/13	2310
9.	B398MW3-3Q13	21307251403	2130726/j8441	07/26/13	2331
10.	B398MW4-3Q13	21307251404	2130726/j8442	07/26/13	2353
11.	B398MW6-3Q13	21307251407	2130726/j8443	07/27/13	0015

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1219067

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Lab File ID: 2130730/f0204

Lab Sample ID: 1219067 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 07/30/13 Time: 2027

Instrument ID: MSV7 Matrix: Water

Heated Purge: N

Level:

Prep Batch: Analytical Batch: 512784

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1219068	1219068	2130730/f0200	07/30/13	1907
2.	LCSD1219069	1219069	2130730/f0201	07/30/13	1927
3.	B398MW7-3Q13	21307251408	2130730/f0213	07/30/13	2328
4.	B398MW8-3Q13	21307251409	2130730/f0214	07/30/13	2348
5.	B398MW10-3Q13	21307251410	2130730/f0215	07/31/13	0008
6.	B398MW11-3Q13	21307251411	2130730/f0216	07/31/13	0028
7.	B398MW12-3Q13	21307251412	2130730/f0217	07/31/13	0048
8.	TRIP BLANK	21307251413	2130730/f0218	07/31/13	0107

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Lab File ID: 2130730/f0189d

BFB Injection Date: 07/30/13

Instrument ID: MSV7

BFB Injection Time: 1415

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512784

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	15.41	(	)	
75	30.0 - 60.0% of mass 95	45.89	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.56	(	)	
173	Less than 2.0% of mass 174	.98	(.87	)	1
174	50.0 - 120.0% of mass 95	113.7	(	)	
175	5.0 - 9.0% of mass 174	8.49	(7.47	)	1
176	95.0 - 101.0% of mass 174	108.9	(95.74	)	1
177	5.0 - 9.0% of mass 176	6.79	(6.24	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V7STD001	1203	2130730/f0191d	07/30/13	1602
2.	V7STD005	1204	2130730/f0192d	07/30/13	1624
3.	V7STD010	1205	2130730/f0193d	07/30/13	1644
4.	V7STD020	1206	2130730/f0194d	07/30/13	1704
5.	V7STD050	1207	2130730/f0195d	07/30/13	1724
6.	V7STD100	1208	2130730/f0196d	07/30/13	1744
7.	V7STD200	1209	2130730/f0197d	07/30/13	1804
8.	ICV050	1600	2130730/f0199d	07/30/13	1844
9.	LCS1219068	1219068	2130730/f0200	07/30/13	1907
10.	LCSD1219069	1219069	2130730/f0201	07/30/13	1927
11.	MB1219067	1219067	2130730/f0204	07/30/13	2027
12.	B398MW7-3Q13	21307251408	2130730/f0213	07/30/13	2328
13.	B398MW8-3Q13	21307251409	2130730/f0214	07/30/13	2348
14.	B398MW10-3Q13	21307251410	2130730/f0215	07/31/13	0008
15.	B398MW11-3Q13	21307251411	2130730/f0216	07/31/13	0028
16.	B398MW12-3Q13	21307251412	2130730/f0217	07/31/13	0048

FORM V VOA

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Lab File ID: 2130730/f0189d BFB Injection Date: 07/30/13

Instrument ID: MSV7 BFB Injection Time: 1415

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512784

17.	TRIP BLANK	21307251413	2130730/f0218	07/31/13	0107

FORM V VOA

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Lab File ID: 2130721p/j8199

BFB Injection Date: 07/21/13

Instrument ID: MSV12

BFB Injection Time: 1721

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512123

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	15.85	(	)	
75	30.0 - 60.0% of mass 95	45.72	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.79	(	)	
173	Less than 2.0% of mass 174	1.04	(.96	)	1
174	50.0 - 120.0% of mass 95	109	(	)	
175	5.0 - 9.0% of mass 174	8.17	(7.5	)	1
176	95.0 - 101.0% of mass 174	106.0	(97.29	)	1
177	5.0 - 9.0% of mass 176	6.66	(6.29	)	2

1- Value is % mass 174

2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V12STD001	1203	2130721p/j8200	07/21/13	1818
2.	V12STD005	1204	2130721p/j8201	07/21/13	1840
3.	V12STD010	1205	2130721p/j8202	07/21/13	1902
4.	V12STD020	1206	2130721p/j8203	07/21/13	1923
5.	V12STD050	1207	2130721p/j8204	07/21/13	1945
6.	V12STD100	1208	2130721p/j8205	07/21/13	2006
7.	V12STD200	1209	2130721p/j8206	07/21/13	2028
8.	ICV050	1600	2130721p/j8208	07/21/13	2111
9.	APP9050	1400	2130721p/j8212	07/21/13	2310

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Lab File ID: 2130726/j8415

BFB Injection Date: 07/26/13

Instrument ID: MSV12

BFB Injection Time: 1222

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512539

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	16.48	(	)	
75	30.0 - 60.0% of mass 95	46.44	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.6	(	)	
173	Less than 2.0% of mass 174	1.09	(.93	)	1
174	50.0 - 120.0% of mass 95	118.0	(	)	
175	5.0 - 9.0% of mass 174	8.99	(7.62	)	1
176	95.0 - 101.0% of mass 174	116.0	(98.29	)	1
177	5.0 - 9.0% of mass 176	7.63	(6.58	)	2

1- Value is % mass 174

2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V12STD050	1400	2130726/j8419	07/26/13	1411
2.	LCS1217862	1217862	2130726/j8419L	07/26/13	1411
3.	V12A9STD	1400	2130726/j8421	07/26/13	1520
4.	LCS1217864	1217864	2130726/j8421L	07/26/13	1520
5.	LCSD1217865	1217865	2130726/j8422	07/26/13	1551
6.	LCSD1217863	1217863	2130726/j8423	07/26/13	1635
7.	MB1217861	1217861	2130726/j8425	07/26/13	1739
8.	DUP1072413	21307251405	2130726/j8436	07/26/13	2143
9.	B398MW5-3Q13	21307251406	2130726/j8437	07/26/13	2205
10.	B398PW1-3Q13	21307251401	2130726/j8439	07/26/13	2248
11.	B398MW2-3Q13	21307251402	2130726/j8440	07/26/13	2310
12.	B398MW3-3Q13	21307251403	2130726/j8441	07/26/13	2331
13.	B398MW4-3Q13	21307251404	2130726/j8442	07/26/13	2353
14.	B398MW6-3Q13	21307251407	2130726/j8443	07/27/13	0015

FORM V VOA

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-JUL-2013 16:02
End Cal Date : 30-JUL-2013 18:04
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Calibration File Names:
Level 3: /var/chem/msv7.i/2130730.s.b/f0191d.d
Level 4: /var/chem/msv7.i/2130730.s.b/f0192d.d
Level 5: /var/chem/msv7.i/2130730.s.b/f0193d.d
Level 6: /var/chem/msv7.i/2130730.s.b/f0194d.d
Level 7: /var/chem/msv7.i/2130730.s.b/f0195d.d
Level 8: /var/chem/msv7.i/2130730.s.b/f0196d.d
Level 9: /var/chem/msv7.i/2130730.s.b/f0197d.d

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
1 Dichlorodifluoromethane	0.36351	0.29868	0.29600	0.27881	0.35277	0.37767						
	0.36396						AVRG		0.33306		12.10936	
2 Chloromethane ++	0.26306	0.21249	0.21878	0.21021	0.23511	0.22646						
	0.22424						AVRG		0.22719		7.90257	
3 Vinyl Chloride +	0.20599	0.18316	0.19648	0.18870	0.22548	0.23003						
	0.22407						AVRG		0.20770		9.16755	
5 1-3 Butadiene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-JUL-2013 16:02
End Cal Date : 30-JUL-2013 18:04
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
6 Bromomethane	0.12287	0.10880	0.11087	0.10616	0.11858	0.12864						
	0.13044						AVRG		0.11805		8.23860	
7 Chloroethane	0.11823	0.10897	0.11733	0.11418	0.12364	0.12248						
	0.11472						AVRG		0.11708		4.31527	
8 Trichlorofluoromethane	2677	14410	27297	50426	168950	371515						
	766236						LINR	0.05003	0.39894		0.99900	
4 2-Chloropropene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
10 1,1-Dichloroethene +	0.26635	0.21159	0.24387	0.22002	0.25917	0.27424						
	0.26915						AVRG		0.24920		9.98204	
12 1,1,2Trichlotrifluoroethane	0.24257	0.23511	0.22156	0.21562	0.26608	0.28184						
	0.27400						AVRG		0.24811		10.52422	
11 Carbon Disulfide	0.81343	0.57679	0.58870	0.56542	0.68740	0.71848						
	0.70097						AVRG		0.66446		13.76656	

2130725 4 3

GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
163 Ethanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
13 Methyl Iodide	2712	12292	25816	53721	179316	371792						
	769487						LINR	0.04339	0.40033		0.99945	
9 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
14 Acrolein	535	4428	8251	18689	57157	93249						
	232808						LINR	0.26416	0.02368		0.99353	
16 Methylene Chloride	4094	13352	24729	49738	131708	264578						
	525723						LINR	-0.02068	0.27099		0.99931	
17 Acetone	0.15673	0.12815	0.14808	0.14820	0.14825	0.14292						
	0.13959						AVRG		0.14456		6.21383	
18 trans-1,2-Dichloroethene	0.35060	0.27989	0.29897	0.28695	0.32649	0.33538						
	0.32961						AVRG		0.31541		8.49119	

2130730145 3

GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
19 Methyl Acetate	0.14439	0.14988	0.15808	0.15318	0.15696	0.15426						
	0.15349						AVRG		0.15289		3.01082	
20 Hexane	0.34222	0.31137	0.32522	0.31943	0.39515	0.41422						
	0.40403						AVRG		0.35881		12.27586	
21 MTBE	0.68116	0.63223	0.69776	0.69497	0.72245	0.73876						
	0.71751						AVRG		0.69783		4.98381	
15 Allyl chloride	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
26 1,1-Dichloroethane ++	0.43825	0.39329	0.41497	0.39593	0.43825	0.45398						
	0.43181						AVRG		0.42378		5.43038	
27 Acrylonitrile	0.08534	0.07285	0.08021	0.08107	0.08155	0.08030						
	0.07935						AVRG		0.08010		4.66216	
22 tert-Butyl Alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

21387251 4 35

GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
28 Vinyl Acetate	0.32648	0.24902	0.26763	0.25475	0.30442	0.28629						
	0.26927						AVRG		0.27970		9.96572	
23 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
24 Isopropyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
29 cis-1,2-Dichloroethene	0.33497	0.29106	0.31989	0.30810	0.33188	0.34083						
	0.33232						AVRG		0.32272		5.48222	
75 Total 1,2-Dichloroethene	0.34279	0.28548	0.30943	0.29753	0.32919	0.33810						
	0.33096						AVRG		0.31907		6.83581	
30 2,2-Dichloropropane	0.38027	0.34806	0.33799	0.32392	0.38801	0.39958						
	0.38471						AVRG		0.36608		7.91937	
25 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

1523 1 9

GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
164 Ethyl Tert-butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
34 Bromochloromethane	0.17236	0.17090	0.18608	0.17604	0.17995	0.17528						
	0.16284						AVRG		0.17478		4.17861	
32 Cyclohexane	0.30644	0.26307	0.26509	0.25700	0.32907	0.35294						
	0.34197						AVRG		0.30223		13.40433	
35 Chloroform +	0.56090	0.47696	0.50368	0.48188	0.52911	0.53310						
	0.51165						AVRG		0.51389		5.78802	
36 Carbon Tetrachloride	0.33531	0.33407	0.34103	0.31932	0.38904	0.41235						
	0.41438						AVRG		0.36364		11.08236	
41 1,1,1-Trichloroethane	0.44222	0.37902	0.40453	0.38672	0.46118	0.47550						
	0.46931						AVRG		0.43121		9.39477	
44 2-Butanone	738	5917	12173	24260	65179	126779						
	267887						LINR	0.00477	0.13742		0.99996	

2130725147

GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
43 1,1-Dichloropropene	0.35038	0.30574	0.30983	0.30047	0.36521	0.38215						
	0.37356						AVRG		0.34105		10.21703	
46 Benzene	1.20208	0.95691	1.02305	0.99569	1.09555	1.11346						
	1.07798						AVRG		1.06639		7.70194	
166 tert-amyl Methyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
51 1,2-Dichloroethane	0.39986	0.34879	0.37180	0.35737	0.37605	0.37929						
	0.36507						AVRG		0.37118		4.45696	
37 Ethyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
42 sec-butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
38 Tetrahydrofuran	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

1427507 2 88

GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
31 Heptane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
55 Methyl Cyclohexane	0.41877	0.33088	0.31987	0.31556	0.40760	0.43238						
	0.41942						AVRG		0.37778		13.96857	
56 Trichloroethene	0.40587	0.32052	0.35211	0.34296	0.37259	0.38769						
	0.37869						AVRG		0.36578		7.93579	
45 2,2,4 Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
167 Tert-amyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
47 Propionitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
48 Methylacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

2130725173

GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
52 Isobutyl Alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
57 Dibromomethane	0.18176	0.18251	0.19506	0.18700	0.19462	0.19346						
	0.18796						AVRG		0.18891		2.96074	
59 1,2-Dichloropropane +	0.22683	0.22952	0.23325	0.22455	0.24431	0.25035						
	0.24193						AVRG		0.23582		4.15067	
60 Bromodichloromethane	0.38050	0.34449	0.37776	0.36483	0.39986	0.41346						
	0.39748						AVRG		0.38262		6.09923	
165 Tert-butyl formate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
33 n-Butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
65 1-Bromo-2-chloroethane	0.34120	0.32213	0.34345	0.33717	0.34975	0.35014						
	0.33959						AVRG		0.34049		2.77915	

2130730S1 40

GCAL, Inc.

INITIAL CALIBRATION DATA

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
67 cis-1,3-Dichloropropene	0.39273	0.36398	0.39319	0.40382	0.45857	0.46721						
	0.45060						AVRG		0.41858		9.50673	
58 2-3 Dichloro-1-Proprene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
69 Toluene +	3.51568	2.87778	3.01143	2.86872	3.12284	3.15499						
	3.09049						AVRG		3.09170		7.06993	
61 Methyl methacrylate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
62 1,4- Dioxane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
73 4-methyl-2-pentanone	1356	7875	17375	37532	103955	207720						
	441335						LINR	0.02479	0.22730		0.99995	
64 2-Chloroethyl vinyl ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

2130725141

GCAL, Inc.

INITIAL CALIBRATION DATA

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Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
71 Tetrachloroethene	0.63076	0.66690	0.68366	0.65138	0.74592	0.76033						
	0.74786						AVRG		0.69812		7.51934	
74 trans-1,3-Dichloropropene	0.35536	0.34156	0.38521	0.38969	0.42991	0.44641						
	0.43391						AVRG		0.39743		10.21303	
M 82 1-3 Dichloropropene total	0.37404	0.35277	0.38920	0.39675	0.44424	0.45681						
	0.44225						AVRG		0.40801		9.77932	
76 1,1,2-Trichloroethane	0.66233	0.65724	0.71131	0.70997	0.70590	0.70307						
	0.67655						AVRG		0.68948		3.39887	
78 Dibromochloromethane	0.83256	0.80066	0.86878	0.85306	0.90511	0.92089						
	0.91865						AVRG		0.87139		5.27456	
79 1,3-Dichloropropane	1.16344	1.03810	1.10465	1.07645	1.11386	1.10345						
	1.07041						AVRG		1.09577		3.60955	
81 2-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

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GCAL, Inc.

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Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
80 1,2-Dibromoethane(EDB)	0.75590	0.67958	0.74578	0.75852	0.75949	0.75337						
	0.74754						AVRG		0.74288		3.82229	
83 2-Hexanone	782	7008	14408	31422	88744	180839						
	389830						LINR	0.03704	0.48647		0.99971	
77 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
86 1-Chlorohexane	3403	12718	25373	49761	163086	344392						
	707141						LINR	0.03808	0.36766		0.99931	
85 Chlorobenzene ++	2.44948	2.08813	2.16433	2.10065	2.24613	2.21957						
	2.15064						AVRG		2.20270		5.58473	
87 Ethylbenzene +	1.12116	1.03794	1.04697	1.02019	1.13928	1.15137						
	1.12502						AVRG		1.09170		4.99017	
88 1,1,1,2-Tetrachloroethane	0.77957	0.74670	0.77536	0.74015	0.80886	0.82353						
	0.79236						AVRG		0.78093		3.90964	

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GCAL, Inc.

INITIAL CALIBRATION DATA

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Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
89 p,m-Xylene	1.56859	1.21635	1.28308	1.26417	1.39724	1.39296						
	1.37007						AVRG		1.35606		8.60564	
70 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
168 3,3 Dimethyl-1-butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
90 o-Xylene	1.43316	1.16794	1.23181	1.22636	1.37197	1.38194						
	1.34746						AVRG		1.30866		7.56889	
121 TOTAL XYLENE	1.18137	0.90007	0.96273	0.94697	1.04948	1.06561						
	1.02888						AVRG		1.01930		9.13849	
91 Styrene	1.83958	1.77486	1.98975	2.03944	2.29265	2.33604						
	2.29577						AVRG		2.08116		11.06240	
92 Bromoform ++	0.84130	0.64628	0.69126	0.68646	0.72353	0.74743						
	0.75501						AVRG		0.72732		8.64341	

2139125414

GCAL, Inc.

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Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
39 1,3-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00<-
93 Isopropylbenzene	2.84124	2.78515	2.93310	2.86879	3.31614	3.42687					
	3.42001						AVRG		3.08447		9.37468
96 Bromobenzene	1.19026	0.96652	1.03654	0.98192	1.03851	1.06071					
	1.02683						AVRG		1.04304		6.99089
97 n-Propylbenzene	2.83577	2.41037	2.51968	2.46350	2.81580	2.92914					
	2.86454						AVRG		2.69126		8.07291
98 1,1,2,2-Tetrachloroethane++	0.69413	0.65540	0.68760	0.65600	0.68696	0.67213					
	0.64467						AVRG		0.67099		2.87191
99 2-Chlorotoluene	1.78408	1.53261	1.63631	1.57525	1.74690	1.79695					
	1.74071						AVRG		1.68754		6.25617
102 1,3,5-Trimethylbenzene	2.00744	1.76930	1.87774	1.88373	2.13523	2.20878					
	2.17066						AVRG		2.00755		8.44219

2130725145

GCAL, Inc.

INITIAL CALIBRATION DATA

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Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
100 1,2,3-Trichloropropane	0.57152	0.53686	0.57099	0.56749	0.57793	0.57181					
	0.56614						AVRG		0.56611		2.37337
101 trans-1,4-Dichloro-2-Butene	231	2227	5799	12061	34394	72660					
	161569						LINR	0.05947	0.15260		0.99916
104 4-Chlorotoluene	1.84396	1.63428	1.68915	1.66068	1.83252	1.87251					
	1.81864						AVRG		1.76454		5.61736
105 tert-butylbenzene	0.99596	0.86999	0.94616	0.92393	1.09007	1.13424					
	1.12924						AVRG		1.01280		10.45643
107 1,2,4-Trimethylbenzene	2.05356	1.73975	1.96571	1.95931	2.18974	2.25739					
	2.19893						AVRG		2.05205		8.81414
108 sec-Butylbenzene	2.37986	2.13961	2.20890	2.17107	2.57433	2.69640					
	2.63410						AVRG		2.40061		9.77192
110 p-Isopropyltoluene	1.97116	1.82310	1.91272	1.91153	2.27591	2.41092					
	2.36540						AVRG		2.09582		11.71663

2130730145

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-JUL-2013 16:02
End Cal Date : 30-JUL-2013 18:04
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
113 1,3-Dichlorobenzene	1.64223	1.35414	1.42722	1.38892	1.48684	1.52994					
	1.46454						AVRG		1.47055		6.53407
49 1,4-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-
115 1,4-Dichlorobenzene	1.88986	1.46165	1.50421	1.43881	1.54157	1.55887					
	1.49055						AVRG		1.55507		9.86734
117 n-Butylbenzene	1.69119	1.41792	1.46574	1.43046	1.79193	1.89699					
	1.85496						AVRG		1.64988		12.63790
118 1,2-Dichlorobenzene	1.66540	1.33864	1.41735	1.36099	1.47536	1.49031					
	1.42860						AVRG		1.45381		7.45148
103 Cyclohexanone	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-
54 1,2-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-JUL-2013 16:02
End Cal Date : 30-JUL-2013 18:04
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
94 2-methylnapthalene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
106 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
109 Dicyclopentadiene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
63 Methyldisulfide	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
66 3-ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
119 1,2-Dibromo-3-Chloropropane	0.14141	0.17521	0.18609	0.18178	0.18989	0.19859						
	0.19582						AVRG		0.18125		10.64881	
111 1-4 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

2130730 48

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-JUL-2013 16:02
End Cal Date : 30-JUL-2013 18:04
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
120 Hexachlorobutadiene	2486	8578	15219	30363	98835	205015						
	411922						LINR	0.01730	0.39266		0.99891	
122 1,2,4-Trichlorobenzene	5216	18749	36643	72051	211974	449182						
	910223						LINR	0.01491	0.86457		0.99931	
124 Naphthalene	1.93226	1.39666	1.51600	1.60993	1.75558	1.89173						
	1.92013						AVRG		1.71747		12.44474	
125 1,2,3-Trichlorobenzene	0.94547	0.66535	0.65593	0.65510	0.70683	0.74522						
	0.72040						AVRG		0.72776		14.02747	
72 2-ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
116 1-2 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
112 1-3 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

2130725149

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 30-JUL-2013 16:02
End Cal Date : 30-JUL-2013 18:04
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Cal Date : 30-Jul-2013 23:25 cek

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
123 Benzal Chloride	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
M 126 Total Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	++++-						AVRG		0.000e+00		0.000e+00	<-
S 40 Dibromofluoromethane	0.27019	0.27408	0.27585	0.27534	0.27605	0.27724						
	0.27348						AVRG		0.27460		0.84311	
50 1,2-Dichloroethane-d4	0.13560	0.13372	0.13640	0.13348	0.13601	0.13565						
	0.13371						AVRG		0.13494		0.92560	
68 Toluene-d8	2.46304	2.52553	2.50303	2.51939	2.46258	2.49187						
	2.45300						AVRG		2.48835		1.17482	
95 Bromofluorobenzene	1.04058	1.07020	1.06557	1.04821	1.06994	1.06709						
	1.07175						AVRG		1.06191		1.16170	

2135972514 58

Report Date: 30-Jul-2013 23:25

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: 1600
Level: LOW
Data Type: MS DATA
SpikeList File: ICV.spk
Sublist File: 8260b.sub
Method File: /var/chem/msv7.i/2130730.s.b/8260DODw7.m
Misc Info: MSV~28176~*1*CEK

Client SDG: 2130730.s
Fraction: VOA
Client Smp ID: ICV050
Operator: CEK
SampleType: ICV
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 Dichlorodifluoromethane	50.0	57.1	114.26	80-120
2 Chloromethane ++	50.0	53.9	107.80	80-120
3 Vinyl Chloride +	50.0	58.2	116.49	80-120
6 Bromomethane	50.0	55.2	110.46	80-120
7 Chloroethane	50.0	52.8	105.69	80-120
8 Trichlorofluoromethane	50.0	53.9	107.77	80-120
10 1,1-Dichloroethene +	50.0	52.9	105.89	80-120
11 Carbon Disulfide	50.0	54.5	108.93	80-120
12 1,1,2Trichlotrifluoroethane	50.0	57.2	114.43	80-120
13 Methyl Iodide	50.0	47.1	94.12	80-120
14 Acrolein	250	255	101.82	80-120
16 Methylene Chloride	50.0	49.1	98.21	80-120
17 Acetone	50.0	50.2	100.45	80-120
18 trans-1,2-Dichloroethene	50.0	51.6	103.23	80-120
19 Methyl Acetate	50.0	49.7	99.47	80-120
20 Hexane	50.0	56.4	112.86	80-120
21 MTBE	50.0	50.6	101.12	80-120
26 1,1-Dichloroethane ++	50.0	52.0	103.99	80-120
27 Acrylonitrile	250	244	97.65	80-120
28 Vinyl Acetate	50.0	46.5	93.05	80-120
29 cis-1,2-Dichloroethene	50.0	50.7	101.40	80-120
30 2,2-Dichloropropane	50.0	50.8	101.60	80-120
32 Cyclohexane	50.0	57.1	114.16	80-120
34 Bromochloromethane	50.0	48.6	97.17	80-120
35 Chloroform +	50.0	50.9	101.85	80-120
36 Carbon Tetrachloride	50.0	55.1	110.29	80-120
41 1,1,1-Trichloroethane	50.0	53.2	106.39	80-120
43 1,1-Dichloropropene	50.0	53.1	106.13	80-120
44 2-Butanone	50.0	54.2	108.46	80-120
46 Benzene	50.0	50.2	100.48	80-120
51 1,2-Dichloroethane	50.0	49.4	98.86	80-120
55 Methyl Cyclohexane	50.0	56.3	112.51	80-120
56 Trichloroethene	50.0	51.8	103.61	80-120

SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
57	Dibromomethane	50.0	52.9	105.73	80-120
59	1,2-Dichloropropane +	50.0	52.8	105.69	80-120
60	Bromodichloromethane	50.0	53.5	106.99	80-120
64	2-Chloroethyl vinyl ether	50.0	0.00	*	80-120 NT
67	cis-1,3-Dichloropropene	50.0	54.9	109.80	80-120
69	Toluene +	50.0	51.3	102.65	80-120
71	Tetrachloroethene	50.0	55.1	110.28	80-120
73	4-methyl-2-pentanone	50.0	50.9	101.74	80-120
74	trans-1,3-Dichloropropene	50.0	53.7	107.36	80-120
76	1,1,2-Trichloroethane	50.0	53.0	105.92	80-120
78	Dibromochloromethane	50.0	53.2	106.36	80-120
79	1,3-Dichloropropane	50.0	50.9	101.88	80-120
80	1,2-Dibromoethane(EDB)	50.0	51.6	103.24	80-120
83	2-Hexanone	50.0	52.6	105.16	80-120
85	Chlorobenzene ++	50.0	51.5	103.09	80-120
86	1-Chlorohexane	50.0	49.6	99.13	80-120
87	Ethylbenzene +	50.0	53.3	106.56	80-120
88	1,1,1,2-Tetrachloroethane	50.0	53.3	106.58	80-120
89	p,m-Xylene	100	105	104.78	80-120
90	o-Xylene	50.0	53.0	106.04	80-120
91	Styrene	50.0	56.0	112.03	80-120
92	Bromoform ++	50.0	50.2	100.45	80-120
93	Isopropylbenzene	50.0	55.7	111.31	80-120
96	Bromobenzene	50.0	51.0	101.90	80-120
97	n-Propylbenzene	50.0	53.2	106.35	80-120
98	1,1,2,2-Tetrachloroethane++	50.0	50.2	100.44	80-120
99	2-Chlorotoluene	50.0	52.2	104.33	80-120
100	1,2,3-Trichloropropane	50.0	51.2	102.38	80-120
102	1,3,5-Trimethylbenzene	50.0	54.0	108.04	80-120
101	trans-1,4-Dichloro-2-Butene	50.0	52.6	105.27	80-120
104	4-Chlorotoluene	50.0	52.9	105.82	80-120
105	tert-butylbenzene	50.0	55.1	110.17	80-120
107	1,2,4-Trimethylbenzene	50.0	54.7	109.35	80-120
108	sec-Butylbenzene	50.0	55.0	109.92	80-120
110	p-Isopropyltoluene	50.0	56.7	113.37	80-120
113	1,3-Dichlorobenzene	50.0	51.6	103.28	80-120
115	1,4-Dichlorobenzene	50.0	50.0	99.93	80-120
117	n-Butylbenzene	50.0	56.9	113.80	80-120
118	1,2-Dichlorobenzene	50.0	50.3	100.57	80-120
119	1,2-Dibromo-3-Chloropropane	50.0	53.4	106.89	80-120
120	Hexachlorobutadiene	50.0	52.0	104.06	80-120
122	1,2,4-Trichlorobenzene	50.0	49.6	99.10	80-120
124	Naphthalene	50.0	52.2	104.49	80-120
125	1,2,3-Trichlorobenzene	50.0	49.9	99.87	80-120

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Calibration File Names:
Level 3: /var/chem/msv12.i/2130721p.s.b/j8200.d
Level 4: /var/chem/msv12.i/2130721p.s.b/j8201.d
Level 5: /var/chem/msv12.i/2130721p.s.b/j8202.d
Level 6: /var/chem/msv12.i/2130721p.s.b/j8203.d
Level 7: /var/chem/msv12.i/2130721p.s.b/j8204.d
Level 8: /var/chem/msv12.i/2130721p.s.b/j8205.d
Level 9: /var/chem/msv12.i/2130721p.s.b/j8206.d

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
1 Dichlorodifluoromethane	0.33152	0.32469	0.31949	0.24450	0.33228	0.32037					
	0.32887						AVRG		0.31453		9.94942
2 Chloromethane ++	1350	4166	8166	12523	45107	96944					
	195912						LINR	0.04400	0.19823		0.99895
3 Vinyl Chloride +	0.32578	0.24865	0.26043	0.19726	0.28227	0.27983					
	0.28462						AVRG		0.26840		14.74158
5 1-3 Butadiene	860	3729	6863	12199	27288	53819					
	105747						LINR	-0.05480	0.13580		0.99967

2130721p.s.b/j8200.d

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
6 Bromomethane	3952	4088	7584	13213	42976	94420						
	199093						LINR	0.04933	0.19994		0.99732	
7 Chloroethane	1826	5558	10332	16059	54936	103162						
	+++++						LINR	-0.00816	0.20659		0.99563	
8 Trichlorofluoromethane	0.53688	0.52979	0.54905	0.41891	0.60554	0.59669						
	0.60247						AVRG		0.54848		11.94792	
4 2-Chloropropene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
9 Ethyl Ether	0.29742	0.32864	0.34064	0.31015	0.28270	0.31839						
	0.32406						AVRG		0.31457		6.23938	
168 Ethanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
10 1,1-Dichloroethene +	0.37102	0.29728	0.32468	0.24524	0.34842	0.34095						
	0.33665						AVRG		0.32346		12.72839	

2130721p.s.b/54

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
11 Carbon Disulfide	6981	21353	42800	66993	245579	497241					
	987636						LINR	0.02476	0.99923		0.99921
12 1,1,2Trichlotrifluoroethane	0.31453	0.30307	0.32625	0.24226	0.34980	0.34430					
	0.34213						AVRG		0.31748		11.73153
13 Methyl Iodide	1311	4800	10893	19837	80385	173564					
	359766						LINR	0.08080	0.36643		0.99856
14 Acrolein	0.02485	0.02540	0.01998	0.02109	0.02210	0.02326					
	0.02526						AVRG		0.02313		9.30709
15 Allyl chloride	0.26095	0.24509	0.23444	0.21640	0.22516	0.22990					
	0.22695						AVRG		0.23413		6.29531
16 Methylene Chloride	0.32451	0.28836	0.29739	0.25144	0.29414	0.28957					
	0.29304						AVRG		0.29121		7.35322
17 Acetone	+++++	0.19062	0.18050	0.16745	0.14724	0.14305					
	0.14278						AVRG		0.16194		12.76760

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
18 trans-1,2-Dichloroethene	0.38355	0.30263	0.30212	0.24575	0.32751	0.32957					
	0.33107						AVRG		0.31746		13.11329
19 Methyl Acetate	0.21938	0.25926	0.24179	0.23572	0.21772	0.22766					
	0.24504						AVRG		0.23523		6.33428
20 Hexane	0.24657	0.22964	0.22267	0.17721	0.24383	0.24631					
	0.24166						AVRG		0.22970		10.82228
21 MTBE	0.81722	0.78392	0.80828	0.75036	0.80322	0.80735					
	0.80206						AVRG		0.79606		2.83131
22 tert-Butyl Alcohol	+++++	0.04630	0.04915	0.04580	0.03386	0.04944					
	0.05020						AVRG		0.04579		13.33935
23 Acetonitrile	0.03580	0.03863	0.04001	0.03800	0.02923	0.03838					
	0.03924						AVRG		0.03704		9.94530
24 Isopropyl Ether	0.63273	0.66255	0.67039	0.61000	0.66918	0.69980					
	0.70671						AVRG		0.66448		5.16528

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
26 1,1-Dichloroethane ++	0.51012	0.40155	0.40964	0.34247	0.42114	0.40559					
	0.40806						AVRG		0.41408		11.94839
25 Chloroprene	0.28255	0.31439	0.33672	0.30840	0.30441	0.34518					
	0.35255						AVRG		0.32060		7.83061
27 Acrylonitrile	0.10644	0.11103	0.11413	0.11042	0.11586	0.11259					
	0.11761						AVRG		0.11258		3.30664
28 Vinyl Acetate	0.28564	0.27353	0.26389	0.23948	0.29459	0.27904					
	0.27052						AVRG		0.27239		6.48604
29 cis-1,2-Dichloroethene	0.39183	0.31707	0.31785	0.26960	0.32911	0.32429					
	0.33582						AVRG		0.32651		11.01989
75 Total 1,2-Dichloroethene	0.38769	0.30985	0.30998	0.25768	0.32831	0.32693					
	0.33344						AVRG		0.32198		11.98813
165 Ethyl Tert-butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
30 2,2-Dichloropropane	0.46383	0.36605	0.36446	0.29509	0.39901	0.39639					
	0.40054						AVRG		0.38362		13.30520
32 Cyclohexane	0.30009	0.30746	0.29851	0.23323	0.34188	0.34313					
	0.35329						AVRG		0.31108		13.19566
34 Bromochloromethane	0.13040	0.15199	0.15451	0.13672	0.16164	0.16231					
	0.16636						AVRG		0.15199		8.95624
35 Chloroform +	0.60697	0.47972	0.47409	0.41097	0.49582	0.48840					
	0.49734						AVRG		0.49333		11.79030
36 Carbon Tetrachloride	1509	7160	14302	23930	91290	193933					
	398788						LINR	0.06226	0.40462		0.99883
41 1,1,1-Trichloroethane	0.49037	0.39272	0.40700	0.32900	0.45068	0.44486					
	0.45511						AVRG		0.42425		12.47675
37 Ethyl Acetate	0.36392	0.36642	0.36593	0.34126	0.28402	0.35714					
	0.38732						AVRG		0.35229		9.38168

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
38 Tetrahydrofuran	0.13109	0.13541	0.13369	0.12690	0.09933	0.12898					
	0.14168						AVRG		0.12815		10.60274
42 sec-butanol	+++++	0.03661	0.03616	0.03473	0.02854	0.04081					
	0.04017						AVRG		0.03617		12.23952
44 2-Butanone	0.18116	0.18401	0.18265	0.18485	0.17784	0.17519					
	0.17929						AVRG		0.18071		1.92540
43 1,1-Dichloropropene	0.42560	0.32416	0.31682	0.26016	0.35259	0.35733					
	0.36205						AVRG		0.34267		14.77679
45 2,2,4 Trimethylpentane	0.49832	0.48408	0.46579	0.43163	0.46718	0.48858					
	0.50558						AVRG		0.47731		5.22745
31 Heptane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-
46 Benzene	1.29655	0.98345	0.99786	0.86261	1.07426	1.06502					
	1.09948						AVRG		1.05418		12.61961

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
166 Tert-butyl formate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
47 Propionitrile	0.04456	0.05223	0.05581	0.05254	0.04099	0.05450						
	0.05773						AVRG		0.05119		11.98945	
48 Methylacrylonitrile	0.17256	0.19051	0.18782	0.17223	0.16111	0.20162						
	0.20057						AVRG		0.18377		8.41540	
51 1,2-Dichloroethane	0.35743	0.34839	0.34855	0.31903	0.35771	0.35580						
	0.36560						AVRG		0.35036		4.28835	
52 Isobutyl Alcohol	0.01801	0.01898	0.01809	0.01720	0.01210	0.01784						
	0.01898						AVRG		0.01731		13.77667	
55 Methyl Cyclohexane	0.39311	0.34091	0.33485	0.26599	0.37725	0.37723						
	0.38511						AVRG		0.35349		12.57633	
56 Trichloroethene	0.40691	0.30611	0.32170	0.26750	0.34529	0.35187						
	0.36654						AVRG		0.33799		13.26571	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
167 tert-amyl Methyl Ether	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
39 1,3-difluorobenzene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
57 Dibromomethane	0.19008 0.21165	0.19275	0.20676	0.19058	0.21180	0.20955	AVRG		0.20188		5.06277	
33 n-Butanol	37.00000 60929	1207	2319	4868	8925	28186	QUAD	0.04234	15.68785	-10.32798	0.99345	
59 1,2-Dichloropropane +	0.22406 0.25738	0.22111	0.23593	0.21029	0.24930	0.25208	AVRG		0.23573		7.58242	
60 Bromodichloromethane	0.34107 0.40967	0.34522	0.36245	0.32535	0.38859	0.38879	AVRG		0.36588		8.39068	
58 2-3 Dichloro-1-Proprene	0.35326 0.43585	0.39781	0.39552	0.36713	0.37998	0.43323	AVRG		0.39468		7.93285	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
164 Tert-amyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
49 1,4-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
54 1,2-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
61 Methyl methacrylate	0.28452	0.26922	0.27378	0.25012	0.22568	0.26276						
	0.26943						AVRG		0.26222		7.32511	
62 1,4- Dioxane	253	1333	2672	5308	10283	30590						
	67766						QUAD	0.61487	367	-245	0.99501	<-
65 1-Bromo-2-chloroethane	+++++	0.04650	0.04805	0.04537	0.05120	0.05162						
	0.05310						AVRG		0.04931		6.30131	
64 2-Chloroethyl vinyl ether	0.14930	0.16639	0.18477	0.15748	0.20038	0.17530						
	0.17840						AVRG		0.17315		9.91629	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
67 cis-1,3-Dichloropropene	0.40882	0.37541	0.40448	0.36565	0.44464	0.43872						
	0.45024						AVRG		0.41257		8.15594	
66 3-ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
69 Toluene +	3.79890	3.05668	2.91192	2.39887	3.03891	3.05172						
	2.87576						AVRG		3.01896		13.70857	
81 2-Nitropropane	0.11111	0.12809	0.12272	0.11204	0.09924	0.13016						
	0.12765						AVRG		0.11872		9.70363	
71 Tetrachloroethene	0.83202	0.68630	0.63418	0.51873	0.71930	0.73983						
	0.72692						AVRG		0.69390		14.07500	
73 4-methyl-2-pentanone	0.73151	0.80155	0.80649	0.77204	0.79457	0.80950						
	0.79605						AVRG		0.78739		3.49322	
74 trans-1,3-Dichloropropene	0.35318	0.36932	0.37927	0.35354	0.41430	0.42195						
	0.44616						AVRG		0.39110		9.32735	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
M 82 1-3 Dichloropropene total	0.38100	0.37236	0.39188	0.35960	0.42947	0.43033						
	0.44820						AVRG		0.40183		8.44636	
76 1,1,2-Trichloroethane	0.67615	0.75802	0.73396	0.68092	0.75210	0.75773						
	0.71536						AVRG		0.72489		4.84412	
77 Ethyl Methacrylate	+++++	0.65230	0.66165	0.60328	0.60657	0.65971						
	0.69344						AVRG		0.64616		5.40675	
78 Dibromochloromethane	0.78418	0.86493	0.89691	0.83851	0.95098	0.97258						
	0.95818						AVRG		0.89518		7.83628	
79 1,3-Dichloropropane	1.08571	1.11076	1.08422	1.00194	1.08862	1.10194						
	1.03517						AVRG		1.07262		3.66545	
80 1,2-Dibromoethane(EDB)	0.76913	0.82411	0.84146	0.79064	0.85953	0.85784						
	0.82478						AVRG		0.82393		4.09689	
72 2-ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
70 1-Nitropropane	+++++	0.05329	0.05326	0.04595	0.04018	0.05505						
	0.05315						AVRG		0.05015		11.61526	
112 1-3 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
111 1-4 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
83 2-Hexanone	0.70302	0.69747	0.67331	0.64350	0.65100	0.64373						
	0.60915						AVRG		0.66017		5.03732	
116 1-2 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
86 1-Chlorohexane	2375	7292	14420	23899	88920	167671						
	387191						LINR	0.04134	0.90071		0.99795	
85 Chlorobenzene ++	2.70029	2.12307	2.10160	1.85156	2.20620	2.22684						
	2.25649						AVRG		2.20944		11.54850	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
87 Ethylbenzene +	1.38884	1.08133	1.08022	0.91346	1.15183	1.15691						
	1.16330						AVRG		1.13370		12.52371	
88 1,1,1,2-Tetrachloroethane	0.75892	0.77065	0.74502	0.66914	0.79219	0.78930						
	0.77249						AVRG		0.75682		5.54706	
89 p,m-Xylene	1.66833	1.31510	1.27473	1.08932	1.39413	1.41087						
	1.42483						AVRG		1.36819		12.83796	
63 Methyldisulfide	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
90 o-Xylene	1.57857	1.30619	1.28061	1.11251	1.40244	1.35590						
	1.36218						AVRG		1.34263		10.44206	
121 TOTAL XYLENE	1.63841	1.31213	1.27669	1.09705	1.39690	1.39255						
	1.40395						AVRG		1.35967		12.01927	
91 Styrene	2.53367	2.20438	2.10790	1.87623	2.35295	2.31582						
	2.31098						AVRG		2.24313		9.29391	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
92 Bromoform ++	0.88738	0.77956	0.78656	0.74420	0.88126	0.88355					
	0.88368						AVRG		0.83517		7.45744
93 Isopropylbenzene	3.89134	3.13392	3.05128	2.53799	3.43478	3.37660					
	3.31223						AVRG		3.24831		12.72587
96 Bromobenzene	1.39665	1.08279	1.10082	0.94301	1.09834	1.12885					
	1.15986						AVRG		1.13005		12.03852
97 n-Propylbenzene	9050	31463	64401	108880	384031	797088					
	1732255						LINR	0.01958	3.09858		0.99930
98 1,1,2,2-Tetrachloroethane++	0.97150	0.94077	0.92745	0.85107	0.92529	0.89270					
	0.82166						AVRG		0.90435		5.81965
99 2-Chlorotoluene	2.60539	1.97131	1.97129	1.66707	2.05815	2.07605					
	2.09838						AVRG		2.06395		13.54908
102 1,3,5-Trimethylbenzene	6278	23263	47137	80926	280832	575854					
	1278605						LINR	0.02387	2.28015		0.99951

2130721p.s.b

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
100 1,2,3-Trichloropropane	1.02600	1.02691	0.97675	0.95115	1.02490	1.01540					
	0.96268						AVRG		0.99768		3.30915
101 trans-1,4-Dichloro-2-Butene	0.16489	0.17209	0.17408	0.17782	0.18824	0.18868					
	0.18247						AVRG		0.17832		4.91069
104 4-Chlorotoluene	5424	20141	39291	69953	231886	468180					
	980301						LINR	-0.00953	1.75542		0.99870
103 Cyclohexanone	+++++	2628	4955	9048	15866	44947					
	87416						LINR	0.05925	0.14522		0.99378
105 tert-butylbenzene	3177	12080	23871	40904	141308	292764					
	617181						LINR	0.00457	1.10694		0.99880
107 1,2,4-Trimethylbenzene	6269	23550	46375	82661	275207	563332					
	1183367						LINR	-0.00301	2.12037		0.99882
106 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
108 sec-Butylbenzene	7867	27487	55003	92533	333221	651429					
	1377066						LINR	-0.00697	2.46577		0.99846
110 p-Isopropyltoluene	6963	23481	47469	81815	286978	575473					
	1255720						LINR	0.01146	2.24152		0.99935
109 Dicyclopentadiene	2.36365	2.25350	2.38874	2.18499	2.45169	2.58874					
	2.58736						AVRG		2.40267		6.41377
113 1,3-Dichlorobenzene	2.00502	1.44707	1.48157	1.26567	1.53504	1.50272					
	1.50462						AVRG		1.53453		14.71673
115 1,4-Dichlorobenzene	2.11917	1.57705	1.55947	1.39353	1.56682	1.53819					
	1.56716						AVRG		1.61734		14.23953
117 n-Butylbenzene	6140	20034	37646	65214	231860	463772					
	1008748						LINR	0.00927	1.80088		0.99924
118 1,2-Dichlorobenzene	1.75791	1.42633	1.44027	1.31650	1.53898	1.49486					
	1.46618						AVRG		1.49158		9.13442

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
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Quant Method : ISTD
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Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
94 2-methylnapthalene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
119 1,2-Dibromo-3-Chloropropane	0.20905	0.26375	0.25900	0.27725	0.29012	0.28778						
	0.27545						AVRG		0.26606		10.37189	
163 3,3 Dimethyl-1-Butanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
123 Benzal Chloride	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
120 Hexachlorobutadiene	1813	4623	8367	14172	49859	101324						
	225131						LINR	0.01628	0.40053		0.99935	
122 1,2,4-Trichlorobenzene	3067	9672	18644	37512	117260	245799						
	530414						LINR	0.01253	0.94795		0.99955	
124 Naphthalene	2.91592	2.50115	2.59790	2.63418	2.81825	3.02494						
	2.86981						AVRG		2.76602		6.90399	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
125 1,2,3-Trichlorobenzene	2821	9809	19529	37639	115224	248500						
	536693						LINR	0.01683	0.95925		0.99952	
M 126 Total Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
$ 40 Dibromofluoromethane	0.27624	0.27837	0.27856	0.27861	0.28204	0.28245						
	0.27988						AVRG		0.27945		0.78472	
S 50 1,2-Dichloroethane-d4	0.14306	0.14258	0.14427	0.14325	0.13975	0.14412						
	0.14370						AVRG		0.14296		1.07288	
68 Toluene-d8	2.50964	2.60131	2.56292	2.49160	2.48331	2.47305						
	2.26055						AVRG		2.48320		4.37303	
$ 95 Bromofluorobenzene	0.99141	1.03176	1.01203	0.98869	1.03037	1.03240						
	0.97972						AVRG		1.00948		2.25498	

Data File: /var/chem/msv12.i/2130721p.s.b/j8208.d
Report Date: 22-Jul-2013 11:05

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: 1600
Level: LOW
Data Type: MS DATA
SpikeList File: icv.spk
Sublist File: 8260b.sub
Method File: /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Misc Info: MSV~28093~*1*CLH

Client SDG: 2130721p.s
Fraction: VOA
Client Smp ID: ICV050
Operator: CLH
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 Dichlorodifluoromethane	50.0	52.5	104.91	80-120
2 Chloromethane ++	50.0	50.8	101.67	80-120
3 Vinyl Chloride +	50.0	53.1	106.16	80-120
6 Bromomethane	50.0	49.2	98.41	80-120
7 Chloroethane	50.0	52.6	105.16	80-120
8 Trichlorofluoromethane	50.0	56.0	112.04	80-120
10 1,1-Dichloroethene +	50.0	52.2	104.33	80-120
11 Carbon Disulfide	50.0	51.4	102.90	80-120
12 1,1,2Trichlotrifluoroethane	50.0	55.5	111.05	80-120
13 Methyl Iodide	50.0	50.8	101.68	80-120
14 Acrolein	250	272	108.94	80-120
16 Methylene Chloride	50.0	50.1	100.14	80-120
17 Acetone	50.0	44.2	88.46	80-120
18 trans-1,2-Dichloroethene	50.0	50.9	101.73	80-120
19 Methyl Acetate	50.0	51.3	102.63	80-120
20 Hexane	50.0	53.5	107.03	80-120
21 MTBE	50.0	49.4	98.76	80-120
26 1,1-Dichloroethane ++	50.0	51.7	103.32	80-120
27 Acrylonitrile	250	255	102.05	80-120
28 Vinyl Acetate	50.0	53.7	107.32	80-120
29 cis-1,2-Dichloroethene	50.0	51.1	102.15	80-120
30 2,2-Dichloropropane	50.0	54.2	108.39	80-120
32 Cyclohexane	50.0	55.4	110.77	80-120
34 Bromochloromethane	50.0	52.8	105.53	80-120
35 Chloroform +	50.0	50.3	100.52	80-120
36 Carbon Tetrachloride	50.0	50.1	100.14	80-120
41 1,1,1-Trichloroethane	50.0	52.9	105.76	80-120
43 1,1-Dichloropropene	50.0	51.6	103.26	80-120
44 2-Butanone	50.0	47.5	95.02	80-120
31 Heptane	50.0	0.00	*	80-120
46 Benzene	50.0	51.0	101.90	80-120
51 1,2-Dichloroethane	50.0	50.6	101.22	80-120
55 Methyl Cyclohexane	50.0	55.0	110.02	80-120

SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
56	Trichloroethene	50.0	51.0	102.02	80-120
57	Dibromomethane	50.0	52.2	104.35	80-120
59	1,2-Dichloropropane +	50.0	53.3	106.68	80-120
60	Bromodichloromethane	50.0	54.1	108.26	80-120
65	1-Bromo-2-chloroethane	50.0	51.3	102.52	80-120
64	2-Chloroethyl vinyl ether	50.0	53.5	107.01	80-120
67	cis-1,3-Dichloropropene	50.0	54.0	108.04	80-120
69	Toluene +	50.0	50.0	99.98	80-120
71	Tetrachloroethene	50.0	50.6	101.30	80-120
73	4-methyl-2-pentanone	50.0	48.5	97.07	80-120
74	trans-1,3-Dichloropropene	50.0	53.4	106.80	80-120
76	1,1,2-Trichloroethane	50.0	50.3	100.63	80-120
78	Dibromochloromethane	50.0	51.8	103.51	80-120
79	1,3-Dichloropropane	50.0	48.9	97.86	80-120
80	1,2-Dibromoethane(EDB)	50.0	50.1	100.24	80-120
83	2-Hexanone	50.0	47.3	94.69	80-120
86	1-Chlorohexane	50.0	51.6	103.27	80-120
85	Chlorobenzene ++	50.0	49.1	98.23	80-120
87	Ethylbenzene +	50.0	49.6	99.27	80-120
88	1,1,1,2-Tetrachloroethane	50.0	51.0	101.94	80-120
89	p,m-Xylene	100	101	100.69	80-120
90	o-Xylene	50.0	51.3	102.51	80-120
91	Styrene	50.0	51.9	103.79	80-120
92	Bromoform ++	50.0	51.8	103.59	80-120
93	Isopropylbenzene	50.0	52.2	104.35	80-120
96	Bromobenzene	50.0	47.4	94.74	80-120
97	n-Propylbenzene	50.0	49.4	98.89	80-120
98	1,1,2,2-Tetrachloroethane++	50.0	49.3	98.51	80-120
99	2-Chlorotoluene	50.0	49.1	98.12	80-120
102	1,3,5-Trimethylbenzene	50.0	49.2	98.42	80-120
100	1,2,3-Trichloropropane	50.0	48.6	97.24	80-120
101	trans-1,4-Dichloro-2-Butene	50.0	50.2	100.34	80-120
104	4-Chlorotoluene	50.0	51.8	103.57	80-120
105	tert-butylbenzene	50.0	50.2	100.44	80-120
107	1,2,4-Trimethylbenzene	50.0	50.2	100.35	80-120
108	sec-Butylbenzene	50.0	51.7	103.43	80-120
110	p-Isopropyltoluene	50.0	51.5	102.95	80-120
113	1,3-Dichlorobenzene	50.0	49.9	99.82	80-120
115	1,4-Dichlorobenzene	50.0	47.6	95.30	80-120
117	n-Butylbenzene	50.0	52.1	104.28	80-120
118	1,2-Dichlorobenzene	50.0	49.6	99.26	80-120
119	1,2-Dibromo-3-Chloropropane	50.0	50.9	101.88	80-120
120	Hexachlorobutadiene	50.0	51.4	102.89	80-120
122	1,2,4-Trichlorobenzene	50.0	49.5	98.99	80-120
124	Naphthalene	50.0	50.4	100.82	80-120
125	1,2,3-Trichlorobenzene	50.0	48.3	96.57	80-120

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 26-JUL-2013 14:11
Lab File ID: j8419.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130726.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Dichlorodifluoromethane	0.31453	0.28273	0.28273	0.010	-10.10934	20.00000	Averaged
2 Chloromethane ++	50.29931	50.00000	0.19069	0.100	0.59862	20.00000	Linear
3 Vinyl Chloride +	0.26840	0.26528	0.26528	0.010	-1.16440	20.00000	Averaged
6 Bromomethane	41.45504	50.00000	0.15591	0.010	-17.08992	20.00000	Linear
7 Chloroethane	43.65780	50.00000	0.18207	0.010	-12.68440	20.00000	Linear
8 Trichlorofluoromethane	0.54848	0.54075	0.54075	0.010	-1.40838	20.00000	Averaged
10 1,1-Dichloroethene +	0.32346	0.31463	0.31463	0.010	-2.73144	20.00000	Averaged
11 Carbon Disulfide	45.85231	50.00000	0.89161	0.010	-8.29538	20.00000	Linear
12 1,1,2Trichlotrifluoroethane	0.31748	0.31565	0.31565	0.010	-0.57728	20.00000	Averaged
13 Methyl Iodide	49.50760	50.00000	0.33322	0.010	-0.98479	20.00000	Linear
14 Acrolein	0.02313	0.02521	0.02521	0.010	8.96246	20.00000	Averaged
16 Methylene Chloride	0.29121	0.27364	0.27364	0.010	-6.03119	20.00000	Averaged
17 Acetone	0.16194	0.13146	0.13146	0.010	-18.81943	20.00000	Averaged
18 trans-1,2-Dichloroethene	0.31746	0.29302	0.29302	0.010	-7.69913	20.00000	Averaged
19 Methyl Acetate	0.23523	0.23967	0.23967	0.010	1.89067	20.00000	Averaged
20 Hexane	0.22970	0.22459	0.22459	0.010	-2.22178	20.00000	Averaged
21 MTBE	0.79606	0.76201	0.76201	0.010	-4.27698	20.00000	Averaged
26 1,1-Dichloroethane ++	0.41408	0.36914	0.36914	0.100	-10.85242	20.00000	Averaged
27 Acrylonitrile	0.11258	0.11397	0.11397	0.010	1.23572	20.00000	Averaged
28 Vinyl Acetate	0.27239	0.30615	0.30615	0.010	12.39427	20.00000	Averaged
29 cis-1,2-Dichloroethene	0.32651	0.30539	0.30539	0.010	-6.46767	20.00000	Averaged
M 75 Total 1,2-Dichloroethene	0.32198	0.29920	0.29920	0.010	-7.07474	20.00000	Averaged
30 2,2-Dichloropropane	0.38362	0.37960	0.37960	0.010	-1.04905	20.00000	Averaged
32 Cyclohexane	0.31108	0.30307	0.30307	0.010	-2.57704	20.00000	Averaged
34 Bromochloromethane	0.15199	0.16064	0.16064	0.010	5.69017	20.00000	Averaged
35 Chloroform +	0.49333	0.46356	0.46356	0.010	-6.03422	20.00000	Averaged
36 Carbon Tetrachloride	47.17462	50.00000	0.35656	0.010	-5.65076	20.00000	Linear
$ 40 Dibromofluoromethane	0.27945	0.28398	0.28398	0.010	1.62222	20.00000	Averaged
41 1,1,1-Trichloroethane	0.42425	0.41288	0.41288	0.010	-2.67859	20.00000	Averaged
44 2-Butanone	0.18071	0.20277	0.20277	0.010	12.20569	20.00000	Averaged
43 1,1-Dichloropropene	0.34267	0.33022	0.33022	0.010	-3.63549	20.00000	Averaged
46 Benzene	1.05418	0.97387	0.97387	0.010	-7.61832	20.00000	Averaged
$ 50 1,2-Dichloroethane-d4	0.14296	0.14351	0.14351	0.010	0.38325	20.00000	Averaged
51 1,2-Dichloroethane	0.35036	0.33737	0.33737	0.010	-3.70675	20.00000	Averaged
55 Methyl Cyclohexane	0.35349	0.33725	0.33725	0.010	-4.59615	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 26-JUL-2013 14:11
Lab File ID: j8419.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130726.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
56 Trichloroethene	0.33799	0.32884	0.32884	0.010	-2.70754	20.00000	Averaged
57 Dibromomethane	0.20188	0.19600	0.19600	0.010	-2.91418	20.00000	Averaged
59 1,2-Dichloropropane +	0.23573	0.22461	0.22461	0.010	-4.71938	20.00000	Averaged
60 Bromodichloromethane	0.36588	0.35918	0.35918	0.010	-1.83016	20.00000	Averaged
65 1-Bromo-2-chloroethane	0.04931	0.04864	0.04864	0.010	-1.35339	20.00000	Averaged
64 2-Chloroethyl vinyl ether	0.17315	0.18030	0.18030	0.010	4.12999	20.00000	Averaged
67 cis-1,3-Dichloropropene	0.41257	0.40712	0.40712	0.010	-1.32021	20.00000	Averaged
$ 68 Toluene-d8	2.48320	2.55254	2.55254	0.010	2.79249	20.00000	Averaged
69 Toluene +	3.01896	2.84732	2.84732	0.010	-5.68566	20.00000	Averaged
71 Tetrachloroethene	0.69390	0.71020	0.71020	0.010	2.34885	20.00000	Averaged
73 4-methyl-2-pentanone	0.78739	0.81894	0.81894	0.010	4.00752	20.00000	Averaged
74 trans-1,3-Dichloropropene	0.39110	0.39544	0.39544	0.010	1.10888	20.00000	Averaged
M 82 1-3 Dichloropropene total	0.40183	0.40128	0.40128	0.010	-0.13810	20.00000	Averaged
76 1,1,2-Trichloroethane	0.72489	0.71809	0.71809	0.010	-0.93909	20.00000	Averaged
78 Dibromochloromethane	0.89518	0.94821	0.94821	0.010	5.92408	20.00000	Averaged
79 1,3-Dichloropropane	1.07262	1.02255	1.02255	0.010	-4.66792	20.00000	Averaged
80 1,2-Dibromoethane(EDB)	0.82393	0.85174	0.85174	0.010	3.37522	20.00000	Averaged
83 2-Hexanone	0.66017	0.68153	0.68153	0.010	3.23618	20.00000	Averaged
86 1-Chlorohexane	50.87578	50.00000	0.87925	0.010	1.75157	20.00000	Linear
85 Chlorobenzene ++	2.20944	2.09104	2.09104	0.300	-5.35872	20.00000	Averaged
87 Ethylbenzene +	1.13370	1.06926	1.06926	0.010	-5.68407	20.00000	Averaged
88 1,1,1,2-Tetrachloroethane	0.75682	0.77039	0.77039	0.010	1.79315	20.00000	Averaged
89 p,m-Xylene	1.36819	1.29685	1.29685	0.010	-5.21366	20.00000	Averaged
90 o-Xylene	1.34263	1.28224	1.28224	0.010	-4.49775	20.00000	Averaged
M 121 TOTAL XYLENE	1.35967	1.29198	1.29198	0.010	-4.97801	20.00000	Averaged
91 Styrene	2.24313	2.21334	2.21334	0.010	-1.32821	20.00000	Averaged
92 Bromoform ++	0.83517	0.90187	0.90187	0.100	7.98673	20.00000	Averaged
93 Isopropylbenzene	3.24831	3.18339	3.18339	0.010	-1.99838	20.00000	Averaged
$ 95 Bromofluorobenzene	1.00948	1.12027	1.12027	0.010	10.97504	20.00000	Averaged
96 Bromobenzene	1.13005	0.94719	0.94719	0.010	-16.18171	20.00000	Averaged
97 n-Propylbenzene	43.14959	50.00000	2.61337	0.010	-13.70083	20.00000	Linear
98 1,1,2,2-Tetrachloroethane++	0.90435	0.81153	0.81153	0.300	-10.26382	20.00000	Averaged
99 2-Chlorotoluene	2.06395	1.74443	1.74443	0.010	-15.48091	20.00000	Averaged
102 1,3,5-Trimethylbenzene	42.84708	50.00000	1.89952	0.010	-14.30583	20.00000	Linear
100 1,2,3-Trichloropropane	0.99768	0.92685	0.92685	0.010	-7.10031	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 26-JUL-2013 14:11
Lab File ID: j8419.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130726.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
101 trans-1,4-Dichloro-2-Butene	0.17832	0.18256	0.18256	0.010	2.37522	20.00000	Averaged
104 4-Chlorotoluene	45.00093	50.00000	1.59664	0.010	-9.99813	20.00000	Linear
105 tert-butylbenzene	43.39916	50.00000	0.95574	0.010	-13.20167	20.00000	Linear
107 1,2,4-Trimethylbenzene	45.26526	50.00000	1.92597	0.010	-9.46948	20.00000	Linear
108 sec-Butylbenzene	45.17329	50.00000	2.24492	0.010	-9.65343	20.00000	Linear
110 p-Isopropyltoluene	45.01708	50.00000	1.99245	0.010	-9.96583	20.00000	Linear
113 1,3-Dichlorobenzene	1.53453	1.37381	1.37381	0.010	-10.47377	20.00000	Averaged
115 1,4-Dichlorobenzene	1.61734	1.45828	1.45828	0.010	-9.83455	20.00000	Averaged
117 n-Butylbenzene	45.52013	50.00000	1.62283	0.010	-8.95974	20.00000	Linear
118 1,2-Dichlorobenzene	1.49158	1.38502	1.38502	0.010	-7.14372	20.00000	Averaged
119 1,2-Dibromo-3-Chloropropane	0.26606	0.29299	0.29299	0.010	10.12251	20.00000	Averaged
120 Hexachlorobutadiene	49.29132	50.00000	0.38833	0.010	-1.41735	20.00000	Linear
122 1,2,4-Trichlorobenzene	49.85669	50.00000	0.93335	0.010	-0.28661	20.00000	Linear
124 Naphthalene	2.76602	2.93522	2.93522	0.010	6.11704	20.00000	Averaged
125 1,2,3-Trichlorobenzene	49.69517	50.00000	0.93725	0.010	-0.60965	20.00000	Linear

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL | Contract:

Lab Code: LA024 | Case No.: | SAS No.: | SDG No.: 213072514

Lab File ID (Standard): 2130730/f0195d | Date Analyzed: 07/30/13 | Time: 1724

Instrument ID: MSV7 | GC Column: RTX-VMS-30M | ID: .25 (mm)

Analytical Batch: 512784 | Heated Burge: (Y/N) N

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	468622	5.09	192689	8.28	254992	10.64
EPA Sample No.	#	#	#	#	#	#
LCS1219068	453016	5.09	186791	8.28	243255	10.64
LCSD1219069	485007	5.09	195158	8.28	256005	10.64
MB1219067	461839	5.09	182510	8.28	237175	10.64
B398MW7-3Q13	441381	5.09	175640	8.28	226192	10.64
B398MW8-3Q13	419981	5.09	169632	8.28	218171	10.64
B398MW10-3Q13	451812	5.09	180562	8.28	237208	10.64
B398MW11-3Q13	464860	5.09	182583	8.28	236559	10.64
B398MW12-3Q13	453447	5.09	181744	8.28	228544	10.64
TRIP BLANK	483949	5.09	195623	8.28	248619	10.64

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Lab File ID (Standard): 2130721p/j8204 Date Analyzed: 07/21/13 Time: 1945

Instrument ID: MSV12 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 512539 Heated Burge: (Y/N) N

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	245081	6.64	98512	9.11	124955	10.57

EPA Sample No.		#		#		#		#		#		#
LCS1217862	255372		6.64		101144		9.11		139719		10.57	
LCS1217864	257167		6.63		98832		9.11		134077		10.57	
LCSD1217865	257587		6.63		97968		9.11		129555		10.57	
LCSD1217863	264698		6.64		104369		9.11		142121		10.57	
MB1217861	243406		6.64		95199		9.11		123150		10.57	
DUP1072413	263968		6.64		101426		9.11		137661		10.57	
B398MW5-3Q13	254534		6.64		100696		9.11		135267		10.57	
B398PW1-3Q13	248133		6.64		97582		9.11		125457		10.57	
B398MW2-3Q13	241499		6.64		93643		9.11		124216		10.57	
B398MW3-3Q13	248051		6.64		96763		9.11		123413		10.57	
B398MW4-3Q13	242641		6.64		94094		9.11		123208		10.57	
B398MW6-3Q13	243086		6.64		92968		9.11		120880		10.57	

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 30-JUL-2013	Standard	Std ID#	Conc ppm	Expires
Instrument: msv7.i	BFB IS/SS	7-57-07	50	12/15/13
Analyst(s): CEK	8260 IS/SS	7-57-07	50	12/15/13
AMD	8260	7-60-11	50	07/31/13
	Ac/Ac/VA	7-61-04	250/50	09/20/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000	RR	f0184.d	0.00 ml	30-JUL-2013 10:42	1.000	CLH	2
1000		f0185.d	0.00 ml	30-JUL-2013 12:34	1.000	CEK	2
1400		f0186.d	5.00 ml	30-JUL-2013 13:16	1.000	CEK	37
LCSD		f0187.d	5.00 ml	30-JUL-2013 13:35	1.000	CEK	38
BLANK		f0188.d	5.00 ml	30-JUL-2013 13:55	1.000	CEK	39
1000		f0189.d	0.00 ml	30-JUL-2013 14:15	1.000	CEK	2
1000		f0189d.d	0.00 ml	30-JUL-2013 14:15	1.000	CEK	2
BLANK		f0190.d	5.00 ml	30-JUL-2013 14:35	1.000	CEK	40
1203		f0191.d	5.00 ml	30-JUL-2013 16:02	1.000	CEK	41
1203		f0191d.d	5.00 ml	30-JUL-2013 16:02	1.000	CEK	41
1204		f0192.d	5.00 ml	30-JUL-2013 16:24	1.000	CEK	42
1204		f0192d.d	5.00 ml	30-JUL-2013 16:24	1.000	CEK	42
1205		f0193.d	5.00 ml	30-JUL-2013 16:44	1.000	CEK	43
1205		f0193d.d	5.00 ml	30-JUL-2013 16:44	1.000	CEK	43
1206		f0194.d	5.00 ml	30-JUL-2013 17:04	1.000	CEK	44
1206		f0194d.d	5.00 ml	30-JUL-2013 17:04	1.000	CEK	44
1207		f0195.d	5.00 ml	30-JUL-2013 17:24	1.000	CEK	45
1207		f0195d.d	5.00 ml	30-JUL-2013 17:24	1.000	CEK	45
1208		f0196.d	5.00 ml	30-JUL-2013 17:44	1.000	CEK	46
1208		f0196d.d	5.00 ml	30-JUL-2013 17:44	1.000	CEK	46
1209		f0197.d	5.00 ml	30-JUL-2013 18:04	1.000	CEK	47
1209		f0197d.d	5.00 ml	30-JUL-2013 18:04	1.000	CEK	47
BLANK		f0198.d	5.00 ml	30-JUL-2013 18:24	1.000	CEK	48
1600		f0199.d	5.00 ml	30-JUL-2013 18:44	1.000	CEK	49
1600		f0199d.d	5.00 ml	30-JUL-2013 18:44	1.000	CEK	49
1219068		f0200.d	5.00 ml	30-JUL-2013 19:07	1.000	CEK	50
1219069		f0201.d	5.00 ml	30-JUL-2013 19:27	1.000	CEK	51
BLANK		f0202.d	5.00 ml	30-JUL-2013 19:47	1.000	CEK	52
BLANK		f0203.d	5.00 ml	30-JUL-2013 20:07	1.000	CEK	53
1219067		f0204.d	5.00 ml	30-JUL-2013 20:27	1.000	CEK	53
21307262202		f0205.d	5.00 ml	30-JUL-2013 20:47	1.000	CEK	54
21307262203		f0206.d	5.00 ml	30-JUL-2013 21:07	1.000	CEK	55
21307262204		f0207.d	5.00 ml	30-JUL-2013 21:27	1.000	CEK	56
21307262205		f0208.d	5.00 ml	30-JUL-2013 21:47	1.000	CEK	57
21307262206		f0209.d	5.00 ml	30-JUL-2013 22:06	1.000	CEK	58
21307262207		f0210.d	5.00 ml	30-JUL-2013 22:26	1.000	CEK	59

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 30-JUL-2013
Instrument: msv7.i
Analyst(s): CLH

Standard	Conc ppm
Int. Standard	50
Surrogate	50
8260	50
Ac/Ac/VA	250/50
CVE	50

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
21307262208		f0211.d	5.00 ml	30-JUL-2013 22:46	1.000	CEK	60
21307262209		f0212.d	5.00 ml	30-JUL-2013 23:06	1.000	CEK	61
21307251408		f0213.d	5.00 ml	30-JUL-2013 23:28	1.000	AMD	62
21307251409		f0214.d	5.00 ml	30-JUL-2013 23:48	1.000	AMD	63
21307251410		f0215.d	5.00 ml	31-JUL-2013 00:08	1.000	AMD	64
21307251411		f0216.d	5.00 ml	31-JUL-2013 00:28	1.000	AMD	65
21307251412		f0217.d	5.00 ml	31-JUL-2013 00:48	1.000	AMD	66
21307251413		f0218.d	5.00 ml	31-JUL-2013 01:07	1.000	AMD	67
21307262201		f0219.d	5.00 ml	31-JUL-2013 01:27	1.000	AMD	68
BLANK		f0220.d	5.00 ml	31-JUL-2013 01:47	1.000	AMD	69
BLANK		f0221.d	5.00 ml	31-JUL-2013 02:07	1.000	AMD	70

TUNE TIME 02:15

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 21-JUL-2013
Instrument: msv12.i
Analyst(s): CEK

Standard	Conc	Std ID#	Expiration
BFB IS/SS	50	7-57-7	12/15/13
8260 IS/SS	50	7-57-7	12/15/13
8260	50	7-60-11	07/31/13
AC/AC/VA	250/50	7-61-1	09/20/13
2-CVE	50	7-58-13	12/28/13
8260 ICV	50	7-57-8	12/15/13
AC/AC/VA ICV	250/50	7-60-10	09/20/13
2-CVE ICV	50	7-54-12	10/30/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		j8199bfb.d	0.00 ml	21-JUL-2013 17:21	1.000	LBH	2
1000		j8199wbfb.d	0.00 ml	21-JUL-2013 17:21	1.000	LBH	2
1203		j8200.d	5.00 ml	21-JUL-2013 18:18	1.000	CLH	13
1203		j8200w.d	5.00 ml	21-JUL-2013 18:18	1.000	CLH	13
1204		j8201.d	5.00 ml	21-JUL-2013 18:40	1.000	CLH	14
1204		j8201w.d	5.00 ml	21-JUL-2013 18:40	1.000	CLH	14
1205		j8202.d	5.00 ml	21-JUL-2013 19:02	1.000	CLH	15
1205		j8202w.d	5.00 ml	21-JUL-2013 19:02	1.000	CLH	15
1206		j8203.d	5.00 ml	21-JUL-2013 19:23	1.000	CLH	16
1206		j8203w.d	5.00 ml	21-JUL-2013 19:23	1.000	CLH	16
1207		j8204.d	5.00 ml	21-JUL-2013 19:45	1.000	CLH	17
1207		j8204w.d	5.00 ml	21-JUL-2013 19:45	1.000	CLH	17
1208		j8205.d	5.00 ml	21-JUL-2013 20:06	1.000	CLH	18
1208		j8205w.d	5.00 ml	21-JUL-2013 20:06	1.000	CLH	18
1209		j8206.d	5.00 ml	21-JUL-2013 20:28	1.000	CLH	19
1209		j8206w.d	5.00 ml	21-JUL-2013 20:28	1.000	CLH	19
BLANK		j8207.d	5.00 ml	21-JUL-2013 20:50	1.000	CLH	81
1600		j8208.d	5.00 ml	21-JUL-2013 21:11	1.000	CLH	82
1600		j8208w.d	5.00 ml	21-JUL-2013 21:11	1.000	CLH	82
1215754		j8209.d	5.00 ml	21-JUL-2013 21:33	1.000	CLH	83
1215755		j8210.d	5.00 ml	21-JUL-2013 21:54	1.000	CLH	84
BLANK		j8211.d	5.00 ml	21-JUL-2013 22:16	1.000	CLH	85
1400		j8212.d	5.00 ml	21-JUL-2013 23:10	1.000	CLH	86
1215943		j8212L.d	5.00 ml	21-JUL-2013 23:10	1.000	CLH	86
1215944		j8213.d	5.00 ml	21-JUL-2013 23:32	1.000	CLH	87
MB		j8214.d	5.00 ml	21-JUL-2013 23:53	1.000	CLH	88
1215753		j8215.d	5.00 ml	22-JUL-2013 00:14	1.000	CLH	89
21307181712		j8216.d	5.00 ml	22-JUL-2013 00:36	1.000	CLH	1
21307181714		j8217.d	5.00 ml	22-JUL-2013 00:58	1.000	CLH	2
21307181715		j8218.d	5.00 ml	22-JUL-2013 01:19	1.000	CLH	3
BLANK		j8219.d	5.00 ml	22-JUL-2013 01:40	1.000	CLH	4
21307181701		j8220.d	5.00 ml	22-JUL-2013 02:02	1.000	CLH	5
21307181702		j8221.d	5.00 ml	22-JUL-2013 02:23	1.000	CLH	6
21307181703		j8222.d	5.00 ml	22-JUL-2013 02:44	1.000	CLH	7
21307181704		j8223.d	5.00 ml	22-JUL-2013 03:06	1.000	CLH	8
21307181705		j8224.d	5.00 ml	22-JUL-2013 03:27	1.000	CLH	9

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 21-JUL-2013
Instrument: msv12.i
Analyst(s): LBH

Standard	Conc ppm
Int. Standard	50
Surrogate	50
8260	50
Ac/Ac/VA	250/50
CVE	50

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
21307181706		j8225.d	5.00 ml	22-JUL-2013 03:49	1.000	CLH	10
21307181707		j8226.d	5.00 ml	22-JUL-2013 04:10	1.000	CLH	11
21307181708		j8227.d	5.00 ml	22-JUL-2013 04:32	1.000	CLH	12
21307181709		j8228.d	5.00 ml	22-JUL-2013 04:53	1.000	CLH	13
21307181710		j8229.d	5.00 ml	22-JUL-2013 05:15	1.000	CLH	14

TUNE TIME = 05:21 07-22-13

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 26-JUL-2013
Instrument: msv12.i
Analyst(s): JCK

Standard	Conc	Std ID#	Expiration
BFB IS/SS	50	7-54-11	10/27/13
8260 IS/SS	50	7-54-11	10/27/13
8260	50	7-60-11	07/31/13
AC/AC/VA	250/50	7-61-1	09/20/13
2-CVE	50	7-58-13	12/28/13
THF	50	7-59-8	01/08/14
APP 9-1	250	7-59-9	08/30/13
APP 9-2	50	7-58-6	12/20/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		j8415.d	0.00 ml	26-JUL-2013 12:22	1.000	JCK	2
1000		j8415s.d	0.00 ml	26-JUL-2013 12:22	1.000	JCK	2
1400	RR	j8416.d	5.00 ml	26-JUL-2013 12:58	1.000	JCK	1
LCS	RR	j8417.d	5.00 ml	26-JUL-2013 13:19	1.000	JCK	1
LCSD	RR	j8418.d	5.00 ml	26-JUL-2013 13:49	1.000	JCK	1
1400	8260	j8419.d	5.00 ml	26-JUL-2013 14:11	1.000	JCK	1
1217862		j8419L.d	5.00 ml	26-JUL-2013 14:11	1.000	JCK	1
1217871		j8419Ls.d	5.00 g	26-JUL-2013 14:11	50.000	JCK	1
1400		j8419s.d	5.00 ml	26-JUL-2013 14:11	1.000	JCK	1
1400	RR, BAD PURGE	j8420.d	5.00 ml	26-JUL-2013 14:59	1.000	JCK	2
1400	APP9	j8421.d	5.00 ml	26-JUL-2013 15:20	1.000	JCK	2
1217864		j8421L.d	5.00 ml	26-JUL-2013 15:20	1.000	JCK	2
1217865		j8422.d	5.00 ml	26-JUL-2013 15:51	1.000	JCK	3
1217863		j8423.d	5.00 ml	26-JUL-2013 16:35	1.000	JCK	4
1217872		j8423s.d	5.00 g	26-JUL-2013 16:35	50.000	JCK	4
MB		j8424.d	5.00 ml	26-JUL-2013 17:17	1.000	JCK	5
1217861		j8425.d	5.00 ml	26-JUL-2013 17:39	1.000	JCK	6
1217870		j8426s.d	5.00 g	26-JUL-2013 18:01	50.000	JCK	7
21307181711		j8427.d	5.00 ml	26-JUL-2013 18:26	1.000	JCK	8
21307181713		j8428.d	5.00 ml	26-JUL-2013 18:48	1.000	JCK	9
21307240214		j8429.d	5.00 ml	26-JUL-2013 19:10	1.000	JCK	10
21307240215		j8430.d	5.00 ml	26-JUL-2013 19:32	1.000	JCK	11
21307242115		j8431.d	5.00 ml	26-JUL-2013 19:54	1.000	JCK	12
21307242118		j8432.d	5.00 ml	26-JUL-2013 20:16	1.000	JCK	13
21307170102	DIL DUE TO NT	j8433s.d	7.00 g	26-JUL-2013 20:37	50.000	JCK	14
21307170103		j8434s.d	4.96 g	26-JUL-2013 20:59	50.000	JCK	15
21307170107		j8435s.d	6.22 g	26-JUL-2013 21:21	50.000	JCK	16
21307251405		j8436.d	5.00 ml	26-JUL-2013 21:43	25.000	JCK	17
21307251406		j8437.d	5.00 ml	26-JUL-2013 22:05	25.000	JCK	18
BLANK		j8438.d	5.00 ml	26-JUL-2013 22:26	1.000	JCK	19
21307251401		j8439.d	5.00 ml	26-JUL-2013 22:48	1.000	JCK	20
21307251402		j8440.d	5.00 ml	26-JUL-2013 23:10	1.000	JCK	21
21307251403		j8441.d	5.00 ml	26-JUL-2013 23:31	1.000	JCK	22
21307251404		j8442.d	5.00 ml	26-JUL-2013 23:53	1.000	JCK	23
21307251407		j8443.d	5.00 ml	27-JUL-2013 00:15	1.000	JCK	24
BLANK		j8444.d	5.00 ml	27-JUL-2013 00:36	1.000	JCK	25

TUNE = 00:22

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

Sample ID: B398PW1-3Q13

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251401

Date Collected: 07/24/13 Time: 1249

Date Received: 07/25/13

Date Extracted:

Date Analyzed: 08/05/13 Time: 0000

Dilution Factor: 1 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6005

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5.50	U	5.50	100

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513021

Sample ID: B398MW2-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251402
Date Collected: 07/24/13 Time: 1548
Date Received: 07/25/13
Date Extracted:
Date Analyzed: 08/05/13 Time: 0014
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130804/v6006

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	178		5.50	100

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513021

Sample ID: B398MW3-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251403
Date Collected: 07/24/13 Time: 0930
Date Received: 07/25/13
Date Extracted:
Date Analyzed: 08/05/13 Time: 0028
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130804/v6007

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5.50	U	5.50	100

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513021

Sample ID: B398MW4-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251404
Date Collected: 07/24/13 Time: 1039
Date Received: 07/25/13
Date Extracted:
Date Analyzed: 08/05/13 Time: 0042
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130804/v6008

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5.50	U	5.50	100

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

Sample ID: DUP1072413

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251405

Date Collected: 07/24/13 Time: 0000

Date Received: 07/25/13

Date Extracted:

Date Analyzed: 08/05/13 Time: 0056

Dilution Factor: 50 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6009

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	30900		275	5000

213072514 88

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513021

Sample ID: B398MW5-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251406
Date Collected: 07/24/13 Time: 1222
Date Received: 07/25/13
Date Extracted:
Date Analyzed: 08/05/13 Time: 0110
Dilution Factor: 50 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130804/v6010

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	31200		275	5000

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513021

Sample ID: B398MW6-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251407
Date Collected: 07/24/13 Time: 1457
Date Received: 07/25/13
Date Extracted:
Date Analyzed: 08/05/13 Time: 0124
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130804/v6011

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	9.60	J	5.50	100

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

CONCENTRATION UNITS: ug/L

Sample ID: B398MW7-3Q13

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251408

Date Collected: 07/24/13 Time: 1131

Date Received: 07/25/13

Date Extracted:

Date Analyzed: 08/05/13 Time: 0138

Dilution Factor: 1 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6012

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	74.2	J	5.50	100

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513021

Sample ID: B398MW8-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251409
Date Collected: 07/24/13 Time: 1448
Date Received: 07/25/13
Date Extracted:
Date Analyzed: 08/05/13 Time: 0152
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130804/v6013

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	269		5.50	100

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

Sample ID: B398MW10-3Q13

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251410

Date Collected: 07/24/13 Time: 1119

Date Received: 07/25/13

Date Extracted:

Date Analyzed: 08/05/13 Time: 0206

Dilution Factor: 1 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6014

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	195		5.50	100

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

CONCENTRATION UNITS: ug/L

Sample ID: B398MW11-3Q13

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251411

Date Collected: 07/24/13 Time: 0941

Date Received: 07/25/13

Date Extracted:

Date Analyzed: 08/05/13 Time: 0234

Dilution Factor: 1 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6016

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	93.1	J	5.50	100

FORM I ORG-1

213072514 94

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513021

Sample ID: B398MW12-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251412
Date Collected: 07/24/13 Time: 1251
Date Received: 07/25/13
Date Extracted:
Date Analyzed: 08/05/13 Time: 0248
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130804/v6017

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	724		5.50	100

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513021

Sample ID: TRIP BLANK
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251413
Date Collected: 07/24/13 Time: 0000
Date Received: 07/25/13
Date Extracted:
Date Analyzed: 08/05/13 Time: 0302
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130804/v6018

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5.50	U	5.50	100

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

CONCENTRATION UNITS: ug/L

Sample ID: MB1220414

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 1220414

Date Collected: Time:

Date Received:

Date Extracted:

Date Analyzed: 08/04/13 Time: 2346

Dilution Factor: 1 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6004

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5.50	U	5.50	100

FORM I ORG-1

2E

WATER ORGANIC SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

GC Column (1): ID: (mm) GC Cloumn (2): ID: (mm)

Method: SW846 8015C

	EPA SAMPLE NO.	SMC1 1-(1)	Lo	Hi	F	SMC2 2	Lo	Hi	F	SMC3 3	Lo	Hi	F	SMC4 4	Lo	Hi	F	TOT OUT
1.	B398PW1-3Q13	65	49	136														0
2.	B398MW2-3Q13	76	49	136														0
3.	B398MW3-3Q13	65	49	136														0
4.	B398MW4-3Q13	64	49	136														0
5.	DUP1072413	78	49	136														0
6.	B398MW5-3Q13	78	49	136														0
7.	B398MW6-3Q13	67	49	136														0
8.	B398MW7-3Q13	68	49	136														0
9.	B398MW8-3Q13	77	49	136														0
10.	B398MW10-3Q13	76	49	136														0
11.	B398MW11-3Q13	67	49	136														0
12.	B398MW12-3Q13	78	49	136														0
13.	TRIP BLANK	67	49	136														0
14.	MB1220414	66	49	136														0
15.	LCS1220415	84	49	136														0

SMC 1 : Bromochlorobenzene SMC 2 :

SMC 3 : SMC 4 :

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

3E

WATER ORGANICS LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Contract: Method: SW846 8015C

Prep Batch: Analytical Batch: 513021

SAMPLE NO : 1220415

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	LCS % REC FLAG	QC. LIMITS
GRO	ug/L	500	0	481	96		70 - 128

RPD : 0 out of 0 outside limits

Spike Recovery: 0 out of 1 outside limits

FORM III ORG-1

4C

ORGANIC METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1220414

Lab Code: LA024 Case No.:

Contract:

Lab Sample ID: 1220414

SAS No.: SDG No.: 213072514

Matrix: Water Sulfur Cleanup: (Y/N) N

Date Extracted:

Date Analyzed (1): 08/04/13 Time (1): 2346

Date Analyzed (2): Time (2):

Instrument ID (1): GCV6A

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

Method: SW846 8015C

Prep Batch: Analytical Batch: 513021

Lab File ID: 2130804/v6004

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS1220415	1220415	08/04/13	2332	GCV6A
2.	B398PW1-3Q13	21307251401	08/05/13	0000	GCV6A
3.	B398MW2-3Q13	21307251402	08/05/13	0014	GCV6A
4.	B398MW3-3Q13	21307251403	08/05/13	0028	GCV6A
5.	B398MW4-3Q13	21307251404	08/05/13	0042	GCV6A
6.	DUP1072413	21307251405	08/05/13	0056	GCV6A
7.	B398MW5-3Q13	21307251406	08/05/13	0110	GCV6A
8.	B398MW6-3Q13	21307251407	08/05/13	0124	GCV6A
9.	B398MW7-3Q13	21307251408	08/05/13	0138	GCV6A
10.	B398MW8-3Q13	21307251409	08/05/13	0152	GCV6A
11.	B398MW10-3Q13	21307251410	08/05/13	0206	GCV6A
12.	B398MW11-3Q13	21307251411	08/05/13	0234	GCV6A
13.	B398MW12-3Q13	21307251412	08/05/13	0248	GCV6A
14.	TRIP BLANK	21307251413	08/05/13	0302	GCV6A

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-APR-2013 15:42
End Cal Date : 04-APR-2013 16:38
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Cal Date : 05-Apr-2013 11:18 bmr
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcv6a.i/2130404p.b/v6002.d
Level 2: /var/chem/gcv6a.i/2130404p.b/v6003.d
Level 3: /var/chem/gcv6a.i/2130404p.b/v6004.d
Level 4: /var/chem/gcv6a.i/2130404p.b/v6005.d
Level 5: /var/chem/gcv6a.i/2130404p.b/v6006.d

	Compound	100.000 Level 1	500.000 Level 2	800.000 Level 3	1000.000 Level 4	3000.000 Level 5	___ RRF	% RSD
S	1 Total TPHG	14923	17696	14850	14949	15165	15517	7.888
	2 Fluorobenzene	57035	78297	69511	67027	90466	72467	17.379
	3 TPHG 1	4385	5372	4389	4431	4374	4590	9.535
	4 TPHG 2	917	1110	925	933	951	967	8.359
	5 TPHG 3	3523	4372	3587	3583	3675	3748	9.422
	6 TPHG 4	1440	1728	1434	1477	1506	1517	8.015
	7 TPHG 5	2068	2337	2022	2032	2086	2109	6.159
	8 TPHG 6	2591	2777	2493	2493	2573	2585	4.489
$	9 Bromochlorobenzene	25045	30214	34019	35801	49379	34892	26.044
	GRO	39,287	49,130	40,756	39,683	40,825	41,936	9.72%

213072514 101

Data File: /var/chem/gcv6a.i/2130404p.b/v6007.d
Report Date: 05-Apr-2013 11:18

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: ICV6/16/2
Level: LOW
Data Type: GC MULTI COMP
SpikeList File: TPHG.spk
Sublist File: all.sub
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Misc Info: 6/16/16

Client SDG: 2130404p
Fraction: VOA
Client Smp ID: ICV6/16/2
Operator: BMR
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
S 1 Total TPHG	500	499	99.81	67-127

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 9 Bromochlorobenzene	30.0	28.5	94.88	49-136

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv6a.i
Lab File ID: v6002.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/gcv6a.i/2130804.b/GASHBw.m

Injection Date: 04-AUG-2013 23:18
Init. Cal. Date(s): 04-APR-2013 04-APR-2013
Init. Cal. Times: 15:42 16:38
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	15517	15864	0.010	-2.23621	20.00000	Averaged
2 Fluorobenzene	72467	84992	0.010	-17.28308	20.00000	Averaged
3 TPHG 1	4590	5007	0.010	-9.07913	20.00000	Averaged
4 TPHG 2	967	1004	0.010	-3.79254	20.00000	Averaged
5 TPHG 3	3748	3757	0.010	-0.23299	20.00000	Averaged
6 TPHG 4	1517	1526	0.010	-0.60687	20.00000	Averaged
7 TPHG 5	2109	2046	0.010	2.98871	20.00000	Averaged
8 TPHG 6	2585	2524	0.010	2.37292	20.00000	Averaged
$ 9 Bromochlorobenzene	34892	29316	0.010	15.97955	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 6.06356
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv6a.i
Lab File ID: v6015.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/gcv6a.i/2130804.b/GASHBw.m

Injection Date: 05-AUG-2013 02:20
Init. Cal. Date(s): 04-APR-2013 04-APR-2013
Init. Cal. Times: 15:42 16:38
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	15517	13492	0.010	13.04956	20.00000	Averaged
2 Fluorobenzene	72467	72925	0.010	-0.63147	20.00000	Averaged
3 TPHG 1	4590	3971	0.010	13.48994	20.00000	Averaged
4 TPHG 2	967	889	0.010	8.13027	20.00000	Averaged
5 TPHG 3	3748	3278	0.010	12.53705	20.00000	Averaged
6 TPHG 4	1517	1362	0.010	10.22236	20.00000	Averaged
7 TPHG 5	2109	1785	0.010	15.35638	20.00000	Averaged
8 TPHG 6	2585	2207	0.010	14.62812	20.00000	Averaged
$ 9 Bromochlorobenzene	34892	30085	0.010	13.77692	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 11.31356
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv6a.i
Lab File ID: v6026.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/gcv6a.i/2130804.b/GASHBw.m

Injection Date: 05-AUG-2013 04:54
Init. Cal. Date(s): 04-APR-2013 04-APR-2013
Init. Cal. Times: 15:42 16:38
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	15517	14671	0.010	5.44991	20.00000	Averaged
2 Fluorobenzene	72467	71311	0.010	1.59533	20.00000	Averaged
3 TPHG 1	4590	4385	0.010	4.46366	20.00000	Averaged
4 TPHG 2	967	914	0.010	5.50633	20.00000	Averaged
5 TPHG 3	3748	3545	0.010	5.41514	20.00000	Averaged
6 TPHG 4	1517	1459	0.010	3.83171	20.00000	Averaged
7 TPHG 5	2109	1947	0.010	7.66883	20.00000	Averaged
8 TPHG 6	2585	2421	0.010	6.36943	20.00000	Averaged
$ 9 Bromochlorobenzene	34892	29940	0.010	14.19201	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 6.05471
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 05/24/2013
Instrument: gcv6a.i
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Batch: /var/chem/gcv6a.i/2130404p.b
Column-Detector: DB-624-30

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
GROMARKER		v6001C.d	0.00 ml	04-APR-2013 15:28	1.000	BMR	1	all
TPHG6/16/9		v6002.d	0.00 ml	04-APR-2013 15:42	1.000	BMR	1	all
TPHG500/6/17/2		v6003.d	0.00 ml	04-APR-2013 15:56	1.000	BMR	1	all
TPHG800/6/17/2		v6004.d	0.00 ml	04-APR-2013 16:10	1.000	BMR	1	all
TPHG1000/6/17/		v6005.d	0.00 ml	04-APR-2013 16:24	1.000	BMR	1	all
TPHG3000/6/17/		v6006.d	0.00 ml	04-APR-2013 16:38	1.000	BMR	1	all
ICV6/16/2		v6007.d	0.00 ml	04-APR-2013 16:52	1.000	BMR	1	all
LOD		v6008.d	0.00 ml	04-APR-2013 17:06	1.000	BMR	1	all
LOQ		v6009.d	0.00 ml	04-APR-2013 17:20	1.000	BMR	1	all
LOD40		v6010.d	5.00 g	04-APR-2013 17:34	50.000	BMR	1	all
LOQ100		v6011.d	5.00 g	04-APR-2013 17:48	50.000	BMR	1	all

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 08/06/2013
Instrument: gcv6a.i
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Batch: /var/chem/gcv6a.i/2130804.b
Column-Detector: DB-624-30

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
GROMARKER		v6001C.d	0.00 ml	04-APR-2013 15:28	1.000	BMR	1	all
GROMARKER		v6001.d	0.00 ml	04-AUG-2013 23:04	1.000	BMR	1	all
1400		v6002.d	0.00 ml	04-AUG-2013 23:18	1.000	BMR	1	all
1220415		v6003.d	0.00 ml	04-AUG-2013 23:32	1.000	BMR	1	all
1220414		v6004.d	0.00 ml	04-AUG-2013 23:46	1.000	BMR	1	all
21307251401		v6005.d	0.00 ml	05-AUG-2013 00:00	1.000	BMR	1	all
21307251402		v6006.d	0.00 ml	05-AUG-2013 00:14	1.000	BMR	1	all
21307251403		v6007.d	0.00 ml	05-AUG-2013 00:28	1.000	BMR	1	all
21307251404		v6008.d	0.00 ml	05-AUG-2013 00:42	1.000	BMR	1	all
21307251405		v6009.d	0.00 ml	05-AUG-2013 00:56	50.000	BMR	1	all
21307251406		v6010.d	0.00 ml	05-AUG-2013 01:10	50.000	BMR	1	all
21307251407		v6011.d	0.00 ml	05-AUG-2013 01:24	1.000	BMR	1	all
21307251408		v6012.d	0.00 ml	05-AUG-2013 01:38	1.000	BMR	1	all
21307251409		v6013.d	0.00 ml	05-AUG-2013 01:52	1.000	BMR	1	all
21307251410		v6014.d	0.00 ml	05-AUG-2013 02:06	1.000	BMR	1	all
1400		v6015.d	0.00 ml	05-AUG-2013 02:20	1.000	BMR	1	all
21307251411		v6016.d	0.00 ml	05-AUG-2013 02:34	1.000	BMR	1	all
21307251412		v6017.d	0.00 ml	05-AUG-2013 02:48	1.000	BMR	1	all
21307251413		v6018.d	0.00 ml	05-AUG-2013 03:02	1.000	BMR	1	all
21307261801		v6019.d	0.00 ml	05-AUG-2013 03:16	1.000	BMR	1	all
21307261802		v6020.d	0.00 ml	05-AUG-2013 03:30	1.000	BMR	1	all
21307261803		v6021.d	0.00 ml	05-AUG-2013 03:44	1.000	BMR	1	all
21307260804		v6022.d	0.00 ml	05-AUG-2013 03:58	1.000	BMR	1	all
21307260805		v6023.d	0.00 ml	05-AUG-2013 04:12	1.000	BMR	1	all
21307260806		v6024.d	0.00 ml	05-AUG-2013 04:26	1.000	BMR	1	all
21307260807		v6025.d	0.00 ml	05-AUG-2013 04:40	1.000	BMR	1	all
1400		v6026.d	0.00 ml	05-AUG-2013 04:54	1.000	BMR	1	all
		v6027.d	0.00 ml	05-AUG-2013 05:08	1.000	BMR	1	all
21307260801		v6028.d	0.00 ml	05-AUG-2013 11:26	5.000	BMR	1	all
21307260802		v6029.d	0.00 ml	05-AUG-2013 11:40	5.000	BMR	1	all
21307260803		v6030.d	0.00 ml	05-AUG-2013 11:54	5.000	BMR	1	all
1400		v6031.d	0.00 ml	05-AUG-2013 12:08	1.000	BMR	1	all
		v6031L.d	0.00 ml	05-AUG-2013 12:08	1.000	BMR	1	all
BLK		v6032.d	0.00 ml	05-AUG-2013 12:22	1.000	BMR	1	all
TCLPBLK		v6033.d	0.00 ml	05-AUG-2013 12:38	1.000	BMR	1	all
21307303501		v6034.d	0.00 ml	05-AUG-2013 14:08	5.000	BMR	1	all

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 08/06/2013
Instrument: gcv6a.i
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Batch: /var/chem/gcv6a.i/2130804.b
Column-Detector: DB-624-30

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307303502		v6035.d	0.00 ml	05-AUG-2013 14:22	1.000	BMR	1	all
21307303503		v6036.d	0.00 ml	05-AUG-2013 14:36	1.000	BMR	1	all
21307303504		v6037.d	0.00 ml	05-AUG-2013 14:50	1.000	BMR	1	all
JUG TEST		v6038.d	0.00 ml	05-AUG-2013 15:04	1.000	BMR	1	all
21307303504		v6039.d	0.00 ml	05-AUG-2013 15:18	5.000	BMR	1	all
1400		v6040.d	0.00 ml	05-AUG-2013 15:40	1.000	BMR	1	all

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398PW1-3Q13

Contract:

Lab File ID: 2130729/i6442

Lab Sample ID: 21307251401

Date Collected: 07/24/13 Time: 1249

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1037

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.030	U	0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.00970	U	0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW2-3Q13

Contract:

Lab File ID: 2130729/i6443

Lab Sample ID: 21307251402

Date Collected: 07/24/13 Time: 1548

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1050

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.030	U	0.030	0.100
83-32-9	Acenaphthene	1.75		0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.122		0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.100		0.012	0.100
86-73-7	Fluorene	0.844		0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.00970	U	0.00970	0.100
85-01-8	Phenanthrene	0.567		0.00720	0.100
129-00-0	Pyrene	0.100	J	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW3-3Q13

Contract:

Lab File ID: 2130729/i6444

Lab Sample ID: 21307251403

Date Collected: 07/24/13 Time: 0930

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1103

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.030	U	0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.00970	U	0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW4-3Q13

Contract:

Lab File ID: 2130729/i6445

Lab Sample ID: 21307251404

Date Collected: 07/24/13 Time: 1039

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1117

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.030	U	0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.00970	U	0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: DUP1072413

Contract:

Lab File ID: 2130729/i6446

Lab Sample ID: 21307251405

Date Collected: 07/24/13 Time: 0000

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1130

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	125		0.030	0.100
83-32-9	Acenaphthene	1.12		0.00820	0.100
208-96-8	Acenaphthylene	0.232		0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
91-20-3	Naphthalene	254	E	0.00970	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.748		0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
85-01-8	Phenanthrene	0.641		0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: DUP1072413DL

Contract:

Lab File ID: 2130730/i6490

Lab Sample ID: 21307251405DL

Date Collected: 07/24/13 Time: 0000

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/30/13 Time: 1236

Dilution Factor: 2 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512756

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-20-3	Naphthalene	269		0.019	0.200

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW5-3Q13

Contract:

Lab File ID: 2130729/i6447

Lab Sample ID: 21307251406

Date Collected: 07/24/13 Time: 1222

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1143

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	121		0.030	0.100
83-32-9	Acenaphthene	1.16		0.00820	0.100
208-96-8	Acenaphthylene	0.186		0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
91-20-3	Naphthalene	243	E	0.00970	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.744		0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
85-01-8	Phenanthrene	0.602		0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW5-3Q13DL

Contract:

Lab File ID: 2130730/i6491

Lab Sample ID: 21307251406DL

Date Collected: 07/24/13 Time: 1222

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/30/13 Time: 1249

Dilution Factor: 2 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512756

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-20-3	Naphthalene	274		0.019	0.200

FORM I SV-1

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW6-3Q13

Contract:

Lab File ID: 2130730/i6492

Lab Sample ID: 21307251407

Date Collected: 07/24/13 Time: 1457

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/30/13 Time: 1302

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512756

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.179		0.030	0.100
83-32-9	Acenaphthene	1.30		0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.150		0.012	0.100
86-73-7	Fluorene	0.589		0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.617		0.00970	0.100
85-01-8	Phenanthrene	0.206		0.00720	0.100
129-00-0	Pyrene	0.116		0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW7-3Q13

Contract:

Lab File ID: 2130729/i6449

Lab Sample ID: 21307251408

Date Collected: 07/24/13 Time: 1131

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1210

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.731		0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.00970	U	0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW8-3Q13

Contract:

Lab File ID: 2130729/i6450

Lab Sample ID: 21307251409

Date Collected: 07/24/13 Time: 1448

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1223

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	13.0		0.030	0.100
83-32-9	Acenaphthene	1.08		0.00820	0.100
208-96-8	Acenaphthylene	0.214		0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	1.05		0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.00970	U	0.00970	0.100
85-01-8	Phenanthrene	0.168		0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW10-3Q13

Contract:

Lab File ID: 2130729/i6451

Lab Sample ID: 21307251410

Date Collected: 07/24/13 Time: 1119

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1236

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	7.80		0.030	0.100
83-32-9	Acenaphthene	0.302		0.00820	0.100
208-96-8	Acenaphthylene	0.113		0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.317		0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	30.9		0.00970	0.100
85-01-8	Phenanthrene	0.151		0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW11-3Q13

Contract:

Lab File ID: 2130729/i6452

Lab Sample ID: 21307251411

Date Collected: 07/24/13 Time: 0941

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1250

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.819		0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	9.84		0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW12-3Q13

Contract:

Lab File ID: 2130729/i6453

Lab Sample ID: 21307251412

Date Collected: 07/24/13 Time: 1251

Date Received: 07/25/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1303

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	28.0		0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	73.4		0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: MB1217456

Contract:

Lab File ID: 2130729/i6438

Lab Sample ID: 1217456

Date Collected: Time:

Date Received:

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 0944

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.00970	U	0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100
91-57-6	2-Methylnaphthalene	0.030	U	0.030	0.100

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Method: 8270D SIM Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	SMC5	#	SMC6	#	TOT OUT
1.	B398PW1-3Q13	73		67		72								0
2.	B398MW2-3Q13	66		56		47								0
3.	B398MW3-3Q13	69		63		62								0
4.	B398MW4-3Q13	63		56		61								0
5.	DUP1072413	71		71		41	*							1
6.	DUP1072413DL	70		59		39	*							1
7.	B398MW5-3Q13	69		70		41	*							1
8.	B398MW5-3Q13DL	44		59		42	*							1
9.	B398MW6-3Q13	61		50		43	*							1
10.	B398MW7-3Q13	64		57		51								0
11.	B398MW8-3Q13	65		66		52								0
12.	B398MW10-3Q13	76		76		60								0
13.	B398MW11-3Q13	68		58		60								0
14.	B398MW12-3Q13	63		63		59								0
15.	MB1217456	74		69		94								0
16.	LCS1217457	74		68		91								0
17.	LCSD1217458	71		71		84								0

FORM II SV-1

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Method: 8270D SIM Level: (low/med) LOW

EPA SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	SMC5	#	SMC6	#	TOT OUT

		CONTROL LIMITS	
SMC 1	Nitrobenzene-d5	43	110
SMC 2	2-Fluorobiphenyl	16	128
SMC 3	Terphenyl-d14	47	121
SMC 4			
SMC 5			
SMC 6			

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

3C
WATER SEMIVOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Contract: Method: 8270D SIM

Prep Batch: 512477 Analytical Batch.: 512612

Spike HSN : 1217457

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	REC FLAG	QC. LIMITS
2-Methylnaphthalene	ug/L	100	0	81.8	82		30 - 120
Acenaphthene	ug/L	100	0	102	102		30 - 120
Acenaphthylene	ug/L	100	0	82	82		30 - 130
Anthracene	ug/L	100	0	80.9	81		50 - 120
Benzo(a)anthracene	ug/L	100	0	90.7	91		44 - 123
Benzo(a)pyrene	ug/L	100	0	88	88		42 - 128
Benzo(b)fluoranthene	ug/L	100	0	84.1	84		43 - 129
Benzo(g,h,i)perylene	ug/L	100	0	87.9	88		49 - 120
Benzo(k)fluoranthene	ug/L	100	0	94.7	95		46 - 126
Chrysene	ug/L	100	0	83.2	83		47 - 120
Fluoranthene	ug/L	100	0	91.7	92		37 - 129
Fluorene	ug/L	100	0	79.7	80		30 - 125
Indeno(1,2,3-cd)pyrene	ug/L	100	0	93.6	94		35 - 138
Naphthalene	ug/L	100	0	76.9	77		30 - 120
Phenanthrene	ug/L	100	0	84.4	84		43 - 120
Pyrene	ug/L	100	0	92.4	92		47 - 120

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

FORM III SV-1

3C

WATER SEMIVOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Contract: Method: 8270D SIM

Prep Batch: 512477 Analytical Batch.: 512612

Spike Dupe HSN : 1217458

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
2-Methylnaphthalene	ug/L	100	82.8	83		1		30 - 120	0 - 40
Acenaphthene	ug/L	100	106	106		4		30 - 120	0 - 40
Acenaphthylene	ug/L	100	77.7	78		5		30 - 130	0 - 40
Anthracene	ug/L	100	78.2	78		3		50 - 120	0 - 40
Benzo(a)anthracene	ug/L	100	84.5	85		7		44 - 123	0 - 40
Benzo(a)pyrene	ug/L	100	85.6	86		3		42 - 128	0 - 40
Benzo(b)fluoranthene	ug/L	100	83.9	84		.2		43 - 129	0 - 40
Benzo(g,h,i)perylene	ug/L	100	84.3	84		4		49 - 120	0 - 40
Benzo(k)fluoranthene	ug/L	100	91.2	91		4		46 - 126	0 - 40
Chrysene	ug/L	100	82.4	82		1		47 - 120	0 - 40
Fluoranthene	ug/L	100	84	84		9		37 - 129	0 - 40
Fluorene	ug/L	100	81.5	82		2		30 - 125	0 - 40
Indeno(1,2,3-cd)pyrene	ug/L	100	90.5	91		3		35 - 138	0 - 40
Naphthalene	ug/L	100	76.1	76		1		30 - 120	0 - 40
Phenanthrene	ug/L	100	81.6	82		3		43 - 120	0 - 40
Pyrene	ug/L	100	86.3	86		7		47 - 120	0 - 40

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

FORM III SV-1

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: GCAL

Lab Code: LA024 Case No.:

Lab File ID: 2130729/i6438

GC Column: RTX-5MS-30 ID: .25 (mm)

Instrument ID: MSSV5 Matrix: Water

Level: LOW

Sample ID: MB1217456

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 1217456 Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 0944

Method: 8270D SIM

Prep Batch: 512477 Analytical Batch: 512612

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1217457	1217457	2130729/i6439	07/29/13	0957
2.	LCSD1217458	1217458	2130729/i6440	07/29/13	1011
3.	B398PW1-3Q13	21307251401	2130729/i6442	07/29/13	1037
4.	B398MW2-3Q13	21307251402	2130729/i6443	07/29/13	1050
5.	B398MW3-3Q13	21307251403	2130729/i6444	07/29/13	1103
6.	B398MW4-3Q13	21307251404	2130729/i6445	07/29/13	1117
7.	DUP1072413	21307251405	2130729/i6446	07/29/13	1130
8.	B398MW5-3Q13	21307251406	2130729/i6447	07/29/13	1143
9.	B398MW7-3Q13	21307251408	2130729/i6449	07/29/13	1210
10.	B398MW8-3Q13	21307251409	2130729/i6450	07/29/13	1223
11.	B398MW10-3Q13	21307251410	2130729/i6451	07/29/13	1236
12.	B398MW11-3Q13	21307251411	2130729/i6452	07/29/13	1250
13.	B398MW12-3Q13	21307251412	2130729/i6453	07/29/13	1303
14.	DUP1072413DL	21307251405DL	2130730/i6490	07/30/13	1236
15.	B398MW5-3Q13DL	21307251406DL	2130730/i6491	07/30/13	1249
16.	B398MW6-3Q13	21307251407	2130730/i6492	07/30/13	1302

FORM IV SV

5B
Semivolatile Organics Instrument Performance Check
Decafluorotriphenylphosphine (DFTPP)

Lab Name: GCAL Contract:
Lab Code: LA024 Case No: SAS No: SDG No: 213072514
Lab File ID: 2130711/i6074s DFTPP Inj. Date: 07/11/13
Instrument ID Number: MSSV5 DFTPP Inj. Time: 0853
GC Column: RTX-5MS-30M ID: .25 (mm)
Analytical Batch: 511562

m/e	ION ABUNDANCE CRITERIA		%Relative Abundance	
51	30.0-60.0% of mass 198	35.85	( )	( )
68	Less than 2% of mass 69	0.43	(1.21)	(1)
69	Mass 69 relative abundance	35.69	( )	( )
70	Less than 2.0% of mass 69	0	(0)	(1)
127	40.0-60.0% of mass 198	48.11	( )	( )
197	Less than 1.0% of mass 198	0.68	( )	( )
198	Base Peak, 100% relative abundance	100	( )	( )
199	5.0-9.0% of mass 198	7.03	( )	( )
275	10.0-30.0% of mass 198	27.8	( )	( )
365	Greater than 1.0% of mass 198	3.44	( )	( )
441	Present, but less than mass 443	12.6	( )	( )
442	Greater than 40.00% of mass 198	133.41	( )	( )
443	17.0-23.0% of mass 442	24.45	(18.33)	(2)

(1) - Value is % mass 69 (2) - Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

Sample No.	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
STD050	1205	2130711/i6078	07/11/13	0959
STD010	1204	2130711/i6079	07/11/13	1018
STD080	1206	2130711/i6080	07/11/13	1032
STD120	1207	2130711/i6081	07/11/13	1045
STD160	1208	2130711/i6082	07/11/13	1058
STD200	1209	2130711/i6083	07/11/13	1112
STD002	1203	2130711/i6084	07/11/13	1125
STD001	1202	2130711/i6085	07/11/13	1138
STD0.1	1201	2130711/i6086	07/11/13	1152
STDICV	1600	2130711/i6087	07/11/13	1205

FORM V SV

5B

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECI

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Lab File ID: 2130729/i6431x

DFTPP Injection Date: 07/29/13 Time: 0744

GC Column: RTX-5MS-30 ID: .25 (mm)

Analytical Batch: 512612

Instrument ID: MSSV5

m / e	*ION ABUNDANCE CRITERIA*	*% Relative Abundance*
51	30.0-60.0% of mass 198	35.17 ( ) ( )
68	Less than 2% of mass 69	0 (0) (1)
69	Mass 69 relative abundance	36.41 ( ) ( )
70	Less than 2.0% of mass 69	0 (0) (1)
127	40.0-60.0% of mass 198	47.3 ( ) ( )
197	Less than 1.0% of mass 198	.37 ( ) ( )
198	Base Peak, 100% relative abundance	100 ( ) ( )
199	5.0-9.0% of mass 198	6.96 ( ) ( )
275	10.0-30.0% of mass 198	27.24 ( ) ( )
365	Greater than 1.0% of mass 198	3.37 ( ) ( )
441	Present, but less than mass 443	17.28 ( ) ( )
442	Greater than 40.00% of mass 198	141.1 ( ) ( )
443	17.0-23.0% of mass 442	26.14 (18.53) (2)

(1)-Value is % mass 69 (2)-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	*LAB SAMPLE ID*	*LAB FILE ID*	*DATE ANALYZED*	*TIME ANALYZED*
1.	STD050	1400	2130729/i6433s	07/29/13	0817
2.	MB1217456	1217456	2130729/i6438	07/29/13	0944
3.	LCS1217457	1217457	2130729/i6439	07/29/13	0957
4.	LCSD1217458	1217458	2130729/i6440	07/29/13	1011
5.	B398PW1-3Q13	21307251401	2130729/i6442	07/29/13	1037
6.	B398MW2-3Q13	21307251402	2130729/i6443	07/29/13	1050
7.	B398MW3-3Q13	21307251403	2130729/i6444	07/29/13	1103
8.	B398MW4-3Q13	21307251404	2130729/i6445	07/29/13	1117
9.	DUP1072413	21307251405	2130729/i6446	07/29/13	1130
10.	B398MW5-3Q13	21307251406	2130729/i6447	07/29/13	1143
11.	B398MW7-3Q13	21307251408	2130729/i6449	07/29/13	1210

FORM V SV

5B

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECI

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Lab File ID: 2130729/i6431x DFTPP Injection Date: 07/29/13 Time: 0744

GC Column: RTX-5MS-30 ID: .25 (mm) Analytical Batch: 512612

Instrument ID: MSSV5

12.	B398MW8-3Q13	21307251409	2130729/i6450	07/29/13	1223
13.	B398MW10-3Q13	21307251410	2130729/i6451	07/29/13	1236
14.	B398MW11-3Q13	21307251411	2130729/i6452	07/29/13	1250
15.	B398MW12-3Q13	21307251412	2130729/i6453	07/29/13	1303

5B

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECI

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072514

Lab File ID: 2130730/i6486s

DFTPP Injection Date: 07/30/13 Time: 1130

GC Column: RTX-5MS-30 ID: .25 (mm)

Analytical Batch: 512756

Instrument ID: MSSV5

m / e	*ION ABUNDANCE CRITERIA*	*% Relative Abundance*
51	30.0-60.0% of mass 198	33.58 ( ) ( )
68	Less than 2% of mass 69	0 (0) (1)
69	Mass 69 relative abundance	33.45 ( ) ( )
70	Less than 2.0% of mass 69	0 (0) (1)
127	40.0-60.0% of mass 198	45.55 ( ) ( )
197	Less than 1.0% of mass 198	0 ( ) ( )
198	Base Peak, 100% relative abundance	100 ( ) ( )
199	5.0-9.0% of mass 198	6.98 ( ) ( )
275	10.0-30.0% of mass 198	29.08 ( ) ( )
365	Greater than 1.0% of mass 198	4.3 ( ) ( )
441	Present, but less than mass 443	5.6 ( ) ( )
442	Greater than 40.00% of mass 198	154.1 ( ) ( )
443	17.0-23.0% of mass 442	29.02 (18.83) (2)

(1)-Value is % mass 69 (2)-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	*LAB SAMPLE ID*	*LAB FILE ID*	*DATE ANALYZED*	*TIME ANALYZED*
1.	STD050	1400	2130730/i6488s	07/30/13	1203
2.	DUP1072413DL	21307251405DL	2130730/i6490	07/30/13	1236
3.	B398MW5-3Q13DL	21307251406DL	2130730/i6491	07/30/13	1249
4.	B398MW6-3Q13	21307251407	2130730/i6492	07/30/13	1302

FORM V SV

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Calibration File Names:
Level 1: /var/chem/MSSV5.i/2130711.s.b/i6086.d
Level 2: /var/chem/MSSV5.i/2130711.s.b/i6085.d
Level 3: /var/chem/MSSV5.i/2130711.s.b/i6084.d
Level 4: /var/chem/MSSV5.i/2130711.s.b/i6079.d
Level 5: /var/chem/MSSV5.i/2130711.s.b/i6078.d
Level 6: /var/chem/MSSV5.i/2130711.s.b/i6080.d
Level 7: /var/chem/MSSV5.i/2130711.s.b/i6081.d
Level 8: /var/chem/MSSV5.i/2130711.s.b/i6082.d
Level 9: /var/chem/MSSV5.i/2130711.s.b/i6083.d

Compound	0.1000 Level 1	1 Level 2	2 Level 3	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 Level 7	160 Level 8	200 Level 9								
6 Naphthalene	0.98618	1.06629	1.03265	1.05299	1.03573	1.01731					
	1.01194	1.00095	0.97962				AVRG		1.02041		2.86700
7 2-Methylnaphthalene	0.71608	0.63295	0.63971	0.65604	0.66792	0.64861					
	0.63690	0.63867	0.65974				AVRG		0.65518		3.91975
9 Acenaphthylene	1.95617	2.11845	2.21569	1.58088	2.31572	2.36944					
	2.36485	2.22299	2.08869				AVRG		2.13699		11.65323

2130711S.133

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1	1 Level 2	2 Level 3	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	120 Level 7	160 Level 8	200 Level 9									
11 Acenaphthene +	1.00396	1.32324	1.28101	1.08159	1.18048	1.18882						
	1.15375	1.13790	1.12985				AVRG		1.16451		8.27530	
12 Fluorene	1.66636	1.68477	1.70032	1.36353	1.60697	1.60564						
	1.58722	1.54598	1.46329				AVRG		1.58045		6.93060	
14 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
15 Pentachlorophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
17 Phenanthrene	1.45613	1.13982	1.10909	1.11654	1.10306	1.08019						
	1.07209	1.05874	1.01537				AVRG		1.12789		11.38053	
18 Anthracene	1.55274	1.08459	1.09388	1.04858	1.09327	1.09111						
	1.09650	1.09466	1.05906				AVRG		1.13493		13.88800	
19 Fluoranthene +	1.11797	1.05007	1.09661	1.16484	1.34474	1.22434						
	1.30885	1.25856	1.20745				AVRG		1.19705		8.24502	

2130725L4 154

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1 / 120 Level 7	1 Level 2 / 160 Level 8	2 Level 3 / 200 Level 9	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
20 Pyrene	1.14724	1.07974	1.12416	1.12600	1.21377	1.09224						
	1.10688	1.12670	1.13856				AVRG		1.12837		3.41964	
22 Benzo(a)anthracene	520	3174	7714	36366	203320	311763						
	474956	679497	840715				QUAD	0.00467	0.91455	-0.00499	0.99991	
24 Chrysene	1.52294	1.27403	1.23132	1.26897	1.24532	1.24739						
	1.24250	1.17711	1.16727				AVRG		1.26409		8.21338	
25 Benzo(b)fluoranthene	239	2252	5983	33634	220402	357864						
	543365	770627	915413				QUAD	0.01169	1.01455	-0.00505	0.99909	<-
26 Benzo(k)fluoranthene	1.19900	0.97166	1.01900	1.19078	1.23114	1.23298						
	1.25556	1.20158	1.21249				AVRG		1.16824		8.62453	
27 Benzo(a)pyrene +	664	3043	7633	32420	224182	377533						
	593045	790053	952630				LINR	0.01342	1.05078		0.99982	
29 Indeno(1,2,3-cd)pyrene	369	1819	4861	24569	167746	333935						
	526299	746065	963805				QUAD	0.03474	1.18521	-0.04647	0.99922	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1 / 120 Level 7	1 Level 2 / 160 Level 8	2 Level 3 / 200 Level 9	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
30 Dibenzo(a,h)anthracene	302	2800	7010	36006	226892	404396						
	660330	865827	1032008				LINR	0.02772	1.14936		0.99915	
31 Benzo(g,h,i)perylene	1.51046	1.20433	1.22139	1.22188	1.28627	1.37476						
	1.41741	1.36755	1.31243				AVRG		1.32405		7.77599	
192 1-Methylnapthalene	0.62814	0.58994	0.58863	0.59992	0.61051	0.59123						
	0.58641	0.57791	0.59883				AVRG		0.59683		2.50870	
1 2-Fluorophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
2 Phenol-d5	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
4 Nitrobenzene-d5	0.38317	0.36079	0.39266	0.36845	0.37275	0.36906						
	0.36598	0.35987	0.35017				AVRG		0.36921		3.43773	
8 2-Fluorobiphenyl	1.57839	1.78863	1.77394	1.44215	1.69975	1.66351						
	1.71199	1.65919	1.59563				AVRG		1.65702		6.47194	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1	1 Level 2	2 Level 3	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	120 Level 7	160 Level 8	200 Level 9									
$ 13 2,4,6-Tribromophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
$ 21 Terphenyl-d14	0.67761	0.66917	0.72668	0.71467	0.77297	0.66164						
	0.68153	0.70657	0.74231				AVRG		0.70591		5.26140	

2130725 14 137

GCAL, Inc.

RECOVERY REPORT

Client Name: 48-22-14
Sample Matrix: LIQUID
Lab Smp Id: 1600
Level: LOW
Data Type: MS DATA
SpikeList File: SIMpahICV.spk
Sublist File: sim8270pah.sub
Method File: /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Misc Info: STDICV*MSSV~9732~*

Client SDG: 2130711.s
Fraction: SV
Client Smp ID: STDICV
Operator: KCB
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
6 Naphthalene	50.0	45.5	91.01	70-130
7 2-Methylnaphthalene	50.0	45.5	91.09	70-130
9 Acenaphthylene	50.0	51.2	102.37	70-130
11 Acenaphthene +	50.0	45.9	91.77	70-130
12 Fluorene	50.0	46.3	92.63	70-130
17 Phenanthrene	50.0	44.1	88.12	70-130
18 Anthracene	50.0	43.0	86.00	70-130
19 Fluoranthene +	50.0	45.7	91.38	70-130
20 Pyrene	50.0	46.4	92.81	70-130
22 Benzo(a)anthracene	50.0	44.9	89.89	70-130
24 Chrysene	50.0	44.5	89.05	70-130
25 Benzo(b)fluoranthene	50.0	41.9	83.83	70-130
26 Benzo(k)fluoranthene	50.0	49.9	99.71	70-130
27 Benzo(a)pyrene +	50.0	44.3	88.57	70-130
29 Indeno(1,2,3-cd)pyrene	50.0	41.8	83.55	70-130
30 Dibenzo(a,h)anthracene	50.0	42.4	84.85	70-130
31 Benzo(g,h,i)perylene	50.0	47.2	94.44	70-130
192 1-Methylnapthalene	50.0	47.5	94.97	70-130

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 4 Nitrobenzene-d5	50.0	43.8	87.70	43-110
$ 8 2-Fluorobiphenyl	50.0	43.2	86.33	16-128
$ 21 Terphenyl-d14	50.0	44.1	88.17	47-121

Data File: /var/chem/MSSV5.i/2130729.s.b/i6433s.d
Report Date: 29-Jul-2013 09:12

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSSV5.i
Lab File ID: i6433s.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/MSSV5.i/2130729.s.b/SIMLS_05.m

Injection Date: 29-JUL-2013 08:17
Init. Cal. Date(s): 15-MAY-2013 11-JUL-2013
Init. Cal. Times: 08:17 11:52
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 Nitrobenzene-d5	0.36921	0.37069	0.37069	0.050	0.40090	30.00000	Averaged
6 Naphthalene	1.02041	1.03359	1.03359	0.700	1.29233	30.00000	Averaged
7 2-Methylnaphthalene	0.65518	0.66959	0.66959	0.400	2.20025	30.00000	Averaged
192 1-Methylnapthalene	0.59683	0.60761	0.60761	0.400	1.80472	30.00000	Averaged
$ 8 2-Fluorobiphenyl	1.65702	1.61363	1.61363	0.050	-2.61850	30.00000	Averaged
9 Acenaphthylene	2.13699	1.89972	1.89972	0.900	-11.10292	30.00000	Averaged
11 Acenaphthene +	1.16451	1.09033	1.09033	0.900	-6.37055	20.00000	Averaged
12 Fluorene	1.58045	1.56162	1.56162	0.900	-1.19137	30.00000	Averaged
17 Phenanthrene	1.12789	1.09674	1.09674	0.700	-2.76178	30.00000	Averaged
18 Anthracene	1.13493	1.07774	1.07774	0.700	-5.03971	30.00000	Averaged
19 Fluoranthene +	1.19705	1.23126	1.23126	0.600	2.85776	20.00000	Averaged
20 Pyrene	1.12837	1.20716	1.20716	0.600	6.98304	30.00000	Averaged
$ 21 Terphenyl-d14	0.70591	0.80213	0.80213	0.050	13.63153	30.00000	Averaged
22 Benzo(a)anthracene	52.75233	50.00000	1.15868	0.800	5.50466	30.00000	Quadratic
24 Chrysene	1.26409	1.20191	1.20191	0.700	-4.91899	30.00000	Averaged
25 Benzo(b)fluoranthene	49.33716	50.00000	0.96922	0.700	-1.32567	30.00000	Quadratic
26 Benzo(k)fluoranthene	1.16824	1.31450	1.31450	0.700	12.51934	30.00000	Averaged
27 Benzo(a)pyrene +	49.81380	50.00000	1.03558	0.700	-0.37241	30.00000	Linear
29 Indeno(1,2,3-cd)pyrene	50.03383	50.00000	0.85684	0.500	0.06765	30.00000	Quadratic
30 Dibenzo(a,h)anthracene	50.42673	50.00000	1.13368	0.400	0.85346	30.00000	Linear
31 Benzo(g,h,i)perylene	1.32405	1.31914	1.31914	0.500	-0.37111	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 4.00898
Maximun Average %D/Drift = 30.00000
* Passed Average %D/Drift Test.

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSSV5.i
Lab File ID: i6488s.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/MSSV5.i/2130730.s.b/SIMLS_05.m

Injection Date: 30-JUL-2013 12:03
Init. Cal. Date(s): 15-MAY-2013 11-JUL-2013
Init. Cal. Times: 08:17 11:52
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 Nitrobenzene-d5	0.36921	0.36891	0.36891	0.050	-0.08052	30.00000	Averaged
6 Naphthalene	1.02041	1.03792	1.03792	0.700	1.71680	30.00000	Averaged
7 2-Methylnaphthalene	0.65518	0.67148	0.67148	0.400	2.48762	30.00000	Averaged
192 1-Methylnapthalene	0.59683	0.61977	0.61977	0.400	3.84346	30.00000	Averaged
$ 8 2-Fluorobiphenyl	1.65702	1.45665	1.45665	0.050	-12.09218	30.00000	Averaged
9 Acenaphthylene	2.13699	1.85574	1.85574	0.900	-13.16105	30.00000	Averaged
11 Acenaphthene +	1.16451	1.38841	1.38841	0.900	19.22706	20.00000	Averaged
12 Fluorene	1.58045	1.39940	1.39940	0.900	-11.45586	30.00000	Averaged
17 Phenanthrene	1.12789	1.09940	1.09940	0.700	-2.52632	30.00000	Averaged
18 Anthracene	1.13493	1.07691	1.07691	0.700	-5.11237	30.00000	Averaged
19 Fluoranthene +	1.19705	1.29034	1.29034	0.600	7.79371	20.00000	Averaged
20 Pyrene	1.12837	1.22121	1.22121	0.600	8.22852	30.00000	Averaged
$ 21 Terphenyl-d14	0.70591	0.81301	0.81301	0.050	15.17249	30.00000	Averaged
22 Benzo(a)anthracene	51.88208	50.00000	1.13935	0.800	3.76417	30.00000	Quadratic
24 Chrysene	1.26409	1.21129	1.21129	0.700	-4.17703	30.00000	Averaged
25 Benzo(b)fluoranthene	49.01587	50.00000	0.96281	0.700	-1.96827	30.00000	Quadratic
26 Benzo(k)fluoranthene	1.16824	1.37761	1.37761	0.700	17.92143	30.00000	Averaged
27 Benzo(a)pyrene +	50.07255	50.00000	1.04102	0.700	0.14511	30.00000	Linear
29 Indeno(1,2,3-cd)pyrene	44.95608	50.00000	0.76376	0.500	-10.08785	30.00000	Quadratic
30 Dibenzo(a,h)anthracene	47.07545	50.00000	1.05664	0.400	-5.84910	30.00000	Linear
31 Benzo(g,h,i)perylene	1.32405	1.27020	1.27020	0.500	-4.06772	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 7.18470
Maximun Average %D/Drift = 30.00000
* Passed Average %D/Drift Test.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL | Contract:

Lab Code: LA024 | Case No.: | SAS No.: | SDG No.: 213072514

Lab File ID (Standard): 2130729/i6433s | Date Analyzed: 07/29/13 | Time: 0817

Instrument ID: MSSV5 | GC Column: RTX-5MS-30M | ID: .25 (mm)

Analytical Batch: 512612 | Method: SW-846 8270D SIM

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	128590	1.86	61914	2.87	133220	3.78

EPA Sample No.		#		#		#		#		#		#
MB1217456	122116		1.86		63547		2.87		125495		3.78	
LCS1217457	106126		1.86		54954		2.87		108100		3.78	
LCSD1217458	121779		1.86		60824		2.87		122525		3.78	
B398PW1-3Q13	123993		1.86		65571		2.87		117498		3.78	
B398MW2-3Q13	121570		1.86		70713		2.87		125026		3.78	
B398MW3-3Q13	119763		1.86		63289		2.87		117186		3.78	
B398MW4-3Q13	124292		1.86		69412		2.87		120588		3.78	
DUP1072413	118689		1.86		59788		2.87		119947		3.78	
B398MW5-3Q13	115297		1.86		55321		2.87		108179		3.78	
B398MW7-3Q13	136395		1.86		72431		2.87		134953		3.78	
B398MW8-3Q13	128865		1.86		63615		2.87		129062		3.78	
B398MW10-3Q13	119165		1.86		58614		2.87		115087		3.78	
B398MW11-3Q13	108546		1.86		62073		2.87		108883		3.78	
B398MW12-3Q13	120862		1.86		61073		2.87		120489		3.78	

IS 1 ID: Naphthalene-d8
IS 2 ID: Acenaphthene-d10
IS 3 ID: Phenanthrene-d10

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 internal standard values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Lab File ID (Standard): 2130729/i6433s Date Analyzed: 07/29/13 Time: 0817

Instrument ID: MSSV5 GC Column: RTX-5MS-30M ID: .25 (mm)

Analytical Batch: 512612 Method: SW-846 8270D SIM

	IS4 Area	RT	IS5 Area	RT	IS6 Area	RT
STANDARD	139662	5.89	167492	8.11		

EPA Sample No.	IS4 Area	#	RT	#	IS5 Area	#	RT	#	IS6 Area	#	RT	#
MB1217456	129357		5.89		160562		8.11		0		0.00	
LCS1217457	118997		5.89		146831		8.11		0		0.00	
LCSD1217458	132297		5.89		163394		8.11		0		0.00	
B398PW1-3Q13	124880		5.89		148989		8.11		0		0.00	
B398MW2-3Q13	127567		5.89		150135		8.11		0		0.00	
B398MW3-3Q13	126093		5.89		149019		8.11		0		0.00	
B398MW4-3Q13	130206		5.89		154925		8.11		0		0.00	
DUP1072413	126459		5.89		147513		8.11		0		0.00	
B398MW5-3Q13	121061		5.89		136540		8.11		0		0.00	
B398MW7-3Q13	133388		5.89		166410		8.11		0		0.00	
B398MW8-3Q13	127750		5.89		157951		8.11		0		0.00	
B398MW10-3Q13	120901		5.89		145157		8.11		0		0.00	
B398MW11-3Q13	114805		5.89		137302		8.11		0		0.00	
B398MW12-3Q13	125819		5.89		147825		8.11		0		0.00	

IS 4 ID: Chrysene-d12
IS 5 ID: Perylene-d12
IS 6 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Lab File ID (Standard): 2130730/i6488s Date Analyzed: 07/30/13 Time: 1203

Instrument ID: MSSV5 GC Column: RTX-5MS-30M ID: .25 (mm)

Analytical Batch: 512756 Method: SW-846 8270D SIM

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	137103	1.86	74855	2.87	141524	3.78

EPA Sample No.	IS1 Area	#	RT	#	IS2 Area	#	RT	#	IS3 Area	#	RT	#
DUP1072413DL	117312		1.86		71417		2.87		122336		3.78	
B398MW5-3Q13DL	111253		1.86		68965		2.87		115087		3.78	
B398MW6-3Q13	125719		1.86		76973		2.87		131592		3.78	

IS 1 ID: Naphthalene-d8
IS 2 ID: Acenaphthene-d10
IS 3 ID: Phenanthrene-d10

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 internal standard values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Lab File ID (Standard): 2130730/i6488s Date Analyzed: 07/30/13 Time: 1203

Instrument ID: MSSV5 GC Column: RTX-5MS-30M ID: .25 (mm)

Analytical Batch: 512756 Method: SW-846 8270D SIM

	IS4 Area	RT	IS5 Area	RT	IS6 Area	RT
STANDARD	157558	5.89	174215	8.11		

EPA Sample No.		#		#		#		#		#		#
DUP1072413DL	131026		5.89		142618		8.11		0		0.00	
B398MW5-3Q13DL	128292		5.89		136692		8.11		0		0.00	
B398MW6-3Q13	154176		5.89		167826		8.11		0		0.00	

IS 4 ID: Chrysene-d12
IS 5 ID: Perylene-d12
IS 6 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

BASE NEUTRAL/ACID SAMPLE PREPARATION FORM 8270Ds.xls

EXTRACTION DATE/TIME: 7/26/13	Start: 6:45	End: 8:30	BATCH NO:	512477
MATRIX:	WATER ☑ SOIL ☐ OTHER ☐		LEVEL:	LOW ☑ MEDIUM ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	BN pH	Acid pH	SAMPLE TYPE	COMMENTS	METHOD
1	QC ACCOUNT	MB for HBN 512477 [EXTO/36274]	1217456	1000	1.0	>11	N/A	MB	-	LIQUID LIQUID/3520
2	QC ACCOUNT	LCS for HBN 512477 [EXTO/36274	1217457	1000	1.0	>11		LCS	-	N/A
3	QC ACCOUNT	LCSD for HBN 512477 [EXTO/3627	1217458	1000	1.0	>11		LCSD	-	SEPARATORY FUNNEL/3510
4	4841	EB072313	21307242115	1000	1.0	>11		EQBK	-	✓
5	4841	B398PW1-3Q13	21307251401	1000	1.0	>11		SAMPLE	-	SONICATOR/3550
6	4841	B398MW2-3Q13	21307251402	1000	1.0	>11		SAMPLE	-	N/A
7	4841	B398MW3-3Q13	21307251403	1000	1.0	>11		SAMPLE	-	SOXHLET/3540
8	4841	B398MW4-3Q13	21307251404	1000	1.0	>11		SAMPLE	-	N/A
9	4841	DUP1072413	21307251405	1000	1.0	>11		FLDDUP	-	GPC CLEANUP/3640
10	4841	B398MW5-3Q13	21307251406	1000	1.0	>11		SAMPLE	-	N/A
11	4841	B398MW6-3Q13	21307251407	1000	1.0	>11		SAMPLE	-	WASTE DILUTION/3580
12	4841	B398MW7-3Q13	21307251408	1000	1.0	>11		SAMPLE	-	N/A
13	4841	B398MW8-3Q13	21307251409	1000	1.0	>11		SAMPLE	-	TCLP EXTRACTION FLUID 1
14	4841	B398MW10-3Q13	21307251410	1000	1.0	>11		SAMPLE	-	N/A
15	4841	B398MW11-3Q13	21307251411	1000	1.0	>11		SAMPLE	-	TCLP EXTRACTION FLUID 2
16	4841	B398MW12-3Q13	21307251412	1000	1.0	>11		SAMPLE	-	N/A
17			213072608 01	1000	1.0	>11				MECL2/Acetone No:
18		MS	213072608 02	1000	1.0	>11				N/A
19		MSD	213072608 03	1000	1.0	>11				ACETONE LOT NO:
20			213072608 04	1000	1.0	>11				N/A
21			213072608 05	1000	1.0	>11				MeCL2 Lot No:
22			213072608 06	1000	1.0	>11				DI726
23										Sodium Sulfate Lot No:
24										0000040569
25										
26										
27										
28										

COMMENTS: SAMPLE PREPARATION INCLUDE DETERMINATION OF SAMPLE VOLUME/WEIGHT, SOLVENT EXTRACTION AND EVAPORATION OF SOLVENT TO FINAL VOLUME

BALANCE ID: N/A TEMP: 100°C

SURROGATE ID	507-100-10	8270 SPIKE ID		~~825 SP~~ S+MS SPIKE ID	507-96-9	TECHNICIAN	DATE
VOLUME	1.0mL	VOLUME		VOLUME	1.0mL	TES	7/26/13
CONCENTRATION	50/100 µg/ml	CONCENTRATION		CONCENTRATION	100 µg/ml		
NaOH	507-20-4	ACID	N/A			SUPERVISOR	DATE
SPIKE WITNESS	BDT					SKB	7-26-13

Revision 3, 10/04/2010

213072514 145

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 11-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions: _____

MISC: _____

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1100	48-13-13	i6074c.d	0.00 ml	11-JUL-2013 08:53	1.000	KCB	1	all
1100	48-13-13	i6074.d	0.00 ml	11-JUL-2013 08:53	1.000	KCB	1	all
1100	48-13-13	i6074s.d	0.00 ml	11-JUL-2013 08:53	1.000	KCB	1	all
1400	48-19-1	i6075.d	1000.00 ml	11-JUL-2013 09:12	1.000	KCB	2	8270c
1400	48-19-1	i6076.d	1000.00 ml	11-JUL-2013 09:27	1.000	KCB	2	sim8270pah
1400	48-18-1	i6077.d	1000.00 ml	11-JUL-2013 09:44	1.000	KCB	3	app9
1205	48-22-4	i6078.d	1000.00 ml	11-JUL-2013 09:59	1.000	KCB	2	sim8270pah
1204	48-22-5	i6079.d	1000.00 ml	11-JUL-2013 10:18	1.000	KCB	4	sim8270pah
1206	48-22-6	i6080.d	1000.00 ml	11-JUL-2013 10:32	1.000	KCB	5	sim8270pah
1207	48-22-7	i6081.d	1000.00 ml	11-JUL-2013 10:45	1.000	KCB	6	sim8270pah
1208	48-22-8	i6082.d	1000.00 ml	11-JUL-2013 10:58	1.000	KCB	7	sim8270pah
1209	48-22-9	i6083.d	1000.00 ml	11-JUL-2013 11:12	1.000	KCB	8	sim8270pah
1203	48-22-10	i6084.d	1000.00 ml	11-JUL-2013 11:25	1.000	KCB	9	sim8270pah
1202	48-22-11	i6085.d	1000.00 ml	11-JUL-2013 11:38	1.000	KCB	10	sim8270pah
1201	48-22-13	i6086.d	1000.00 ml	11-JUL-2013 11:52	1.000	KCB	11	sim8270pah
1600	48-22-14	i6087.d	1000.00 ml	11-JUL-2013 12:05	1.000	KCB	12	sim8270pah
1211892	BLK	i6088.d	1000.00 ml	11-JUL-2013 12:38	1.000	KCB	13	sim8270pah
1211893	LCS	i6089.d	1000.00 ml	11-JUL-2013 12:52	1.000	KCB	14	sim8270pah
1211894	LCSD	i6090.d	1000.00 ml	11-JUL-2013 13:05	1.000	KCB	15	sim8270pah
21307094701	4783	i6091.d	980.00 ml	11-JUL-2013 13:18	1.000	KCB	16	sim8270pah
21307094702	MS	i6092.d	980.00 ml	11-JUL-2013 13:31	1.000	KCB	17	sim8270pah
21307094703	MSD	i6093.d	980.00 ml	11-JUL-2013 13:45	1.000	KCB	18	sim8270pah
21307094704	4783	i6094.d	980.00 ml	11-JUL-2013 13:58	1.000	KCB	19	sim8270pah
21307094705	4783	i6095.d	980.00 ml	11-JUL-2013 14:11	1.000	KCB	20	sim8270pah
21307094706	4783	i6096.d	980.00 ml	11-JUL-2013 14:25	1.000	KCB	21	sim8270pah
21307094708	4783	i6097.d	980.00 ml	11-JUL-2013 14:38	1.000	KCB	22	sim8270pah
21307080201	4817	i6098.d	900.00 ml	11-JUL-2013 14:56	1.000	KCB	23	SA8270
1212444	BLK	i6099.d	30.00 g	11-JUL-2013 15:16	1.000	KCB	24	SA8270+a9
1212445	LCS	i6100.d	30.00 g	11-JUL-2013 15:35	1.000	KCB	25	lcs
1212446	LCSD	i6101.d	30.00 g	11-JUL-2013 15:54	1.000	KCB	26	lcs
21307105801	0115	i6102.d	30.00 g	11-JUL-2013 16:13	1.000	KCB	27	SA8270+a9
1212447	MS	i6103.d	30.00 g	11-JUL-2013 16:32	1.000	KCB	28	SA8270+a9
1212448	MSD	i6104.d	30.10 g	11-JUL-2013 16:51	1.000	KCB	29	SA8270+a9
21307105802	0115	i6105.d	30.00 g	11-JUL-2013 17:10	1.000	KCB	30	SA8270+a9
21307105803	0115	i6106.d	30.00 g	11-JUL-2013 17:28	1.000	KCB	31	SA8270+a9
SOLBLK	SOLBLK	i6107.d	1000.00 ml	11-JUL-2013 17:47	1.000	KCB	99	SA8270

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 11-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions: _____

MISC: _____

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
SOLBLK	SOLBLK	i6108.d	1000.00 ml	11-JUL-2013 18:05	1.000	KCB	99	SA8270
SOLBLK	SOLBLK	i6109.d	1000.00 ml	11-JUL-2013 18:24	1.000	KCB	100	SA8270
SOLBLK	SOLBLK	i6110.d	1000.00 ml	11-JUL-2013 18:42	1.000	KCB	100	SA8270
SOLBLK	SOLBLK	i6111.d	1000.00 ml	11-JUL-2013 19:00	1.000	KCB	100	SA8270

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 29-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions: _____

MISC: _____

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1100	48-13-13	i6430.d	0.00 ml	29-JUL-2013 07:24	1.000	KCB	1	all
1100	48-13-13	i6431c.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1100	48-13-13	i6431.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1100	48-13-13	i6431s.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1100	48-13-13	i6431xd.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1400	48-24-4	i6432.d	1000.00 ml	29-JUL-2013 08:02	1.000	KCB	2	8270c
1400	48-24-4	i6432xd.d	1000.00 ml	29-JUL-2013 08:02	1.000	KCB	2	8270c
1400	48-22-4	i6433s.d	1000.00 ml	29-JUL-2013 08:17	1.000	KCB	2	sim8270pah
1400	48-18-1	i6434.d	1000.00 ml	29-JUL-2013 08:34	1.000	KCB	3	app9
21307232602	4847	i6435.d	30.00 g	29-JUL-2013 08:52	10.000	KCB	4	pah+lcs
21307232604	4847	i6436.d	30.20 g	29-JUL-2013 09:11	10.000	KCB	5	pah+lcs
21307232605	4847	i6437.d	30.00 g	29-JUL-2013 09:29	1.000	KCB	6	pah+lcs
1217456	BLK	i6438.d	1000.00 ml	29-JUL-2013 09:44	1.000	KCB	7	sim8270pah
1217457	LCS	i6439.d	1000.00 ml	29-JUL-2013 09:57	1.000	KCB	8	sim8270pah
1217458	LCSD	i6440.d	1000.00 ml	29-JUL-2013 10:11	1.000	KCB	9	sim8270pah
21307242115	4841	i6441.d	1000.00 ml	29-JUL-2013 10:24	1.000	KCB	10	sim8270pah
21307251401	4841	i6442.d	1000.00 ml	29-JUL-2013 10:37	1.000	KCB	11	sim8270pah
21307251402	4841	i6443.d	1000.00 ml	29-JUL-2013 10:50	1.000	KCB	12	sim8270pah
21307251403	4841	i6444.d	1000.00 ml	29-JUL-2013 11:03	1.000	KCB	13	sim8270pah
21307251404	4841	i6445.d	1000.00 ml	29-JUL-2013 11:17	1.000	KCB	14	sim8270pah
21307251405	4841	i6446.d	1000.00 ml	29-JUL-2013 11:30	1.000	KCB	15	sim8270pah
21307251406	4841	i6447.d	1000.00 ml	29-JUL-2013 11:43	1.000	KCB	16	sim8270pah
21307251407	4841	i6448.d	1000.00 ml	29-JUL-2013 11:57	1.000	KCB	17	sim8270pah
21307251408	4841	i6449.d	1000.00 ml	29-JUL-2013 12:10	1.000	KCB	18	sim8270pah
21307251409	4841	i6450.d	1000.00 ml	29-JUL-2013 12:23	1.000	KCB	19	sim8270pah
21307251410	4841	i6451.d	1000.00 ml	29-JUL-2013 12:36	1.000	KCB	20	sim8270pah
21307251411	4841	i6452.d	1000.00 ml	29-JUL-2013 12:50	1.000	KCB	21	sim8270pah
21307251412	4841	i6453.d	1000.00 ml	29-JUL-2013 13:03	1.000	KCB	22	sim8270pah
21307260801	4841	i6454.d	1000.00 ml	29-JUL-2013 13:16	1.000	KCB	23	sim8270pah
21307260802	MS	i6455.d	1000.00 ml	29-JUL-2013 13:29	1.000	KCB	24	sim8270pah
21307260803	MSD	i6456.d	1000.00 ml	29-JUL-2013 13:43	1.000	KCB	25	sim8270pah
21307260804	4841	i6457.d	1000.00 ml	29-JUL-2013 13:56	1.000	KCB	26	sim8270pah
21307260805	4841	i6458.d	1000.00 ml	29-JUL-2013 14:09	1.000	KCB	27	sim8270pah
21307260806	4841	i6459.d	1000.00 ml	29-JUL-2013 14:23	1.000	KCB	28	sim8270pah
1216821	BLK	i6460.d	30.00 g	29-JUL-2013 14:36	1.000	KCB	29	sim8270pah
1216822	LCS	i6461.d	30.00 g	29-JUL-2013 15:22	1.000	KCB	30	sim8270pah

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 29-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions:

MISC:

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1216823	LCSD	i6462.d	30.00 g	29-JUL-2013 15:35	1.000	KCB	31	sim8270pah
21307242101	4841	i6463.d	30.10 g	29-JUL-2013 15:48	1.000	KCB	32	sim8270pah
21307242102	MS	i6464.d	30.00 g	29-JUL-2013 16:02	1.000	KCB	33	sim8270pah
21307242103	MSD	i6465.d	30.00 g	29-JUL-2013 16:15	1.000	KCB	34	sim8270pah
21307242104	4841	i6466.d	30.10 g	29-JUL-2013 16:28	1.000	KCB	35	sim8270pah
21307242105	4841	i6467.d	30.20 g	29-JUL-2013 16:42	1.000	KCB	36	sim8270pah
21307242106	4841	i6468.d	30.00 g	29-JUL-2013 16:55	1.000	KCB	37	sim8270pah
21307242107	4841	i6469.d	30.00 g	29-JUL-2013 17:08	1.000	KCB	38	sim8270pah
21307242108	4841	i6470.d	30.00 g	29-JUL-2013 17:21	1.000	KCB	39	sim8270pah
21307242109	4841	i6471.d	30.10 g	29-JUL-2013 17:35	1.000	KCB	40	sim8270pah
21307242110	4841	i6472.d	30.20 g	29-JUL-2013 17:48	1.000	KCB	41	sim8270pah
21307242111	4841	i6473.d	30.00 g	29-JUL-2013 18:01	1.000	KCB	42	sim8270pah
21307242112	4841	i6474.d	30.00 g	29-JUL-2013 18:14	1.000	KCB	43	sim8270pah
21307242113	4841	i6475.d	30.20 g	29-JUL-2013 18:28	1.000	KCB	44	sim8270pah
21307242114	4841	i6476.d	30.00 g	29-JUL-2013 18:41	1.000	KCB	45	sim8270pah
21307242116	4841	i6477.d	30.00 g	29-JUL-2013 18:54	1.000	KCB	46	sim8270pah
21307242117	4841	i6478.d	30.00 g	29-JUL-2013 19:08	1.000	KCB	47	sim8270pah
SOLBLK	SOLBLK	i6479.d	30.00 g	29-JUL-2013 19:25	1.000	KCB	99	sim8270pah
SOLBLK	SOLBLK	i6480.d	30.00 g	29-JUL-2013 19:44	1.000	KCB	99	sim8270pah
SOLBLK	SOLBLK	i6481.d	30.00 g	29-JUL-2013 20:03	1.000	KCB	100	sim8270pah
SOLBLK	SOLBLK	i6482.d	30.00 g	29-JUL-2013 20:22	1.000	KCB	100	sim8270pah
SOLBLK	SOLBLK	i6483.d	30.00 g	29-JUL-2013 20:40	1.000	KCB	100	sim8270pah
SOLBLK	SOLBLK	i6484.d	30.00 g	29-JUL-2013 20:59	1.000	KCB	100	sim8270pah

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 30-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions: _____

MISC: _____

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1100	48-13-13	i6485.d	0.00 ml	30-JUL-2013 11:12	1.000	KCB	1	all
1100	48-13-13	i6486c.d	0.00 ml	30-JUL-2013 11:30	1.000	KCB	1	all
1100	48-13-13	i6486.d	0.00 ml	30-JUL-2013 11:30	1.000	KCB	1	all
1100	48-13-13	i6486s.d	0.00 ml	30-JUL-2013 11:30	1.000	KCB	1	all
1400	48-24-4	i6487.d	1000.00 ml	30-JUL-2013 11:49	1.000	KCB	2	8270c
1400	48-22-4	i6488s.d	1000.00 ml	30-JUL-2013 12:03	1.000	KCB	2	sim8270pah
1400	48-18-1	i6489.d	1000.00 ml	30-JUL-2013 12:21	1.000	KCB	3	app9
21307251405	4841	i6490.d	1000.00 ml	30-JUL-2013 12:36	2.000	KCB	4	sim8270pah
21307251406	4841	i6491.d	1000.00 ml	30-JUL-2013 12:49	2.000	KCB	5	sim8270pah
21307251407	4841	i6492.d	1000.00 ml	30-JUL-2013 13:02	1.000	KCB	6	sim8270pah
21307242103	MSD	i6493.d	30.00 g	30-JUL-2013 13:16	1.000	KCB	7	sim8270pah
21307242116	4841	i6494.d	30.00 g	30-JUL-2013 13:29	2.000	KCB	8	sim8270pah
1218714	BLK	i6495.d	30.00 g	30-JUL-2013 13:42	1.000	KCB	9	sim8270pah
1218715	LCS	i6496.d	30.00 g	30-JUL-2013 13:56	1.000	KCB	10	sim8270pah
1218716	LCSD	i6497.d	30.00 g	30-JUL-2013 14:09	1.000	KCB	11	sim8270pah
21307242108	4841	i6498.d	30.00 g	30-JUL-2013 14:22	1.000	KCB	12	sim8270pah
21307242117	4841	i6499.d	30.00 g	30-JUL-2013 14:36	1.000	KCB	13	sim8270pah

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 990 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512282 Analytical Batch: 512815

Sample ID: B398PW1-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251401
Date Collected: 07/24/13 Time: 1249
Date Received: 07/25/13
Date Extracted: 07/25/13
Date Analyzed: 07/30/13 Time: 0949
Dilution Factor: 1 Analyst: PMM
Prep Method: 3510C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
Lab File ID: 2130730/sv21a006d

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	45.3	U	45.3	126

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512282 Analytical Batch: 512815

CONCENTRATION UNITS: ug/L

Sample ID: B398MW2-3Q13

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251402

Date Collected: 07/24/13 Time: 1548

Date Received: 07/25/13

Date Extracted: 07/25/13

Date Analyzed: 07/30/13 Time: 1004

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130730/sv21a007d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	318		45.3	126

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 990 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512282 Analytical Batch: 512815

CONCENTRATION UNITS: ug/L

Sample ID: B398MW3-3Q13

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251403

Date Collected: 07/24/13 Time: 0930

Date Received: 07/25/13

Date Extracted: 07/25/13

Date Analyzed: 07/30/13 Time: 1020

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130730/sv21a008d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	60.0	J	45.3	126

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Sample ID: B398MW4-3Q13
Lab Code: LA024 Case No.:
Contract:
Matrix: Water
SAS No.: SDG No.: 213072514
Sample wt/vol: 1000 Units: mL
Lab Sample ID: 21307251404
Level: (low/med) LOW
Date Collected: 07/24/13 Time: 1039
% Moisture: decanted: (Y/N)
Date Received: 07/25/13
GC Column: RTX-5-30M ID: .53 (mm)
Date Extracted: 07/25/13
Concentrated Extract Volume: 1000 (µL)
Date Analyzed: 07/30/13 Time: 1035
Soil Aliquot Volume: (µL)
Dilution Factor: 1 Analyst: PMM
Injection Volume: 1 (µL)
Prep Method: 3510C
GPC Cleanup: (Y/N) N pH:
Analytical Method: SW846 8015C
Prep Batch: 512282 Analytical Batch: 512815
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
CONCENTRATION UNITS: ug/L
Lab File ID: 2130730/sv21a009d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	72.7	J	44.9	125

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512282 Analytical Batch: 512815

CONCENTRATION UNITS: ug/L

Sample ID: DUP1072413

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251405

Date Collected: 07/24/13 Time: 0000

Date Received: 07/25/13

Date Extracted: 07/25/13

Date Analyzed: 07/30/13 Time: 1050

Dilution Factor: 5 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130730/sv21a010d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	4490		224	625

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512282 Analytical Batch: 512815

CONCENTRATION UNITS: ug/L

Sample ID: B398MW5-3Q13

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251406

Date Collected: 07/24/13 Time: 1222

Date Received: 07/25/13

Date Extracted: 07/25/13

Date Analyzed: 07/30/13 Time: 1113

Dilution Factor: 2 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130730/sv21a011d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	2880		89.7	250

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 980 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512282 Analytical Batch: 512815

CONCENTRATION UNITS: ug/L

Sample ID: B398MW6-3Q13

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251407

Date Collected: 07/24/13 Time: 1457

Date Received: 07/25/13

Date Extracted: 07/25/13

Date Analyzed: 07/30/13 Time: 1129

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130730/sv21a012d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	510		45.8	128

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 1000 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512833 Analytical Batch: 512957

Sample ID: B398MW7-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251408
Date Collected: 07/24/13 Time: 1131
Date Received: 07/25/13
Date Extracted: 07/31/13
Date Analyzed: 08/01/13 Time: 1638
Dilution Factor: 1 Analyst: PMM
Prep Method: 3510C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
Lab File ID: 2130801/sv21a030d

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	384		44.9	125

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 990 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512282 Analytical Batch: 512815

Sample ID: B398MW8-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251409
Date Collected: 07/24/13 Time: 1448
Date Received: 07/25/13
Date Extracted: 07/25/13
Date Analyzed: 07/30/13 Time: 1204
Dilution Factor: 1 Analyst: PMM
Prep Method: 3510C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
Lab File ID: 2130730/sv21a014d

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	644		45.3	126

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 980 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512282 Analytical Batch: 512815

CONCENTRATION UNITS: ug/L

Sample ID: B398MW10-3Q13

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251410

Date Collected: 07/24/13 Time: 1119

Date Received: 07/25/13

Date Extracted: 07/25/13

Date Analyzed: 07/30/13 Time: 1234

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130730/sv21a016d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	420		45.8	128

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512833 Analytical Batch: 512957

Sample ID: B398MW11-3Q13

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 21307251411

Date Collected: 07/24/13 Time: 0941

Date Received: 07/25/13

Date Extracted: 07/31/13

Date Analyzed: 08/01/13 Time: 1653

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130801/sv21a031d

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	315		44.9	125

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 1000 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512282 Analytical Batch: 512815

Sample ID: B398MW12-3Q13
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 21307251412
Date Collected: 07/24/13 Time: 1251
Date Received: 07/25/13
Date Extracted: 07/25/13
Date Analyzed: 07/30/13 Time: 1305
Dilution Factor: 1 Analyst: PMM
Prep Method: 3510C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
Lab File ID: 2130730/sv21a018d

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	1040		44.9	125

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512282 Analytical Batch: 512534

Sample ID: MB1216378

Contract:

SAS No.: SDG No.: 213072514

Lab Sample ID: 1216378

Date Collected: Time:

Date Received:

Date Extracted: 07/24/13

Date Analyzed: 07/25/13 Time: 1901

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

CONCENTRATION UNITS: ug/L

Lab File ID: 2130725/sv21a032d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	44.9	U	44.9	125

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 1000 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512833 Analytical Batch: 512957

Sample ID: MB1219321
Contract:
SAS No.: SDG No.: 213072514
Lab Sample ID: 1219321
Date Collected: Time:
Date Received:
Date Extracted: 07/31/13
Date Analyzed: 08/01/13 Time: 1450
Dilution Factor: 1 Analyst: PMM
Prep Method: 3510C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
Lab File ID: 2130801/sv21a025d

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	44.9	U	44.9	125

2E

WATER ORGANIC SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

GC Column (1): RTX-5-30M ID: .53 (mm) GC Cloumn (2): ID: (mm)

Method: SW846 8015C

EPA SAMPLE NO.	SMC1 1-(1)	Lo	Hi	F	SMC2 2	Lo	Hi	F	SMC3 3	Lo	Hi	F	SMC4 4	Lo	Hi	F	TOT OUT
1. B398PW1-3Q13	84	59	120														0
2. B398MW2-3Q13	78	59	120														0
3. B398MW3-3Q13	76	59	120														0
4. B398MW4-3Q13	85	59	120														0
5. DUP1072413	67	59	120														0
6. B398MW5-3Q13	63	59	120														0
7. B398MW6-3Q13	71	59	120														0
8. B398MW7-3Q13	76	59	120														0
9. B398MW8-3Q13	66	59	120														0
10. B398MW10-3Q13	62	59	120														0
11. B398MW11-3Q13	99	59	120														0
12. B398MW12-3Q13	70	59	120														0
13. MB1216378	100	59	120														0
14. LCS1216379	95	59	120														0
15. LCSD1216380	97	59	120														0
16. LCS1219322	82	59	120														0
17. LCSD1219323	83	59	120														0
18. MB1219321	89	59	120														0

SMC 1 : O-Terphenyl SMC 2 :

SMC 3 : SMC 4 :

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

3E

WATER ORGANICS LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Contract: Method: SW846 8015C

Prep Batch: 512833 Analytical Batch: 512957

SAMPLE NO : 1219322

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	LCS % REC FLAG	QC. LIMITS
DRO	ug/L	1000	0	840	84		47 - 120

SAMPLE NO : 1219323

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
DRO	ug/L	1000	829	83		1		47 - 120	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

3E

WATER ORGANICS LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072514

Contract: Method: SW846 8015C

Prep Batch: 512282 Analytical Batch: 512534

SAMPLE NO : 1216379

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	LCS % REC FLAG	QC. LIMITS
DRO	ug/L	1000	0	996	100		47 - 120

SAMPLE NO : 1216380

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
DRO	ug/L	1000	977	98		2		47 - 120	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

4C

ORGANIC METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1216378

Lab Code: LA024 Case No.:

Contract:

Lab Sample ID: 1216378

SAS No.: SDG No.: 213072514

Matrix: Water Sulfur Cleanup: (Y/N) N

Date Extracted: 07/24/13

Date Analyzed (1): 07/25/13 Time (1): 1901

Date Analyzed (2): Time (2):

Instrument ID (1): GCS21A

Instrument ID (2):

GC Column (1): RTX-5-30M ID: .53 (mm)

GC Column (2): ID: (mm)

Method: SW846 8015C

Prep Batch: 512282 Analytical Batch: 512534

Lab File ID: 2130725/sv21a0

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS1216379	1216379	07/25/13	1917	GCS21A
2.	LCSD1216380	1216380	07/25/13	1932	GCS21A
3.	B398PW1-3Q13	21307251401	07/30/13	0949	GCS21A
4.	B398MW2-3Q13	21307251402	07/30/13	1004	GCS21A
5.	B398MW3-3Q13	21307251403	07/30/13	1020	GCS21A
6.	B398MW4-3Q13	21307251404	07/30/13	1035	GCS21A
7.	DUP1072413	21307251405	07/30/13	1050	GCS21A
8.	B398MW5-3Q13	21307251406	07/30/13	1113	GCS21A
9.	B398MW6-3Q13	21307251407	07/30/13	1129	GCS21A
10.	B398MW8-3Q13	21307251409	07/30/13	1204	GCS21A
11.	B398MW10-3Q13	21307251410	07/30/13	1234	GCS21A
12.	B398MW12-3Q13	21307251412	07/30/13	1305	GCS21A

4C

ORGANIC METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1219321

Lab Code: LA024 Case No.:

Contract:

Lab Sample ID: 1219321

SAS No.: SDG No.: 213072514

Matrix: Water Sulfur Cleanup: (Y/N) N

Date Extracted: 07/31/13

Date Analyzed (1): 08/01/13 Time (1): 1450

Date Analyzed (2): Time (2):

Instrument ID (1): GCS21A

Instrument ID (2):

GC Column (1): RTX-5-30M ID: .53 (mm)

GC Column (2): ID: (mm)

Method: SW846 8015C

Prep Batch: 512833 Analytical Batch: 512957

Lab File ID: 2130801/sv21a0

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS1219322	1219322	08/01/13	1505	GCS21A
2.	LCSD1219323	1219323	08/01/13	1623	GCS21A
3.	B398MW7-3Q13	21307251408	08/01/13	1638	GCS21A
4.	B398MW11-3Q13	21307251411	08/01/13	1653	GCS21A

FORM IV ORGANIC

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-APR-2013 11:51
End Cal Date : 25-APR-2013 09:55
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /var/chem/gcsv21a.i/2130725.b/DRO.m
Cal Date : 26-Jul-2013 15:05 pmm
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcsv21a.i/2130425.b/sv21a003s.d
Level 2: /var/chem/gcsv21a.i/2130425.b/sv21a004s.d
Level 3: /var/chem/gcsv21a.i/2130425.b/sv21a005s.d
Level 4: /var/chem/gcsv21a.i/2130425.b/sv21a006d.d
Level 5: /var/chem/gcsv21a.i/2130425.b/sv21a007s.d

Compound	125.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	2000.000 Level 5	RRF	% RSD
1 DRO	2498452	2859870	2719950	2724559	2669587	2694483	4.837
$ 9 O-TERPHENYL	3136601	3412360	3191419	3143747	3068959	3190617	4.119

GCAL, Inc.

Data file : /var/chem/gcsv21a.i/2130425.b/sv21a002d.d
Lab Smp Id: DCM LOT #L026260
Inj Date : 25-APR-2013 08:39
Operator : pmm Inst ID: gcsv21a.i
Smp Info : DCM LOT #L026260
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130425.b/DRO.m
Meth Date : 25-Apr-2013 14:18 pmm Quant Type: ESTD
Cal Date : 03-APR-2013 12:51 Cal File: sv21a007s.d
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (UG/ML)	CONCENTRATIONS FINAL (ug/L)
1 DRO	6.726	4.750	1.976	23079174	8.46678	8.47(M1)

QC Flag Legend

M1- Compound response manually integrated because
Target system did not integrate.

Report Date: 29-Apr-2013 11:47

GCAL, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 2130425
Sample Matrix: LIQUID
Fraction: SV
Lab Smp Id: 1600
Level: MED
Operator: pmm
Data Type: GC MULTI COMP
SampleType: LCS
SpikeList File: droicv.spk
Quant Type: ESTD
Sublist File: DRO.sub
Method File: /var/chem/gcsv21a.i/2130425.b/DRO.m
Misc Info:

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 DRO	500	461	92.20	85-115

GCAL, Inc.

Data file : /var/chem/gcsv21a.i/2130725.b/sv21a002d.d
Lab Smp Id: DCM 0000045679
Inj Date : 25-JUL-2013 10:34
Operator : pmm Inst ID: gcsv21a.i
Smp Info : DCM 0000045679
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130725.b/DRO.m
Meth Date : 26-Jul-2013 15:05 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (UG/ML)	CONCENTRATIONS FINAL (ug/L)
1 DRO	2.482	4.747	-2.265	30943183	11.4839	11.5(M1)

QC Flag Legend

M1- Compound response manually integrated because
Target system did not integrate.

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130725.b/sv21a026d.d
DCM file : /var/chem/gcsv21a.i/2130725.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 25-JUL-2013 17:29
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130725.b/DRO.m
Meth Date : 26-Jul-2013 15:01 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 26 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1419193370 - 75737687}{500.000}$$

$$= \frac{1343455683}{500.000}$$

$$= 2686911.4$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2686911.4 - 2694483}{2694483} \times 100$$

$$= -0.28\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130725.b/sv21a036d.d
DCM file : /var/chem/gcsv21a.i/2130725.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 25-JUL-2013 20:03
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130725.b/DRO.m
Meth Date : 26-Jul-2013 15:02 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 36 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1373766316 - 71493929}{500.000}$$

$$= \frac{1302272387}{500.000}$$

$$= 2604544.8$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2604544.8 - 2694483}{2694483} \times 100$$

$$= -3.34\ \%$$

GCAL, Inc.

Data file : /var/chem/gcsv21a.i/2130730.b/sv21a002d.d
Lab Smp Id: DCM 0000045679
Inj Date : 30-JUL-2013 08:46
Operator : pmm Inst ID: gcsv21a.i
Smp Info : DCM 0000045679
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130730.b/DRO.m
Meth Date : 30-Jul-2013 09:25 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (UG/ML)	CONCENTRATIONS FINAL (ug/L)
1 DRO	1.998	4.746	-2.748	38463023	14.2747	14.3(M1)

QC Flag Legend

M1- Compound response manually integrated because
Target system did not integrate.

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130730.b/sv21a003d.d
DCM file : /var/chem/gcsv21a.i/2130730.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 30-JUL-2013 09:01
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130730.b/DRO.m
Meth Date : 31-Jul-2013 11:17 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1309094663 - 68737352}{500.000}$$

$$= \frac{1240357311}{500.000}$$

$$= 2480714.6$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2480714.6 - 2694483}{2694483} \times 100$$

$$= -7.93\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130730.b/sv21a015d.d
DCM file : /var/chem/gcsv21a.i/2130730.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 30-JUL-2013 12:19
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130730.b/DRO.m
Meth Date : 31-Jul-2013 11:18 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 15 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1279467331 - 68866891}{500.000}$$

$$= \frac{1210600440}{500.000}$$

$$= 2421200.9$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2421200.9 - 2694483}{2694483} \times 100$$

$$= -10.14\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130730.b/sv21a026d.d
DCM file : /var/chem/gcsv21a.i/2130730.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 30-JUL-2013 15:12
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130730.b/DRO.m
Meth Date : 31-Jul-2013 11:19 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 26 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{\text{(DRO Area) - (Surr Area)}}{\text{Conc}} = \frac{1299986610 - 68927005}{500.000}$$

$$= \frac{1231059605}{500.000}$$

$$= 2462119.2$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2462119.2 - 2694483}{2694483} \times 100$$

$$= -8.62\ \%$$

GCAL, Inc.

Data file : /var/chem/gcsv21a.i/2130801.b/sv21a002d.d
Lab Smp Id: DCM 0000045679
Inj Date : 01-AUG-2013 08:29
Operator : pmm Inst ID: gcsv21a.i
Smp Info : DCM 0000045679
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130801.b/DRO.m
Meth Date : 02-Aug-2013 09:43 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (UG/ML)	FINAL (ug/L)
1 DRO	6.620	4.746	1.874	37312054	13.8476	13.8(M1)

QC Flag Legend

M1- Compound response manually integrated because
Target system did not integrate.

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130801.b/sv21a015d.d
DCM file : /var/chem/gcsv21a.i/2130801.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 01-AUG-2013 12:16
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130801.b/DRO.m
Meth Date : 02-Aug-2013 09:42 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 15 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1451866239 - 77901194}{500.000}$$

$$= \frac{1373965045}{500.000}$$

$$= 2747930.1$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2747930.1 - 2694483}{2694483} \times 100$$

$$= 1.98\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130801.b/sv21a027d.d
DCM file : /var/chem/gcsv21a.i/2130801.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 01-AUG-2013 15:21
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130801.b/DRO.m
Meth Date : 02-Aug-2013 09:42 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 27 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1256168949 - 65760814}{500.000}$$

$$= \frac{1190408135}{500.000}$$

$$= 2380816.3$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2380816.3 - 2694483}{2694483} \times 100$$

$$= -11.64\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130801.b/sv21a039d.d
DCM file : /var/chem/gcsv21a.i/2130801.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 01-AUG-2013 18:57
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130801.b/DRO.m
Meth Date : 02-Aug-2013 09:43 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 39 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1252714332 - 67992783}{500.000}$$

$$= \frac{1184721549}{500.000}$$

$$= 2369443.1$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2369443.1 - 2694483}{2694483} \times 100$$

$$= -12.06\ \%$$

TPHD/TPHO SAMPLE PREPARATION FORM

7/25/13 @ 1700

EXTRACTION DATE/TIME: 7/24/13	Start: 1400 End: 1600	BATCH NO: 512282 TPHB
MATRIX:	WATER ☑ SOIL ☐ OTHER ☐	LEVEL: LOW ☑ MEDIUM ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	Init pH	SAMPLE TYPE	COMMENTS	METHOD
1	QC ACCOUNT	MB for HBN 512282 [EXTO/36251]	1216378	1000	1.0	<2	MB		SOXHLET/3540
2	QC ACCOUNT	LCS for HBN 512282 [EXTO/36251	1216379	1000	1.0	<2	LCS		
3	QC ACCOUNT	LCSD for HBN 512282 [EXTO/3625	1216380	1000	1.0	<2	LCSD		SONICATOR/3550
4	4380	JM38-EB1-071913	21307240214	1000	1.0	<2	EQBK		
5	4841	EB072313	21307242115	990	1.0	<2	EQBK	added @ 1300	SHAKER
6	4841	B398PW1-3Q13	21307251401	990	1.0	<2	SAMPLE	7/25/13	
7	4841	B398MW2-3Q13	21307251402	990	1.0	<2	SAMPLE		SEPARATORY FUNNEL/3510
8	4841	B398MW3-3Q13	21307251403	990	1.0	<2	SAMPLE		
9	4841	B398MW4-3Q13	21307251404	1000	1.0	<2	SAMPLE		LIQUID/LIQUID
10	4841	DUP1072413	21307251405	1000	1.0	<2	FLDDUP		
11	4841	B398MW5-3Q13	21307251406	1000	1.0	<2	SAMPLE		
12	4841	B398MW6-3Q13	21307251407	980	1.0	<2	SAMPLE		
13	4841	B398MW7-3Q13	21307251408	990	1.0	<2	SAMPLE	Reprepped	
14	4841	B398MW8-3Q13	21307251409	990	1.0	<2	SAMPLE		
15	4841	B398MW10-3Q13	21307251410	986	1.0	<2	SAMPLE		
16	4841	B398MW11-3Q13	21307251411	990	1.0	<2	SAMPLE	Reprepped	
17	4841	B398MW12-3Q13	21307251412	1000	1.0	<2	SAMPLE		
18									
19									
20									
21									
22									
23									MeCL2 Lot No:
24									DK9W4
25									
26									
27									Sodium Sulfate Lot No:
28									0000050377

COMMENTS: SAMPLE PREPARATION INCLUDE DETERMINATION OF SAMPLE VOLUME/WEIGHT, SOLVENT EXTRACTION AND EVAPORATION OF SOLVENT TO FINAL VOLUME

BALANCE ID: _____ TEMP: 98

TPHD SURR ID	507-100-3	TPHD SPIKE ID	507-90-1	TPHO SPIKE ID		TECHNICIAN	DATE
VOLUME	1.0 ul	VOLUME	1.0 ul	VOLUME		AMR	7/24/13
CONCENTRATION	50 µ	CONCENTRATION	1000 µ	CONCENTRATION			
		ACID	36-10-2			SUPERVISOR	DATE
SPIKE WITNESS	DG					SKB	7-26-13

Revision 3, 10/04/2010

TPHD/TPHO SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME: 7/31/13	Start: 16:30 End: 8/1/13 8:00	BATCH NO:	512833
MATRIX:	WATER ☑ SOIL ☐ OTHER ☐	LEVEL:	LOW ☑ MEDIUM ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	Init pH	SAMPLE TYPE	COMMENTS	METHOD
1	QC ACCOUNT	MB for HBN 512833 [EXTO/36317]	1219321	1000	1.0	<2	MB		SOXHLET/3540
2	QC ACCOUNT	LCS for HBN 512833 [EXTO/36317	1219322	1000	1.0	<2	LCS		N/A
3	QC ACCOUNT	LCSD for HBN 512833 [EXTO/3631	1219323	1000	1.0	<2	LCSD		SONICATOR/3550
4	4841	B398MW7-3Q13	21307251408	1000	1.0	<2	SAMPLE		N/A
5	4841	B398MW11-3Q13	21307251411	1000	1.0	<2	SAMPLE		SHAKER
6	4565	208177	21307313101	970	1.0	<2	SAMPLE		✓
7									SEPARATORY FUNNEL/3510
8									✓
9									LIQUID/LIQUID
10									N/A
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									MeCL2 Lot No:
24									DT 726
25									
26									
27									Sodium Sulfate Lot No:
28									0000046776

COMMENTS: SAMPLE PREPARATION INCLUDE DETERMINATION OF SAMPLE VOLUME/WEIGHT, SOLVENT EXTRACTION AND EVAPORATION OF SOLVENT TO FINAL VOLUME

BALANCE ID: N/A TEMP: 100°C

TPHD SURR ID	507-100-7	TPHD SPIKE ID	507-90-1	TPHO SPIKE ID		TECHNICIAN	DATE
VOLUME	1.0 mL	VOLUME	1.0 mL	VOLUME		TES	8/1/13
CONCENTRATION	50 µg/mL	CONCENTRATION	1000 µg/mL	CONCENTRATION			
		ACID	36-16-2			SUPERVISOR	DATE
SPIKE WITNESS	[illegible]					SKB	8-1-13

Revision 3, 10/04/2010

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 04/29/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130425.b/CM.m
Batch: /var/chem/gcsv21a.i/2130425.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21a001d.d	35.00 ml	25-APR-2013 08:24	1.000	pmm	1	8015
DCM LOT #L0262		sv21a002d.d	1000.00 ml	25-APR-2013 08:39	1.000	pmm	2	DRO
DCM LOT #L0262		sv21a002o.d	1000.00 ml	25-APR-2013 08:39	1.000	pmm	2	all
1201		sv21a003d.d	1000.00 ml	25-APR-2013 08:54	1.000	pmm	3	DRO
1201		sv21a003s.d	1000.00 ml	25-APR-2013 08:54	1.000	pmm	3	O-TERPH
1202		sv21a004d.d	1000.00 ml	25-APR-2013 09:09	1.000	pmm	4	DRO
1202		sv21a004s.d	1000.00 ml	25-APR-2013 09:09	1.000	pmm	4	O-TERPH
1203		sv21a005d.d	1000.00 ml	25-APR-2013 09:25	1.000	pmm	5	DRO
1203		sv21a005s.d	1000.00 ml	25-APR-2013 09:25	1.000	pmm	5	O-TERPH
1204		sv21a006d.d	1000.00 ml	25-APR-2013 09:40	1.000	pmm	6	DRO
1204		sv21a006s.d	1000.00 ml	25-APR-2013 09:40	1.000	pmm	6	O-TERPH
1205		sv21a007d.d	1000.00 ml	25-APR-2013 09:55	1.000	pmm	7	DRO
1205		sv21a007s.d	1000.00 ml	25-APR-2013 09:55	1.000	pmm	7	O-TERPH
1600		sv21a008d.d	1.00 ml	25-APR-2013 10:10	1.000	pmm	8	DRO
DCM LOT #L0262		sv21a009d.d	1000.00 ml	25-APR-2013 10:25	1.000	pmm	9	DRO
DCM LOT #L0262		sv21a009o.d	1000.00 ml	25-APR-2013 10:25	1.000	pmm	9	all
1201		sv21a010o.d	1000.00 ml	25-APR-2013 10:41	1.000	pmm	10	all
1202		sv21a011o.d	1000.00 ml	25-APR-2013 10:56	1.000	pmm	11	all
1203		sv21a012o.d	1000.00 ml	25-APR-2013 11:11	1.000	pmm	12	all
1204		sv21a013o.d	1000.00 ml	25-APR-2013 11:26	1.000	pmm	13	all
1205		sv21a014o.d	1000.00 ml	25-APR-2013 11:41	1.000	pmm	14	all
1600		sv21a015o.d	1.00 ml	25-APR-2013 11:56	1.000	pmm	15	all
DCM LOT #L0262		sv21a016d.d	1000.00 ml	25-APR-2013 12:11	1.000	pmm	100	DRO
DCM LOT #L0262		sv21a016o.d	1000.00 ml	25-APR-2013 12:11	1.000	pmm	100	all

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/30/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130725.b/CM.m
Batch: /var/chem/gcsv21a.i/2130725.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21a001d.d	35.00 ml	25-JUL-2013 10:18	1.000	pmm	1	8015
DCM 0000045679		sv21a002d.d	1000.00 ml	25-JUL-2013 10:34	1.000	pmm	2	DRO
DCM 0000045679		sv21a002o.d	1000.00 ml	25-JUL-2013 10:34	1.000	pmm	2	all
1400		sv21a003d.d	1000.00 ml	25-JUL-2013 10:49	1.000	pmm	3	DRO
1400		sv21a003s.d	1000.00 ml	25-JUL-2013 10:49	1.000	pmm	3	O-TERPH
1216344		sv21a005d.d	30.00 g	25-JUL-2013 11:19	1.000	pmm	5	DRO
1216344		sv21a005s.d	30.00 g	25-JUL-2013 11:19	1.000	pmm	5	O-TERPH
1216345		sv21a006d.d	30.00 g	25-JUL-2013 11:35	1.000	pmm	6	DRO
1216345		sv21a006s.d	30.00 g	25-JUL-2013 11:35	1.000	pmm	6	O-TERPH
1216346		sv21a007d.d	30.00 g	25-JUL-2013 11:50	1.000	pmm	7	DRO
1216346		sv21a007s.d	30.00 g	25-JUL-2013 11:50	1.000	pmm	7	O-TERPH
21307232101		sv21a008d.d	10.00 g	25-JUL-2013 12:05	400.000	pmm	8	DRO
21307232101		sv21a008s.d	10.00 g	25-JUL-2013 12:05	400.000	pmm	8	O-TERPH
21307232102		sv21a009d.d	10.00 g	25-JUL-2013 12:21	400.000	pmm	9	DRO
21307232102		sv21a009s.d	10.00 g	25-JUL-2013 12:21	400.000	pmm	9	O-TERPH
21307232103		sv21a010d.d	10.50 g	25-JUL-2013 12:36	400.000	pmm	10	DRO
21307232103		sv21a010s.d	10.50 g	25-JUL-2013 12:36	400.000	pmm	10	O-TERPH
21307232104		sv21a011d.d	10.10 g	25-JUL-2013 12:51	400.000	pmm	11	DRO
21307232104		sv21a011s.d	10.10 g	25-JUL-2013 12:51	400.000	pmm	11	O-TERPH
1216347		sv21a012d.d	10.40 g	25-JUL-2013 13:06	400.000	pmm	12	DRO
1216347		sv21a012s.d	10.40 g	25-JUL-2013 13:06	400.000	pmm	12	O-TERPH
1216348		sv21a013d.d	10.10 g	25-JUL-2013 13:22	400.000	pmm	13	DRO
1216348		sv21a013s.d	10.10 g	25-JUL-2013 13:22	400.000	pmm	13	O-TERPH
21307232105		sv21a014d.d	10.10 g	25-JUL-2013 13:37	100.000	pmm	14	DRO
21307232105		sv21a014s.d	10.10 g	25-JUL-2013 13:37	100.000	pmm	14	O-TERPH
1400		sv21a015d.d	1000.00 ml	25-JUL-2013 13:52	1.000	pmm	15	DRO
1400		sv21a015s.d	1000.00 ml	25-JUL-2013 13:52	1.000	pmm	15	O-TERPH
21307232106		sv21a016d.d	10.20 g	25-JUL-2013 14:20	400.000	pmm	16	DRO
21307232106		sv21a016s.d	10.20 g	25-JUL-2013 14:20	400.000	pmm	16	O-TERPH
21307232107		sv21a017d.d	10.50 g	25-JUL-2013 14:35	400.000	pmm	17	DRO
21307232107		sv21a017s.d	10.50 g	25-JUL-2013 14:35	400.000	pmm	17	O-TERPH
21307232108		sv21a018d.d	10.10 g	25-JUL-2013 14:50	200.000	pmm	18	DRO
21307232108		sv21a018s.d	10.10 g	25-JUL-2013 14:50	200.000	pmm	18	O-TERPH
21307232109		sv21a019d.d	10.00 g	25-JUL-2013 15:08	400.000	pmm	19	DRO
21307232109		sv21a019s.d	10.00 g	25-JUL-2013 15:08	400.000	pmm	19	O-TERPH
21307232110		sv21a020d.d	10.20 g	25-JUL-2013 15:24	400.000	pmm	20	DRO

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/30/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130725.b/CM.m
Batch: /var/chem/gcsv21a.i/2130725.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307232110		sv21a020s.d	10.20 g	25-JUL-2013 15:24	400.000	pmm	20	O-TERPH
21307232111		sv21a021d.d	10.10 g	25-JUL-2013 15:39	400.000	pmm	21	DRO
21307232111		sv21a021s.d	10.10 g	25-JUL-2013 15:39	400.000	pmm	21	O-TERPH
21307232112		sv21a022d.d	10.40 g	25-JUL-2013 15:59	200.000	pmm	22	DRO
21307232112		sv21a022s.d	10.40 g	25-JUL-2013 15:59	200.000	pmm	22	O-TERPH
21307232113		sv21a023d.d	10.00 g	25-JUL-2013 16:24	200.000	pmm	23	DRO
21307232113		sv21a023s.d	10.00 g	25-JUL-2013 16:24	200.000	pmm	23	O-TERPH
21307232114		sv21a024d.d	10.00 g	25-JUL-2013 16:58	400.000	pmm	24	DRO
21307232114		sv21a024s.d	10.00 g	25-JUL-2013 16:58	400.000	pmm	24	O-TERPH
21307232115		sv21a025d.d	10.50 g	25-JUL-2013 17:13	200.000	pmm	25	DRO
21307232115		sv21a025s.d	10.50 g	25-JUL-2013 17:13	200.000	pmm	25	O-TERPH
1400		sv21a026d.d	1000.00 ml	25-JUL-2013 17:29	1.000	pmm	26	DRO
1400		sv21a026s.d	1000.00 ml	25-JUL-2013 17:29	1.000	pmm	26	O-TERPH
21307232116		sv21a027d.d	10.10 g	25-JUL-2013 17:44	200.000	pmm	27	DRO
21307232116		sv21a027s.d	10.10 g	25-JUL-2013 17:44	200.000	pmm	27	O-TERPH
21307232117		sv21a028d.d	10.30 g	25-JUL-2013 17:59	400.000	pmm	28	DRO
21307232117		sv21a028s.d	10.30 g	25-JUL-2013 17:59	400.000	pmm	28	O-TERPH
21307232118		sv21a029d.d	10.20 g	25-JUL-2013 18:15	200.000	pmm	29	DRO
21307232118		sv21a029s.d	10.20 g	25-JUL-2013 18:15	200.000	pmm	29	O-TERPH
21307232119		sv21a030d.d	10.50 g	25-JUL-2013 18:31	100.000	pmm	30	DRO
21307232119		sv21a030s.d	10.50 g	25-JUL-2013 18:31	100.000	pmm	30	O-TERPH
21307232120		sv21a031d.d	10.10 g	25-JUL-2013 18:46	400.000	pmm	31	DRO
21307232120		sv21a031s.d	10.10 g	25-JUL-2013 18:46	400.000	pmm	31	O-TERPH
1216378		sv21a032d.d	1000.00 ml	25-JUL-2013 19:01	1.000	pmm	32	DRO
1216378		sv21a032s.d	1000.00 ml	25-JUL-2013 19:01	1.000	pmm	32	O-TERPH
1216379		sv21a033d.d	1000.00 ml	25-JUL-2013 19:17	1.000	pmm	33	DRO
1216379		sv21a033s.d	1000.00 ml	25-JUL-2013 19:17	1.000	pmm	33	O-TERPH
1216380		sv21a034d.d	1000.00 ml	25-JUL-2013 19:32	1.000	pmm	34	DRO
1216380		sv21a034s.d	1000.00 ml	25-JUL-2013 19:32	1.000	pmm	34	O-TERPH
21307240214		sv21a035d.d	1000.00 ml	25-JUL-2013 19:47	1.000	pmm	35	DRO
21307240214		sv21a035s.d	1000.00 ml	25-JUL-2013 19:47	1.000	pmm	35	O-TERPH
1400		sv21a036d.d	1000.00 ml	25-JUL-2013 20:03	1.000	pmm	36	DRO
1400		sv21a036s.d	1000.00 ml	25-JUL-2013 20:03	1.000	pmm	36	O-TERPH

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/31/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130730.b/CM.m
Batch: /var/chem/gcsv21a.i/2130730.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21a001d.d	35.00 ml	30-JUL-2013 08:30	1.000	pmm	1	8015
DCM 0000045679		sv21a002d.d	1000.00 ml	30-JUL-2013 08:46	1.000	pmm	2	DRO
DCM 0000045679		sv21a002o.d	1000.00 ml	30-JUL-2013 08:46	1.000	pmm	2	all
1400		sv21a003d.d	1000.00 ml	30-JUL-2013 09:01	1.000	pmm	3	DRO
1400		sv21a003s.d	1000.00 ml	30-JUL-2013 09:01	1.000	pmm	3	O-TERPH
1400		sv21a004o.d	1000.00 ml	30-JUL-2013 09:16	1.000	pmm	4	all
21307242115		sv21a005d.d	990.00 ml	30-JUL-2013 09:31	1.000	pmm	5	DRO
21307242115		sv21a005s.d	990.00 ml	30-JUL-2013 09:31	1.000	pmm	5	O-TERPH
21307251401		sv21a006d.d	990.00 ml	30-JUL-2013 09:49	1.000	pmm	6	DRO
21307251401		sv21a006s.d	990.00 ml	30-JUL-2013 09:49	1.000	pmm	6	O-TERPH
21307251402		sv21a007d.d	990.00 ml	30-JUL-2013 10:04	1.000	pmm	7	DRO
21307251402		sv21a007s.d	990.00 ml	30-JUL-2013 10:04	1.000	pmm	7	O-TERPH
21307251403		sv21a008d.d	990.00 ml	30-JUL-2013 10:20	1.000	pmm	8	DRO
21307251403		sv21a008s.d	990.00 ml	30-JUL-2013 10:20	1.000	pmm	8	O-TERPH
21307251404		sv21a009d.d	1000.00 ml	30-JUL-2013 10:35	1.000	pmm	9	DRO
21307251404		sv21a009s.d	1000.00 ml	30-JUL-2013 10:35	1.000	pmm	9	O-TERPH
21307251405		sv21a010d.d	1000.00 ml	30-JUL-2013 10:50	5.000	pmm	10	DRO
21307251405		sv21a010s.d	1000.00 ml	30-JUL-2013 10:50	5.000	pmm	10	O-TERPH
21307251406		sv21a011d.d	1000.00 ml	30-JUL-2013 11:13	2.000	pmm	11	DRO
21307251406		sv21a011s.d	1000.00 ml	30-JUL-2013 11:13	2.000	pmm	11	O-TERPH
21307251407		sv21a012d.d	980.00 ml	30-JUL-2013 11:29	1.000	pmm	12	DRO
21307251407		sv21a012s.d	980.00 ml	30-JUL-2013 11:29	1.000	pmm	12	O-TERPH
21307251408		sv21a013d.d	990.00 ml	30-JUL-2013 11:48	1.000	pmm	13	DRO
21307251408		sv21a013s.d	990.00 ml	30-JUL-2013 11:48	1.000	pmm	13	O-TERPH
21307251409		sv21a014d.d	990.00 ml	30-JUL-2013 12:04	1.000	pmm	14	DRO
21307251409		sv21a014s.d	990.00 ml	30-JUL-2013 12:04	1.000	pmm	14	O-TERPH
1400		sv21a015d.d	1000.00 ml	30-JUL-2013 12:19	1.000	pmm	15	DRO
1400		sv21a015s.d	1000.00 ml	30-JUL-2013 12:19	1.000	pmm	15	O-TERPH
21307251410		sv21a016d.d	980.00 ml	30-JUL-2013 12:34	1.000	pmm	16	DRO
21307251410		sv21a016s.d	980.00 ml	30-JUL-2013 12:34	1.000	pmm	16	O-TERPH
21307251411		sv21a017d.d	990.00 ml	30-JUL-2013 12:49	1.000	pmm	17	DRO
21307251411		sv21a017s.d	990.00 ml	30-JUL-2013 12:49	1.000	pmm	17	O-TERPH
21307251412		sv21a018d.d	1000.00 ml	30-JUL-2013 13:05	1.000	pmm	18	DRO
21307251412		sv21a018s.d	1000.00 ml	30-JUL-2013 13:05	1.000	pmm	18	O-TERPH
21307232141		sv21a019d.d	10.00 g	30-JUL-2013 13:20	400.000	pmm	19	DRO
21307232141		sv21a019s.d	10.00 g	30-JUL-2013 13:20	400.000	pmm	19	O-TERPH

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/31/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130730.b/CM.m
Batch: /var/chem/gcsv21a.i/2130730.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307232142		sv21a020d.d	10.00 g	30-JUL-2013 13:36	100.000	pmm	20	DRO
21307232142		sv21a020s.d	10.00 g	30-JUL-2013 13:36	100.000	pmm	20	O-TERPH
21307232143		sv21a021d.d	10.00 g	30-JUL-2013 13:51	100.000	pmm	21	DRO
21307232143		sv21a021s.d	10.00 g	30-JUL-2013 13:51	100.000	pmm	21	O-TERPH
21307232144		sv21a022d.d	10.10 g	30-JUL-2013 14:06	200.000	pmm	22	DRO
21307232144		sv21a022s.d	10.10 g	30-JUL-2013 14:06	200.000	pmm	22	O-TERPH
21307232145		sv21a023d.d	10.20 g	30-JUL-2013 14:21	400.000	pmm	23	DRO
21307232145		sv21a023s.d	10.20 g	30-JUL-2013 14:21	400.000	pmm	23	O-TERPH
1216368		sv21a024d.d	10.00 g	30-JUL-2013 14:37	400.000	pmm	24	DRO
1216368		sv21a024s.d	10.00 g	30-JUL-2013 14:37	400.000	pmm	24	O-TERPH
1216369		sv21a025d.d	10.00 g	30-JUL-2013 14:52	400.000	pmm	25	DRO
1216369		sv21a025s.d	10.00 g	30-JUL-2013 14:52	400.000	pmm	25	O-TERPH
1400		sv21a026d.d	1000.00 ml	30-JUL-2013 15:12	1.000	pmm	26	DRO
1400		sv21a026s.d	1000.00 ml	30-JUL-2013 15:12	1.000	pmm	26	O-TERPH
21307232146		sv21a027d.d	10.10 g	30-JUL-2013 15:28	400.000	pmm	27	DRO
21307232146		sv21a027s.d	10.10 g	30-JUL-2013 15:28	400.000	pmm	27	O-TERPH
21307232147		sv21a028d.d	10.10 g	30-JUL-2013 15:44	400.000	pmm	28	DRO
21307232147		sv21a028s.d	10.10 g	30-JUL-2013 15:44	400.000	pmm	28	O-TERPH
21307232148		sv21a029d.d	10.00 g	30-JUL-2013 15:59	800.000	pmm	29	DRO
21307232148		sv21a029s.d	10.00 g	30-JUL-2013 15:59	800.000	pmm	29	O-TERPH
21307232149		sv21a030d.d	10.20 g	30-JUL-2013 16:15	800.000	pmm	30	DRO
21307232149		sv21a030s.d	10.20 g	30-JUL-2013 16:15	800.000	pmm	30	O-TERPH
21307232150		sv21a031d.d	10.30 g	30-JUL-2013 16:30	800.000	pmm	31	DRO
21307232150		sv21a031s.d	10.30 g	30-JUL-2013 16:30	800.000	pmm	31	O-TERPH
21307232151		sv21a032d.d	10.00 g	30-JUL-2013 16:46	200.000	pmm	32	DRO
21307232151		sv21a032s.d	10.00 g	30-JUL-2013 16:46	200.000	pmm	32	O-TERPH
21307232152		sv21a033d.d	10.00 g	30-JUL-2013 17:02	800.000	pmm	33	DRO
21307232152		sv21a033s.d	10.00 g	30-JUL-2013 17:02	800.000	pmm	33	O-TERPH
21307232153		sv21a034d.d	10.00 g	30-JUL-2013 17:17	400.000	pmm	34	DRO
21307232153		sv21a034s.d	10.00 g	30-JUL-2013 17:17	400.000	pmm	34	O-TERPH
21307232154		sv21a035d.d	10.00 g	30-JUL-2013 17:33	200.000	pmm	35	DRO
21307232154		sv21a035s.d	10.00 g	30-JUL-2013 17:33	200.000	pmm	35	O-TERPH
21307232155		sv21a036d.d	10.00 g	30-JUL-2013 17:48	200.000	pmm	36	DRO
21307232155		sv21a036s.d	10.00 g	30-JUL-2013 17:48	200.000	pmm	36	O-TERPH
1400		sv21a037d.d	1000.00 ml	30-JUL-2013 18:04	1.000	pmm	37	DRO
1400		sv21a037s.d	1000.00 ml	30-JUL-2013 18:04	1.000	pmm	37	O-TERPH

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/31/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130730.b/CM.m
Batch: /var/chem/gcsv21a.i/2130730.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1400		sv21a038o.d	1000.00 ml	30-JUL-2013 18:19	1.000	pmm	38	all
21307232156		sv21a039d.d	10.20 g	30-JUL-2013 18:35	800.000	pmm	39	DRO
21307232156		sv21a039s.d	10.20 g	30-JUL-2013 18:35	800.000	pmm	39	O-TERPH
21307232157		sv21a040d.d	10.10 g	30-JUL-2013 18:50	800.000	pmm	40	DRO
21307232157		sv21a040s.d	10.10 g	30-JUL-2013 18:50	800.000	pmm	40	O-TERPH
21307232158		sv21a041d.d	10.00 g	30-JUL-2013 19:06	800.000	pmm	41	DRO
21307232158		sv21a041s.d	10.00 g	30-JUL-2013 19:06	800.000	pmm	41	O-TERPH
21307251408		sv21a042d.d	990.00 ml	30-JUL-2013 19:21	1.000	pmm	42	DRO
21307251408		sv21a042s.d	990.00 ml	30-JUL-2013 19:21	1.000	pmm	42	O-TERPH
21307251411		sv21a043d.d	990.00 ml	30-JUL-2013 19:36	1.000	pmm	43	DRO
21307251411		sv21a043s.d	990.00 ml	30-JUL-2013 19:36	1.000	pmm	43	O-TERPH
1217369		sv21a044d.d	30.00 g	30-JUL-2013 19:51	1.000	pmm	44	DRO
1217375		sv21a044o.d	30.00 g	30-JUL-2013 19:51	1.000	pmm	44	all
1217369		sv21a044s.d	30.00 g	30-JUL-2013 19:51	1.000	pmm	44	O-TERPH
1217370		sv21a045d.d	30.00 g	30-JUL-2013 20:07	1.000	pmm	45	DRO
1217370		sv21a045s.d	30.00 g	30-JUL-2013 20:07	1.000	pmm	45	O-TERPH
1217371		sv21a046d.d	30.00 g	30-JUL-2013 20:22	1.000	pmm	46	DRO
1217371		sv21a046s.d	30.00 g	30-JUL-2013 20:22	1.000	pmm	46	O-TERPH
1217376		sv21a047o.d	30.00 g	30-JUL-2013 20:37	1.000	pmm	47	all
1217377		sv21a048o.d	30.00 g	30-JUL-2013 20:53	1.000	pmm	48	all
1400		sv21a049d.d	1000.00 ml	30-JUL-2013 21:08	1.000	pmm	49	DRO
1400		sv21a049s.d	1000.00 ml	30-JUL-2013 21:08	1.000	pmm	49	O-TERPH
1400		sv21a050o.d	1000.00 ml	30-JUL-2013 21:23	1.000	pmm	50	all
21307246502		sv21a051d.d	30.20 g	30-JUL-2013 21:39	400.000	pmm	51	DRO
21307246502		sv21a051s.d	30.20 g	30-JUL-2013 21:39	400.000	pmm	51	O-TERPH
21307246702		sv21a052d.d	30.20 g	30-JUL-2013 21:54	200.000	pmm	52	DRO
21307246702		sv21a052s.d	30.20 g	30-JUL-2013 21:54	200.000	pmm	52	O-TERPH
21307252401		sv21a053d.d	30.00 g	30-JUL-2013 22:09	1.000	pmm	53	DRO
21307252401		sv21a053o.d	30.00 g	30-JUL-2013 22:09	1.000	pmm	53	all
21307252401		sv21a053s.d	30.00 g	30-JUL-2013 22:09	1.000	pmm	53	O-TERPH
1217372		sv21a054d.d	30.10 g	30-JUL-2013 22:25	1.000	pmm	54	DRO
1217372		sv21a054s.d	30.10 g	30-JUL-2013 22:25	1.000	pmm	54	O-TERPH
1217373		sv21a055d.d	30.20 g	30-JUL-2013 22:40	1.000	pmm	55	DRO
1217373		sv21a055s.d	30.20 g	30-JUL-2013 22:40	1.000	pmm	55	O-TERPH
21307252402		sv21a056d.d	30.10 g	30-JUL-2013 22:55	1.000	pmm	56	DRO
21307252402		sv21a056o.d	30.10 g	30-JUL-2013 22:55	1.000	pmm	56	all

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/31/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130730.b/CM.m
Batch: /var/chem/gcsv21a.i/2130730.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307252402		sv21a056s.d	30.10 g	30-JUL-2013 22:55	1.000	pmm	56	O-TERPE
1217378		sv21a057o.d	30.10 g	30-JUL-2013 23:11	1.000	pmm	57	all
1217379		sv21a058o.d	30.00 g	30-JUL-2013 23:26	1.000	pmm	58	all
21307252403		sv21a059d.d	30.10 g	30-JUL-2013 23:41	1.000	pmm	59	DRO
21307252403		sv21a059o.d	30.10 g	30-JUL-2013 23:41	1.000	pmm	59	all
21307252403		sv21a059s.d	30.10 g	30-JUL-2013 23:41	1.000	pmm	59	O-TERPE
21307252404		sv21a060d.d	30.20 g	30-JUL-2013 23:56	1.000	pmm	60	DRO
21307252404		sv21a060o.d	30.20 g	30-JUL-2013 23:56	1.000	pmm	60	all
21307252404		sv21a060s.d	30.20 g	30-JUL-2013 23:56	1.000	pmm	60	O-TERPE
1400		sv21a061d.d	1000.00 ml	31-JUL-2013 00:12	1.000	pmm	61	DRO
1400		sv21a061s.d	1000.00 ml	31-JUL-2013 00:12	1.000	pmm	61	O-TERPE
1400		sv21a062o.d	1000.00 ml	31-JUL-2013 00:27	1.000	pmm	62	all
21307252405		sv21a063d.d	30.20 g	31-JUL-2013 00:42	1.000	pmm	63	DRO
21307252405		sv21a063o.d	30.20 g	31-JUL-2013 00:42	1.000	pmm	63	all
21307252405		sv21a063s.d	30.20 g	31-JUL-2013 00:42	1.000	pmm	63	O-TERPE
21307252406		sv21a064d.d	30.00 g	31-JUL-2013 00:57	1.000	pmm	64	DRO
21307252406		sv21a064o.d	30.00 g	31-JUL-2013 00:57	1.000	pmm	64	all
21307252406		sv21a064s.d	30.00 g	31-JUL-2013 00:57	1.000	pmm	64	O-TERPE
21307252407		sv21a065d.d	30.10 g	31-JUL-2013 01:13	1.000	pmm	65	DRO
21307252407		sv21a065o.d	30.10 g	31-JUL-2013 01:13	1.000	pmm	65	all
21307252407		sv21a065s.d	30.10 g	31-JUL-2013 01:13	1.000	pmm	65	O-TERPE
21307252408		sv21a066d.d	30.30 g	31-JUL-2013 01:28	1.000	pmm	66	DRO
21307252408		sv21a066o.d	30.30 g	31-JUL-2013 01:28	1.000	pmm	66	all
21307252408		sv21a066s.d	30.30 g	31-JUL-2013 01:28	1.000	pmm	66	O-TERPE
21307252409		sv21a067d.d	30.00 g	31-JUL-2013 01:43	1.000	pmm	67	DRO
21307252409		sv21a067o.d	30.00 g	31-JUL-2013 01:43	1.000	pmm	67	all
21307252409		sv21a067s.d	30.00 g	31-JUL-2013 01:43	1.000	pmm	67	O-TERPE
21307252410		sv21a068d.d	30.40 g	31-JUL-2013 01:58	1.000	pmm	68	DRO
21307252410		sv21a068o.d	30.40 g	31-JUL-2013 01:58	1.000	pmm	68	all
21307252410		sv21a068s.d	30.40 g	31-JUL-2013 01:58	1.000	pmm	68	O-TERPE
21307252411		sv21a069d.d	30.20 g	31-JUL-2013 02:14	1.000	pmm	69	DRO
21307252411		sv21a069o.d	30.20 g	31-JUL-2013 02:14	1.000	pmm	69	all
21307252411		sv21a069s.d	30.20 g	31-JUL-2013 02:14	1.000	pmm	69	O-TERPE
21307252412		sv21a070d.d	30.00 g	31-JUL-2013 02:29	1.000	pmm	70	DRO
21307252412		sv21a070o.d	30.00 g	31-JUL-2013 02:29	1.000	pmm	70	all
21307252412		sv21a070s.d	30.00 g	31-JUL-2013 02:29	1.000	pmm	70	O-TERPE

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 07/31/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130730.b/CM.m
Batch: /var/chem/gcsv21a.i/2130730.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307252413		sv21a071d.d	30.30 g	31-JUL-2013 02:44	1.000	pmm	71	DRO
21307252413		sv21a071o.d	30.30 g	31-JUL-2013 02:44	1.000	pmm	71	all
21307252413		sv21a071s.d	30.30 g	31-JUL-2013 02:44	1.000	pmm	71	O-TERPH
21307252414		sv21a072d.d	30.00 g	31-JUL-2013 02:59	1.000	pmm	72	DRO
21307252414		sv21a072o.d	30.00 g	31-JUL-2013 02:59	1.000	pmm	72	all
21307252414		sv21a072s.d	30.00 g	31-JUL-2013 02:59	1.000	pmm	72	O-TERPH
1400		sv21a073d.d	1000.00 ml	31-JUL-2013 03:14	1.000	pmm	73	DRO
1400		sv21a073s.d	1000.00 ml	31-JUL-2013 03:14	1.000	pmm	73	O-TERPH
1400		sv21a074o.d	1000.00 ml	31-JUL-2013 03:30	1.000	pmm	74	all
21307252415		sv21a075d.d	30.40 g	31-JUL-2013 03:45	1.000	pmm	75	DRO
21307252415		sv21a075o.d	30.40 g	31-JUL-2013 03:45	1.000	pmm	75	all
21307252415		sv21a075s.d	30.40 g	31-JUL-2013 03:45	1.000	pmm	75	O-TERPH
21307252302		sv21a076d.d	30.00 g	31-JUL-2013 04:00	1.000	pmm	76	DRO
21307252302		sv21a076s.d	30.00 g	31-JUL-2013 04:00	1.000	pmm	76	O-TERPH
1400		sv21a077d.d	1000.00 ml	31-JUL-2013 04:15	1.000	pmm	77	DRO
1400		sv21a077s.d	1000.00 ml	31-JUL-2013 04:15	1.000	pmm	77	O-TERPH
1400		sv21a078o.d	1000.00 ml	31-JUL-2013 04:30	1.000	pmm	78	all

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 08/02/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130801.b/CM.m
Batch: /var/chem/gcsv21a.i/2130801.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21a001d.d	35.00 ml	01-AUG-2013 08:14	1.000	pmm	1	8015
DCM 0000045679		sv21a002d.d	1000.00 ml	01-AUG-2013 08:29	1.000	pmm	2	DRO
DCM 0000045679		sv21a002o.d	1000.00 ml	01-AUG-2013 08:29	1.000	pmm	2	all
1400		sv21a003d.d	1000.00 ml	01-AUG-2013 08:44	1.000	pmm	3	DRO
1400		sv21a003s.d	1000.00 ml	01-AUG-2013 08:44	1.000	pmm	3	O-TERPH
1400		sv21a004o.d	1000.00 ml	01-AUG-2013 09:00	1.000	pmm	4	all
1217628		sv21a005d.d	30.00 g	01-AUG-2013 09:15	1.000	pmm	5	DRO
1217633		sv21a005o.d	30.00 g	01-AUG-2013 09:15	1.000	pmm	5	all
1217628		sv21a005s.d	30.00 g	01-AUG-2013 09:15	1.000	pmm	5	O-TERPH
1217629		sv21a006d.d	30.00 g	01-AUG-2013 09:30	1.000	pmm	6	DRO
1217629		sv21a006s.d	30.00 g	01-AUG-2013 09:30	1.000	pmm	6	O-TERPH
1217630		sv21a007d.d	30.00 g	01-AUG-2013 09:46	1.000	pmm	7	DRO
1217630		sv21a007s.d	30.00 g	01-AUG-2013 09:46	1.000	pmm	7	O-TERPH
1217634		sv21a008o.d	30.00 g	01-AUG-2013 10:01	1.000	pmm	8	all
1217635		sv21a009o.d	30.00 g	01-AUG-2013 10:16	1.000	pmm	9	all
21307261201		sv21a010d.d	30.50 g	01-AUG-2013 10:31	1.000	pmm	10	DRO
21307261201		sv21a010o.d	30.50 g	01-AUG-2013 10:31	1.000	pmm	10	all
21307261201		sv21a010s.d	30.50 g	01-AUG-2013 10:31	1.000	pmm	10	O-TERPH
1217631		sv21a011d.d	30.00 g	01-AUG-2013 11:15	1.000	pmm	11	DRO
1217631		sv21a011s.d	30.00 g	01-AUG-2013 11:15	1.000	pmm	11	O-TERPH
1217632		sv21a012d.d	30.00 g	01-AUG-2013 11:30	1.000	pmm	12	DRO
1217632		sv21a012s.d	30.00 g	01-AUG-2013 11:30	1.000	pmm	12	O-TERPH
21307261202		sv21a013d.d	30.20 g	01-AUG-2013 11:45	1.000	pmm	13	DRO
21307261202		sv21a013o.d	30.20 g	01-AUG-2013 11:45	1.000	pmm	13	all
21307261202		sv21a013s.d	30.20 g	01-AUG-2013 11:45	1.000	pmm	13	O-TERPH
1217636		sv21a014o.d	30.10 g	01-AUG-2013 12:00	1.000	pmm	14	all
1400		sv21a015d.d	1000.00 ml	01-AUG-2013 12:16	1.000	pmm	15	DRO
1400		sv21a015s.d	1000.00 ml	01-AUG-2013 12:16	1.000	pmm	15	O-TERPH
1400		sv21a016o.d	1000.00 ml	01-AUG-2013 12:31	1.000	pmm	16	all
1217637		sv21a017o.d	30.50 g	01-AUG-2013 12:47	1.000	pmm	17	all
21307261203		sv21a018d.d	30.00 g	01-AUG-2013 13:02	1.000	pmm	18	DRO
21307261203		sv21a018o.d	30.00 g	01-AUG-2013 13:02	1.000	pmm	18	all
21307261203		sv21a018s.d	30.00 g	01-AUG-2013 13:02	1.000	pmm	18	O-TERPH
21307261204		sv21a019d.d	30.30 g	01-AUG-2013 13:18	1.000	pmm	19	DRO
21307261204		sv21a019o.d	30.30 g	01-AUG-2013 13:18	1.000	pmm	19	all
21307261204		sv21a019s.d	30.30 g	01-AUG-2013 13:18	1.000	pmm	19	O-TERPH

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 08/02/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130801.b/CM.m
Batch: /var/chem/gcsv21a.i/2130801.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307261205		sv21a020d.d	30.40 g	01-AUG-2013 13:33	1.000	pmm	20	DRO
21307261205		sv21a020o.d	30.40 g	01-AUG-2013 13:33	1.000	pmm	20	all
21307261205		sv21a020s.d	30.40 g	01-AUG-2013 13:33	1.000	pmm	20	O-TERPH
21307261206		sv21a021d.d	30.20 g	01-AUG-2013 13:48	1.000	pmm	21	DRO
21307261206		sv21a021o.d	30.20 g	01-AUG-2013 13:48	1.000	pmm	21	all
21307261206		sv21a021s.d	30.20 g	01-AUG-2013 13:48	1.000	pmm	21	O-TERPH
21307261207		sv21a022d.d	30.10 g	01-AUG-2013 14:04	1.000	pmm	22	DRO
21307261207		sv21a022o.d	30.10 g	01-AUG-2013 14:04	1.000	pmm	22	all
21307261207		sv21a022s.d	30.10 g	01-AUG-2013 14:04	1.000	pmm	22	O-TERPH
21307261208		sv21a023d.d	30.50 g	01-AUG-2013 14:19	1.000	pmm	23	DRO
21307261208		sv21a023o.d	30.50 g	01-AUG-2013 14:19	1.000	pmm	23	all
21307261208		sv21a023s.d	30.50 g	01-AUG-2013 14:19	1.000	pmm	23	O-TERPH
21307261209		sv21a024d.d	30.00 g	01-AUG-2013 14:34	1.000	pmm	24	DRO
21307261209		sv21a024o.d	30.00 g	01-AUG-2013 14:34	1.000	pmm	24	all
21307261209		sv21a024s.d	30.00 g	01-AUG-2013 14:34	1.000	pmm	24	O-TERPH
1219321		sv21a025d.d	1000.00 ml	01-AUG-2013 14:50	1.000	pmm	25	DRO
1219321		sv21a025s.d	1000.00 ml	01-AUG-2013 14:50	1.000	pmm	25	O-TERPH
1219322		sv21a026d.d	1000.00 ml	01-AUG-2013 15:05	1.000	pmm	26	DRO
1219322		sv21a026s.d	1000.00 ml	01-AUG-2013 15:05	1.000	pmm	26	O-TERPH
1400		sv21a027d.d	1000.00 ml	01-AUG-2013 15:21	1.000	pmm	27	DRO
1400		sv21a027s.d	1000.00 ml	01-AUG-2013 15:21	1.000	pmm	27	O-TERPH
1400		sv21a028o.d	1000.00 ml	01-AUG-2013 16:07	1.000	pmm	28	all
1219323		sv21a029d.d	1000.00 ml	01-AUG-2013 16:23	1.000	pmm	29	DRO
1219323		sv21a029s.d	1000.00 ml	01-AUG-2013 16:23	1.000	pmm	29	O-TERPH
21307251408		sv21a030d.d	1000.00 ml	01-AUG-2013 16:38	1.000	pmm	30	DRO
21307251408		sv21a030s.d	1000.00 ml	01-AUG-2013 16:38	1.000	pmm	30	O-TERPH
21307251411		sv21a031d.d	1000.00 ml	01-AUG-2013 16:53	1.000	pmm	31	DRO
21307251411		sv21a031s.d	1000.00 ml	01-AUG-2013 16:53	1.000	pmm	31	O-TERPH
21307313101		sv21a032d.d	970.00 ml	01-AUG-2013 17:09	1.000	pmm	32	DRO
21307313101		sv21a032s.d	970.00 ml	01-AUG-2013 17:09	1.000	pmm	32	O-TERPH
1217628		sv21a033d.d	30.00 g	01-AUG-2013 17:24	1.000	pmm	33	DRO
1217633		sv21a033o.d	30.00 g	01-AUG-2013 17:24	1.000	pmm	33	all
1217628		sv21a033s.d	30.00 g	01-AUG-2013 17:24	1.000	pmm	33	O-TERPH
1217629		sv21a034d.d	30.00 g	01-AUG-2013 17:40	1.000	pmm	34	DRO
1217629		sv21a034s.d	30.00 g	01-AUG-2013 17:40	1.000	pmm	34	O-TERPH
1217630		sv21a035d.d	30.00 g	01-AUG-2013 17:55	1.000	pmm	35	DRO

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 08/02/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130801.b/CM.m
Batch: /var/chem/gcsv21a.i/2130801.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1217630		sv21a035s.d	30.00 g	01-AUG-2013 17:55	1.000	pmm	35	O-TERPH
1217634		sv21a036o.d	30.00 g	01-AUG-2013 18:10	1.000	pmm	36	all
1217635		sv21a037o.d	30.00 g	01-AUG-2013 18:26	1.000	pmm	37	all
21307261201		sv21a038d.d	30.50 g	01-AUG-2013 18:41	1.000	pmm	38	DRO
21307261201		sv21a038o.d	30.50 g	01-AUG-2013 18:41	1.000	pmm	38	all
21307261201		sv21a038s.d	30.50 g	01-AUG-2013 18:41	1.000	pmm	38	O-TERPH
1400		sv21a039d.d	1000.00 ml	01-AUG-2013 18:57	1.000	pmm	39	DRO
1400		sv21a039s.d	1000.00 ml	01-AUG-2013 18:57	1.000	pmm	39	O-TERPH
1400		sv21a040o.d	1000.00 ml	01-AUG-2013 19:12	1.000	pmm	40	all
1217631		sv21a041d.d	30.00 g	01-AUG-2013 19:28	1.000	pmm	41	DRO
1217631		sv21a041s.d	30.00 g	01-AUG-2013 19:28	1.000	pmm	41	O-TERPH
1217632		sv21a042d.d	30.00 g	01-AUG-2013 19:43	1.000	pmm	42	DRO
1217632		sv21a042s.d	30.00 g	01-AUG-2013 19:43	1.000	pmm	42	O-TERPH
21307261202		sv21a043d.d	30.20 g	01-AUG-2013 19:58	1.000	pmm	43	DRO
21307261202		sv21a043o.d	30.20 g	01-AUG-2013 19:58	1.000	pmm	43	all
21307261202		sv21a043s.d	30.20 g	01-AUG-2013 19:58	1.000	pmm	43	O-TERPH
1217636		sv21a044o.d	30.10 g	01-AUG-2013 20:14	1.000	pmm	44	all
21307261206		sv21a045d.d	30.20 g	01-AUG-2013 20:30	1.000	pmm	45	DRO
21307261206		sv21a045o.d	30.20 g	01-AUG-2013 20:30	1.000	pmm	45	all
21307261206		sv21a045s.d	30.20 g	01-AUG-2013 20:30	1.000	pmm	45	O-TERPH
1400		sv21a046d.d	1000.00 ml	01-AUG-2013 20:45	1.000	pmm	46	DRO
1400		sv21a046s.d	1000.00 ml	01-AUG-2013 20:45	1.000	pmm	46	O-TERPH
1400		sv21a047o.d	1000.00 ml	01-AUG-2013 21:00	1.000	pmm	47	all

Resolution Consultants | 4841 | 2130725 14 | 8/5/13

RESOLUTION CONSULTANTS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No.: | Page 1 of 1

Project Name: NAFAC | PO No.: | Project No.: | Phase:

Site Location: Bldg 398 NCBC

CTO No.: | RC Project Manager: Kirk Gressinger

Sampler/Site Phone#: Kirk L. Gressinger / 601-519-2420

Lab Name: G CAL | Turnaround Time(specify):

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	BTEX	MTBE	PAHs	GRO	DRO						Extra Volume for MS/MSD	HOLD
								(3)→												
	B398PW1-3Q13		07/24/13	1249	WP	N		10												
	B398MW2-3Q13			1548	WG			10												
	B398MW3-3Q13			0920				10												
	B398MW4-3Q13			1039				10												
	DUP072413			—		FD		10												
	B398MW5-3Q13			1222		N		10												
	B398MW6-3Q13			1457				10												
	B398MW7-3Q13			1131				10												
	B398MW8-3Q13			1448				10												
	B398MW10-3Q13			1119				10												
	B398MW11-3Q13			0941				10												
	B398MW12-3Q13			1251				10												

***Field* Comments:** Trip Blank included w/ VOCs

***Lab* Comments:** 4.9, 4.7, 5.4, 4.3, 2.2 E22

Sample Shipment and Delivery Details

Number of coolers in shipment: 5

Samples Iced?(check) Yes X No

Method of Shipment: FedEx

Airbill No: 8030 2496 0270

Date Shipped: 7-24-13

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1 [signature]	7-24-13	1755	1		
2 FedEx	7/25/13	955	2 [signature]	7/25/13	955
3			3		

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: HA=Hydrochloric Acid, **NT**=Nitric Acid, **SH**=Sodium Hydroxide, **SA**=Sulfuric Acid, **ME**=Methanol, **SB**=sodium bisulfate, **ST**=Sodium Thiosulfate, If **NO preservative** added leave blank

Rev 5/12

2130725 14 156

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

213072514

SAMPLE DELIVERY GROUP	213072514
Client 4841 - Resolution Consultants	**Transport Method** FEDEX
Profile Number 244458	**Received By** Saucier, Charlotte
Line Item(s) 2 - Water	**Receive Date(s)** 07/25/13

CHECKLIST			
Were all samples received using proper thermal preservation?	☑ Yes	☐ No	☐ NA
When used, were all custody seals intact?	☑ Yes	☐ No	☐ NA
Were all samples received in proper containers?	☑ Yes	☐ No	☐ NA
Were all samples received using proper chemical preservation?	☑ Yes	☐ No	☐ NA
Was preservative added to any container at the lab?	☐ Yes	☑ No	☐ NA
Were all containers received in good condition?	☐ Yes	☑ No	☐ NA
Were all VOA vials received with no head space?	☑ Yes	☐ No	☐ NA
Do all sample labels match the Chain of Custody?	☑ Yes	☐ No	☐ NA
Did the Chain of Custody list the sampling technician?	☑ Yes	☐ No	☐ NA
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☑ Yes	☐ No	☐ NA

COOLERS

Airbill	Temp(oC)
8030 2496 0270	4.9 (E22)
	4.7
	5.4
	4.3
	2.2

DISCREPANCIES

None

LABORATORY PRESERVATIONS

None

NOTES

213072514 197

GCAL
GULF COAST ANALYTICAL LABORATORIES, INC

NELAP CERTIFICATE NUMBER 01955
DOD ELAP CERTIFICATE NUMBER ADE - 1482

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.
7979 GSRI Avenue
Baton Rouge, LA 70820

Report Date 08/06/2013

GCAL Report 213072608

Deliver To	ENSAFE, INC 5724 Summer Trees Drive Memphis, TN 38134 (901) 372-7962
Attn	Tina Cantwell

Project NCBC Gulfport / JM35

Case Narrative

Client: Resolution Consultants **Report:** 213072608

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

Additional Flags:

E – concentration is above the upper calibration range of the instrument

VOLATILES GAS CHROMATOGRAPHY

In the SW-846 8015C GRO analysis, samples 21307260801 (B398MW1-3Q13), 21307260802 (B398MW1-3Q13 MS) and 21307260803 (B398MW1-3Q13 MSD) had to be diluted to bracket the concentration of target analyte(s) within the calibration range of the instrument.

Sample Test Summary Report: 213072608

Lab Sample ID	Cust. Sample ID	Matrix	Proc. Desc.
21307260801	B398MW1-3Q13	W	SW-846 8260B
21307260801	B398MW1-3Q13	W	SW-846 8270D SIM Water
21307260801	B398MW1-3Q13	W	SW-846 3510C SIM Prep Water
21307260801	B398MW1-3Q13	W	Total Hydrocarbons Diesel Water
21307260801	B398MW1-3Q13	W	Total Hydrocarbons Diesel Water Prep
21307260801	B398MW1-3Q13	W	SW-846 8015C Modified Water
21307260802	B398MW1-3Q13 MS	W	SW-846 8260B
21307260802	B398MW1-3Q13 MS	W	SW-846 8270D SIM Water
21307260802	B398MW1-3Q13 MS	W	SW-846 3510C SIM Prep Water
21307260802	B398MW1-3Q13 MS	W	Total Hydrocarbons Diesel Water
21307260802	B398MW1-3Q13 MS	W	Total Hydrocarbons Diesel Water Prep
21307260802	B398MW1-3Q13 MS	W	SW-846 8015C Modified Water
21307260803	B398MW1-3Q13 MSD	W	SW-846 8260B
21307260803	B398MW1-3Q13 MSD	W	SW-846 8270D SIM Water
21307260803	B398MW1-3Q13 MSD	W	SW-846 3510C SIM Prep Water
21307260803	B398MW1-3Q13 MSD	W	Total Hydrocarbons Diesel Water
21307260803	B398MW1-3Q13 MSD	W	Total Hydrocarbons Diesel Water Prep
21307260803	B398MW1-3Q13 MSD	W	SW-846 8015C Modified Water
21307260804	B398MW9-3Q13	W	SW-846 8260B
21307260804	B398MW9-3Q13	W	SW-846 8270D SIM Water
21307260804	B398MW9-3Q13	W	SW-846 3510C SIM Prep Water
21307260804	B398MW9-3Q13	W	Total Hydrocarbons Diesel Water
21307260804	B398MW9-3Q13	W	Total Hydrocarbons Diesel Water Prep
21307260804	B398MW9-3Q13	W	SW-846 8015C Modified Water
21307260805	B398DW1-3Q13	W	SW-846 8260B
21307260805	B398DW1-3Q13	W	SW-846 8270D SIM Water
21307260805	B398DW1-3Q13	W	SW-846 3510C SIM Prep Water
21307260805	B398DW1-3Q13	W	Total Hydrocarbons Diesel Water
21307260805	B398DW1-3Q13	W	Total Hydrocarbons Diesel Water Prep
21307260805	B398DW1-3Q13	W	SW-846 8015C Modified Water
21307260806	DUP2072413	W	SW-846 8260B
21307260806	DUP2072413	W	SW-846 8270D SIM Water
21307260806	DUP2072413	W	SW-846 3510C SIM Prep Water
21307260806	DUP2072413	W	Total Hydrocarbons Diesel Water
21307260806	DUP2072413	W	Total Hydrocarbons Diesel Water Prep
21307260806	DUP2072413	W	SW-846 8015C Modified Water
21307260807	TRIP BLANK	W	SW-846 8260B
21307260807	TRIP BLANK	W	SW-846 8015C Modified Water

Manual Integrations: 213072608

Lab Sample ID	Cust. Sample ID	Prod. Desc.	Compound	Comp. Name	
21307260801	B398MW1-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307260802	B398MW1-3Q13 MS	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307260802	B398MW1-3Q13 MS	SW-846 8260B	462-06-6	Fluorobenzene	
21307260803	B398MW1-3Q13 MSD	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307260803	B398MW1-3Q13 MSD	SW-846 8260B	462-06-6	Fluorobenzene	
21307260803	B398MW1-3Q13 MSD	SW-846 8270D SIM	193-39-5	Indeno(1,2,3-cd)pyrene	
21307260804	B398MW9-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307260805	B398DW1-3Q13	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	
21307260806	DUP2072413	SW-846 8015C DRO	GCSV-00-4	Diesel Range Organics	

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND	Indicates the result was Not Detected at the specified RDL
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
RDL	Reporting Detection Limit
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J	Indicates the result is between the MDL and RDL
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Authorized Signature
GCAL REPORT 213072608

THIS REPORT CONTAINS ~~123~~ 124 PAGES. Att 5/8/13

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21307260801	B398MW1-3Q13	Water	07/24/2013 16:40	07/26/2013 09:45
21307260802	B398MW1-3Q13 MS	Water	07/24/2013 16:40	07/26/2013 09:45
21307260803	B398MW1-3Q13 MSD	Water	07/24/2013 16:40	07/26/2013 09:45
21307260804	B398MW9-3Q13	Water	07/24/2013 19:20	07/26/2013 09:45
21307260805	B398DW1-3Q13	Water	07/24/2013 18:00	07/26/2013 09:45
21307260806	DUP2072413	Water	07/24/2013 00:00	07/26/2013 09:45
21307260807	TRIP BLANK	Water	07/24/2013 00:00	07/26/2013 09:45

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW1-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307260801

Level: (low/med) Lab File ID: 2130730p/j8613

% Moisture: not dec. Date Collected: 07/24/13 Time: 1640

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/26/13

Instrument ID: MSV12 Date Analyzed: 07/30/13 Time: 2338

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512786

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	32.6		0.111	1.00
100-41-4	Ethylbenzene	11.0		0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.735	J	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	1.21		0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW1-3Q13 MS

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307260802

Level: (low/med) Lab File ID: 2130730p/j8616ms

% Moisture: not dec. Date Collected: 07/24/13 Time: 1640

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/26/13

Instrument ID: MSV12 Date Analyzed: 07/31/13 Time: 0043

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512786

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	85.4		0.111	1.00
100-41-4	Ethylbenzene	61.5		0.109	1.00
108-88-3	Toluene	50.0		0.122	1.00
1330-20-7	Xylene (total)	154		0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	50.5		0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW1-3Q13 MSD

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL

Lab Sample ID: 21307260803

Level: (low/med)

Lab File ID: 2130730p/j8617msd

% Moisture: not dec.

Date Collected: 07/24/13 Time: 1640

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Received: 07/26/13

Instrument ID: MSV12

Date Analyzed: 07/31/13 Time: 0105

Soil Extract Volume: (µL)

Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL)

Prep Batch: Analytical Batch: 512786

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	85.7		0.111	1.00
100-41-4	Ethylbenzene	59.2		0.109	1.00
108-88-3	Toluene	49.1		0.122	1.00
1330-20-7	Xylene (total)	150		0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	50.9		0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398MW9-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307260804

Level: (low/med) Lab File ID: 2130730p/j8619

% Moisture: not dec. Date Collected: 07/24/13 Time: 1920

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/26/13

Instrument ID: MSV12 Date Analyzed: 07/31/13 Time: 0149

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512786

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	1.21		0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.575	J	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B398DW1-3Q13

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307260805

Level: (low/med) Lab File ID: 2130730p/j8620

% Moisture: not dec. Date Collected: 07/24/13 Time: 1800

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/26/13

Instrument ID: MSV12 Date Analyzed: 07/31/13 Time: 0211

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512786

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	1.77	J	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DUP2072413

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307260806

Level: (low/med) Lab File ID: 2130730p/j8621

% Moisture: not dec. Date Collected: 07/24/13 Time: 0000

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/26/13

Instrument ID: MSV12 Date Analyzed: 07/31/13 Time: 0233

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512786

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.742	J	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TRIP BLANK

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 21307260807

Level: (low/med) Lab File ID: 2130730p/j8622

% Moisture: not dec. Date Collected: 07/24/13 Time: 0000

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received: 07/26/13

Instrument ID: MSV12 Date Analyzed: 07/31/13 Time: 0254

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: JCK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512786

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
71-43-2	Benzene	0.111	U	0.111	1.00
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MB1219075

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Matrix: (soil/water) Water

Sample wt/vol: 5 (g/ml) mL Lab Sample ID: 1219075

Level: (low/med) Lab File ID: 2130730p/j8611

% Moisture: not dec. Date Collected: Time:

GC Column: RTX-VMS-30 ID: .25 (mm) Date Received:

Instrument ID: MSV12 Date Analyzed: 07/30/13 Time: 2254

Soil Extract Volume: (µL) Dilution Factor: 1 Analyst: CEK

Soil Aliquot Volume: (µL) Prep Batch: Analytical Batch: 512786

Analytical Method: SW-846 8260B

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
100-41-4	Ethylbenzene	0.109	U	0.109	1.00
1634-04-4	tert-Butyl methyl ether (MTBE)	0.078	U	0.078	1.00
1330-20-7	Xylene (total)	0.179	U	0.179	3.00
75-35-4	1,1-Dichloroethene	0.200	U	0.200	1.00
71-43-2	Benzene	0.111	U	0.111	1.00
79-01-6	Trichloroethene	0.161	U	0.161	1.00
108-88-3	Toluene	0.122	U	0.122	1.00
108-90-7	Chlorobenzene	0.083	U	0.083	1.00

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Method: SW-846 8260B

	SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	TOT OUT
1.	B398MW1-3Q13	112		102		102		100		0
2.	MB1219075	115		98		107		100		0
3.	B398MW1-3Q13 MS	114		103		100		99		0
4.	B398MW1-3Q13 MSD	113		104		99		102		0
5.	B398MW9-3Q13	113		103		103		97		0
6.	B398DW1-3Q13	115		100		104		97		0
7.	DUP2072413	112		102		103		100		0
8.	TRIP BLANK	110		102		101		99		0
9.	LCS1219076	112		97		99		103		0
10.	LCSD1219077	114		98		100		100		0

		QC LIMITS
SMC 1	4-Bromofluorobenzene	75 - 120
SMC 2	Dibromofluoromethane	85 - 115
SMC 3	Toluene-d8	85 - 120
SMC 4	1,2-Dichloroethane-d4	70 - 120

Column to be used to flag recovery values

* Values outside of contract required QC limits

3A

WATER VOLATILE MS/MSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Matrix Spike - EPA Sample No: B398MW1-3Q13

Analytical Batch: 512786

SAMPLE NO. : 21307260802

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC	#	QC. LIMITS
1,1-Dichloroethene	ug/L	50	0	50.7	101		70 - 130
Benzene	ug/L	50	32.6	85.4	106		80 - 120
Chlorobenzene	ug/L	50	0	50.6	101		80 - 120
Ethylbenzene	ug/L	50	11	61.5	101		75 - 125
Toluene	ug/L	50	0	50	100		75 - 120
Trichloroethene	ug/L	50	0	51.4	103		70 - 125
Xylene (total)	ug/L	150	.735	154	102		75 - 130
tert-Butyl methyl ether (MTBE)	ug/L	50	1.21	50.5	99		65 - 125

SAMPLE NO. : 21307260803

COMPOUND	UNITS	SPIKE ADDED	MSD CONC.	MSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1-Dichloroethene	ug/L	50	49.4	99		3		70 - 130	0 - 30
Benzene	ug/L	50	85.7	106		.4		80 - 120	0 - 30
Chlorobenzene	ug/L	50	49.7	99		2		80 - 120	0 - 30
Ethylbenzene	ug/L	50	59.2	96		4		75 - 125	0 - 30
Toluene	ug/L	50	49.1	98		2		75 - 120	0 - 30
Trichloroethene	ug/L	50	50.2	100		2		70 - 125	0 - 30
Xylene (total)	ug/L	150	150	100		3		75 - 130	0 - 30
tert-Butyl methyl ether (MTBE)	ug/L	50	50.9	99		.8		65 - 125	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 8 outside limits

Spike Recovery: 0 out of 16 outside limits

3A

WATER VOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Analytical Batch: 512786

SAMPLE NO. : 1219076

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	#	QC. LIMITS
1,1-Dichloroethene	ug/L	50	0	48.9	98		70 - 130
Benzene	ug/L	50	0	48.5	97		80 - 120
Chlorobenzene	ug/L	50	0	50.5	101		80 - 120
Ethylbenzene	ug/L	50	0	49.8	100		75 - 125
Toluene	ug/L	50	0	47.9	96		75 - 120
Trichloroethene	ug/L	50	0	53	106		70 - 125
Xylene (total)	ug/L	150	0	148	99		75 - 130
tert-Butyl methyl ether (MTBE)	ug/L	50	0	48.7	97		65 - 125

SAMPLE NO. : 1219077

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	#	% RPD	#	QC. LIMITS REC	QC. LIMITS RPD
1,1-Dichloroethene	ug/L	50	50	100		2		70 - 130	0 - 30
Benzene	ug/L	50	50.7	101		4		80 - 120	0 - 30
Chlorobenzene	ug/L	50	50.9	102		.8		80 - 120	0 - 30
Ethylbenzene	ug/L	50	50.4	101		1		75 - 125	0 - 30
Toluene	ug/L	50	51.2	102		7		75 - 120	0 - 30
Trichloroethene	ug/L	50	55.4	111		4		70 - 125	0 - 30
Xylene (total)	ug/L	150	153	102		3		75 - 130	0 - 30
tert-Butyl methyl ether (MTBE)	ug/L	50	51.8	104		6		65 - 125	0 - 30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD : 0 out of 8 outside limits

Spike Recovery: 0 out of 16 outside limits

4A

VOLATILE METHOD BLANK SUMMARY

SAMPLE NO.

MB1219075

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Lab File ID: 2130730p/j8611

Lab Sample ID: 1219075 Date Extracted:

GC Column: RTX-VMS-30 ID: .25 (mm)

Date Analyzed: 07/30/13 Time: 2254

Instrument ID: MSV12 Matrix: Water

Heated Purge: N

Level:

Prep Batch: Analytical Batch: 512786

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1219076	1219076	2130730p/j8607	07/30/13	2126
2.	LCSD1219077	1219077	2130730p/j8608	07/30/13	2148
3.	B398MW1-3Q13	21307260801	2130730p/j8613	07/30/13	2338
4.	B398MW1-3Q13 MS	21307260802	2130730p/j8616	07/31/13	0043
5.	B398MW1-3Q13 MSD	21307260803	2130730p/j8617	07/31/13	0105
6.	B398MW9-3Q13	21307260804	2130730p/j8619	07/31/13	0149
7.	B398DW1-3Q13	21307260805	2130730p/j8620	07/31/13	0211
8.	DUP2072413	21307260806	2130730p/j8621	07/31/13	0233
9.	TRIP BLANK	21307260807	2130730p/j8622	07/31/13	0254

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Lab File ID: 2130721p/j8199

BFB Injection Date: 07/21/13

Instrument ID: MSV12

BFB Injection Time: 1721

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512123

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	15.85	(	)	
75	30.0 - 60.0% of mass 95	45.72	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.79	(	)	
173	Less than 2.0% of mass 174	1.04	(.96	)	1
174	50.0 - 120.0% of mass 95	109	(	)	
175	5.0 - 9.0% of mass 174	8.17	(7.5	)	1
176	95.0 - 101.0% of mass 174	106.0	(97.29	)	1
177	5.0 - 9.0% of mass 176	6.66	(6.29	)	2

1- Value is % mass 174

2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V12STD001	1203	2130721p/j8200	07/21/13	1818
2.	V12STD005	1204	2130721p/j8201	07/21/13	1840
3.	V12STD010	1205	2130721p/j8202	07/21/13	1902
4.	V12STD020	1206	2130721p/j8203	07/21/13	1923
5.	V12STD050	1207	2130721p/j8204	07/21/13	1945
6.	V12STD100	1208	2130721p/j8205	07/21/13	2006
7.	V12STD200	1209	2130721p/j8206	07/21/13	2028
8.	ICV050	1600	2130721p/j8208	07/21/13	2111
9.	APP9050	1400	2130721p/j8212	07/21/13	2310

5A

VOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Lab File ID: 2130730p/j8606

BFB Injection Date: 07/30/13

Instrument ID: MSV12

BFB Injection Time: 2048

GC Column: RTX-VMS-30 ID: .25 (mm)

Analytical Batch: 512786

m / e	ION ABUNDANCE CRITERIA	% Relative Abundance			
50	15.0 - 40.0% of mass 95	16.21	(	)	
75	30.0 - 60.0% of mass 95	45.67	(	)	
95	Base Peak, 100% relative abundance	100	(	)	
96	5.0 -9.0% of mass 95	6.55	(	)	
173	Less than 2.0% of mass 174	.97	(.82	)	1
174	50.0 - 120.0% of mass 95	119.3	(	)	
175	5.0 - 9.0% of mass 174	8.78	(7.36	)	1
176	95.0 - 101.0% of mass 174	116.7	(97.85	)	1
177	5.0 - 9.0% of mass 176	7.85	(6.73	)	2

1- Value is % mass 174 2- Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	V12STD050	1400	2130730p/j8607	07/30/13	2126
2.	LCS1219076	1219076	2130730p/j8607	07/30/13	2126
3.	LCSD1219077	1219077	2130730p/j8608	07/30/13	2148
4.	MB1219075	1219075	2130730p/j8611	07/30/13	2254
5.	B398MW1-3Q13	21307260801	2130730p/j8613	07/30/13	2338
6.	B398MW1-3Q13 MS	21307260802	2130730p/j8616	07/31/13	0043
7.	B398MW1-3Q13 MSD	21307260803	2130730p/j8617	07/31/13	0105
8.	B398MW9-3Q13	21307260804	2130730p/j8619	07/31/13	0149
9.	B398DW1-3Q13	21307260805	2130730p/j8620	07/31/13	0211
10.	DUP2072413	21307260806	2130730p/j8621	07/31/13	0233
11.	TRIP BLANK	21307260807	2130730p/j8622	07/31/13	0254

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Calibration File Names:
Level 3: /var/chem/msv12.i/2130721p.s.b/j8200.d
Level 4: /var/chem/msv12.i/2130721p.s.b/j8201.d
Level 5: /var/chem/msv12.i/2130721p.s.b/j8202.d
Level 6: /var/chem/msv12.i/2130721p.s.b/j8203.d
Level 7: /var/chem/msv12.i/2130721p.s.b/j8204.d
Level 8: /var/chem/msv12.i/2130721p.s.b/j8205.d
Level 9: /var/chem/msv12.i/2130721p.s.b/j8206.d

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
1 Dichlorodifluoromethane	0.33152	0.32469	0.31949	0.24450	0.33228	0.32037					
	0.32887						AVRG		0.31453		9.94942
2 Chloromethane ++	1350	4166	8166	12523	45107	96944					
	195912						LINR	0.04400	0.19823		0.99895
3 Vinyl Chloride +	0.32578	0.24865	0.26043	0.19726	0.28227	0.27983					
	0.28462						AVRG		0.26840		14.74158
5 1-3 Butadiene	860	3729	6863	12199	27288	53819					
	105747						LINR	-0.05480	0.13580		0.99967

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
6 Bromomethane	3952	4088	7584	13213	42976	94420						
	199093						LINR	0.04933	0.19994		0.99732	
7 Chloroethane	1826	5558	10332	16059	54936	103162						
	++++++						LINR	-0.00816	0.20659		0.99563	
8 Trichlorofluoromethane	0.53688	0.52979	0.54905	0.41891	0.60554	0.59669						
	0.60247						AVRG		0.54848		11.94792	
4 2-Chloropropene	++++++	++++++	++++++	++++++	++++++	++++++						
	++++++						AVRG		0.000e+00		0.000e+00	<-
9 Ethyl Ether	0.29742	0.32864	0.34064	0.31015	0.28270	0.31839						
	0.32406						AVRG		0.31457		6.23938	
68 Ethanol	++++++	++++++	++++++	++++++	++++++	++++++						
	++++++						AVRG		0.000e+00		0.000e+00	<-
10 1,1-Dichloroethene +	0.37102	0.29728	0.32468	0.24524	0.34842	0.34095						
	0.33665						AVRG		0.32346		12.72839	

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
11 Carbon Disulfide	6981	21353	42800	66993	245579	497241					
	987636						LINR	0.02476	0.99923		0.99921
12 1,1,2Trichlotrifluoroethane	0.31453	0.30307	0.32625	0.24226	0.34980	0.34430					
	0.34213						AVRG		0.31748		11.73153
13 Methyl Iodide	1311	4800	10893	19837	80385	173564					
	359766						LINR	0.08080	0.36643		0.99856
14 Acrolein	0.02485	0.02540	0.01998	0.02109	0.02210	0.02326					
	0.02526						AVRG		0.02313		9.30709
15 Allyl chloride	0.26095	0.24509	0.23444	0.21640	0.22516	0.22990					
	0.22695						AVRG		0.23413		6.29531
16 Methylene Chloride	0.32451	0.28836	0.29739	0.25144	0.29414	0.28957					
	0.29304						AVRG		0.29121		7.35322
17 Acetone	+++++	0.19062	0.18050	0.16745	0.14724	0.14305					
	0.14278						AVRG		0.16194		12.76760

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
18 trans-1,2-Dichloroethene	0.38355	0.30263	0.30212	0.24575	0.32751	0.32957					
	0.33107						AVRG		0.31746		13.11329
19 Methyl Acetate	0.21938	0.25926	0.24179	0.23572	0.21772	0.22766					
	0.24504						AVRG		0.23523		6.33428
20 Hexane	0.24657	0.22964	0.22267	0.17721	0.24383	0.24631					
	0.24166						AVRG		0.22970		10.82228
21 MTBE	0.81722	0.78392	0.80828	0.75036	0.80322	0.80735					
	0.80206						AVRG		0.79606		2.83131
22 tert-Butyl Alcohol	+++++	0.04630	0.04915	0.04580	0.03386	0.04944					
	0.05020						AVRG		0.04579		13.33935
23 Acetonitrile	0.03580	0.03863	0.04001	0.03800	0.02923	0.03838					
	0.03924						AVRG		0.03704		9.94530
24 Isopropyl Ether	0.63273	0.66255	0.67039	0.61000	0.66918	0.69980					
	0.70671						AVRG		0.66448		5.16528

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
26 1,1-Dichloroethane ++	0.51012	0.40155	0.40964	0.34247	0.42114	0.40559						
	0.40806						AVRG		0.41408		11.94839	
25 Chloroprene	0.28255	0.31439	0.33672	0.30840	0.30441	0.34518						
	0.35255						AVRG		0.32060		7.83061	
27 Acrylonitrile	0.10644	0.11103	0.11413	0.11042	0.11586	0.11259						
	0.11761						AVRG		0.11258		3.30664	
28 Vinyl Acetate	0.28564	0.27353	0.26389	0.23948	0.29459	0.27904						
	0.27052						AVRG		0.27239		6.48604	
29 cis-1,2-Dichloroethene	0.39183	0.31707	0.31785	0.26960	0.32911	0.32429						
	0.33582						AVRG		0.32651		11.01989	
M 75 Total 1,2-Dichloroethene	0.38769	0.30985	0.30998	0.25768	0.32831	0.32693						
	0.33344						AVRG		0.32198		11.98813	
65 Ethyl Tert-butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
30 2,2-Dichloropropane	0.46383	0.36605	0.36446	0.29509	0.39901	0.39639					
	0.40054						AVRG		0.38362		13.30520
32 Cyclohexane	0.30009	0.30746	0.29851	0.23323	0.34188	0.34313					
	0.35329						AVRG		0.31108		13.19566
34 Bromochloromethane	0.13040	0.15199	0.15451	0.13672	0.16164	0.16231					
	0.16636						AVRG		0.15199		8.95624
35 Chloroform +	0.60697	0.47972	0.47409	0.41097	0.49582	0.48840					
	0.49734						AVRG		0.49333		11.79030
36 Carbon Tetrachloride	1509	7160	14302	23930	91290	193933					
	398788						LINR	0.06226	0.40462		0.99883
41 1,1,1-Trichloroethane	0.49037	0.39272	0.40700	0.32900	0.45068	0.44486					
	0.45511						AVRG		0.42425		12.47675
37 Ethyl Acetate	0.36392	0.36642	0.36593	0.34126	0.28402	0.35714					
	0.38732						AVRG		0.35229		9.38168

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
38 Tetrahydrofuran	0.13109	0.13541	0.13369	0.12690	0.09933	0.12898						
	0.14168						AVRG		0.12815		10.60274	
42 sec-butanol	+++++	0.03661	0.03616	0.03473	0.02854	0.04081						
	0.04017						AVRG		0.03617		12.23952	
44 2-Butanone	0.18116	0.18401	0.18265	0.18485	0.17784	0.17519						
	0.17929						AVRG		0.18071		1.92540	
43 1,1-Dichloropropene	0.42560	0.32416	0.31682	0.26016	0.35259	0.35733						
	0.36205						AVRG		0.34267		14.77679	
45 2,2,4 Trimethylpentane	0.49832	0.48408	0.46579	0.43163	0.46718	0.48858						
	0.50558						AVRG		0.47731		5.22745	
31 Heptane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
46 Benzene	1.29655	0.98345	0.99786	0.86261	1.07426	1.06502						
	1.09948						AVRG		1.05418		12.61961	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
166 Tert-butyl formate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
47 Propionitrile	0.04456	0.05223	0.05581	0.05254	0.04099	0.05450						
	0.05773						AVRG		0.05119		11.98945	
48 Methylacrylonitrile	0.17256	0.19051	0.18782	0.17223	0.16111	0.20162						
	0.20057						AVRG		0.18377		8.41540	
51 1,2-Dichloroethane	0.35743	0.34839	0.34855	0.31903	0.35771	0.35580						
	0.36560						AVRG		0.35036		4.28835	
52 Isobutyl Alcohol	0.01801	0.01898	0.01809	0.01720	0.01210	0.01784						
	0.01898						AVRG		0.01731		13.77667	
55 Methyl Cyclohexane	0.39311	0.34091	0.33485	0.26599	0.37725	0.37723						
	0.38511						AVRG		0.35349		12.57633	
56 Trichloroethene	0.40691	0.30611	0.32170	0.26750	0.34529	0.35187						
	0.36654						AVRG		0.33799		13.26571	

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
167 tert-amyl Methyl Ether	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
39 1,3-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
57 Dibromomethane	0.19008	0.19275	0.20676	0.19058	0.21180	0.20955						
	0.21165						AVRG		0.20188		5.06277	
33 n-Butanol	37.00000	1207	2319	4868	8925	28186						
	60929						QUAD	0.04234	15.68785	-10.32798	0.99345	
59 1,2-Dichloropropane +	0.22406	0.22111	0.23593	0.21029	0.24930	0.25208						
	0.25738						AVRG		0.23573		7.58242	
60 Bromodichloromethane	0.34107	0.34522	0.36245	0.32535	0.38859	0.38879						
	0.40967						AVRG		0.36588		8.39068	
56 2-3 Dichloro-1-Proprene	0.35326	0.39781	0.39552	0.36713	0.37998	0.43323						
	0.43585						AVRG		0.39468		7.93285	

2130721p.s.b/8260dodw12.m 25

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
164 Tert-amyl alcohol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
49 1,4-difluorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
54 1,2-difluorobenzene	+++++	+++++	+++++	++++-	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
61 Methyl methacrylate	0.28452	0.26922	0.27378	0.25012	0.22568	0.26276						
	0.26943						AVRG		0.26222		7.32511	
62 1,4- Dioxane	253	1333	2672	5308	10283	30590						
	67766						QUAD	0.61487	367	-245	0.99501	<-
65 1-Bromo-2-chloroethane	+++++	0.04650	0.04805	0.04537	0.05120	0.05162						
	0.05310						AVRG		0.04931		6.30131	
64 2-Chloroethyl vinyl ether	0.14930	0.16639	0.18477	0.15748	0.20038	0.17530						
	0.17840						AVRG		0.17315		9.91629	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
67 cis-1,3-Dichloropropene	0.40882	0.37541	0.40448	0.36565	0.44464	0.43872						
	0.45024						AVRG		0.41257		8.15594	
66 3-ethyltoluene	+++++	+++++	+++++	++++-	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
69 Toluene +	3.79890	3.05668	2.91192	2.39887	3.03891	3.05172						
	2.87576						AVRG		3.01896		13.70857	
81 2-Nitropropane	0.11111	0.12809	0.12272	0.11204	0.09924	0.13016						
	0.12765						AVRG		0.11872		9.70363	
71 Tetrachloroethene	0.83202	0.68630	0.63418	0.51873	0.71930	0.73983						
	0.72692						AVRG		0.69390		14.07500	
73 4-methyl-2-pentanone	0.73151	0.80155	0.80649	0.77204	0.79457	0.80950						
	0.79605						AVRG		0.78739		3.49322	
74 trans-1,3-Dichloropropene	0.35318	0.36932	0.37927	0.35354	0.41430	0.42195						
	0.44616						AVRG		0.39110		9.32735	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
M 82 1-3 Dichloropropene total	0.38100	0.37236	0.39188	0.35960	0.42947	0.43033					
	0.44820						AVRG		0.40183		8.44636
76 1,1,2-Trichloroethane	0.67615	0.75802	0.73396	0.68092	0.75210	0.75773					
	0.71536						AVRG		0.72489		4.84412
77 Ethyl Methacrylate	+++++	0.65230	0.66165	0.60328	0.60657	0.65971					
	0.69344						AVRG		0.64616		5.40675
78 Dibromochloromethane	0.78418	0.86493	0.89691	0.83851	0.95098	0.97258					
	0.95818						AVRG		0.89518		7.83628
79 1,3-Dichloropropane	1.08571	1.11076	1.08422	1.00194	1.08862	1.10194					
	1.03517						AVRG		1.07262		3.66545
80 1,2-Dibromoethane(EDB)	0.76913	0.82411	0.84146	0.79064	0.85953	0.85784					
	0.82478						AVRG		0.82393		4.09689
72 2-ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00 <-

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
70 1-Nitropropane	+++++	0.05329	0.05326	0.04595	0.04018	0.05505						
	0.05315						AVRG		0.05015		11.61526	
112 1-3 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
111 1-4 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
83 2-Hexanone	0.70302	0.69747	0.67331	0.64350	0.65100	0.64373						
	0.60915						AVRG		0.66017		5.03732	
116 1-2 Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
86 1-Chlorohexane	2375	7292	14420	23899	88920	167671						
	387191						LINR	0.04134	0.90071		0.99795	
85 Chlorobenzene ++	2.70029	2.12307	2.10160	1.85156	2.20620	2.22684						
	2.25649						AVRG		2.20944		11.54850	

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
	200 Level 9											
87 Ethylbenzene +	1.38884	1.08133	1.08022	0.91346	1.15183	1.15691						
	1.16330						AVRG		1.13370		12.52371	
88 1,1,1,2-Tetrachloroethane	0.75892	0.77065	0.74502	0.66914	0.79219	0.78930						
	0.77249						AVRG		0.75682		5.54706	
89 p,m-Xylene	1.66833	1.31510	1.27473	1.08932	1.39413	1.41087						
	1.42483						AVRG		1.36819		12.83796	
63 Methyldisulfide	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+00		0.000e+00	<-
90 o-Xylene	1.57857	1.30619	1.28061	1.11251	1.40244	1.35590						
	1.36218						AVRG		1.34263		10.44206	
121 TOTAL XYLENE	1.63841	1.31213	1.27669	1.09705	1.39690	1.39255						
	1.40395						AVRG		1.35967		12.01927	
91 Styrene	2.53367	2.20438	2.10790	1.87623	2.35295	2.31582						
	2.31098						AVRG		2.24313		9.29391	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
92 Bromoform ++	0.88738	0.77956	0.78656	0.74420	0.88126	0.88355					
	0.88368						AVRG		0.83517		7.45744
93 Isopropylbenzene	3.89134	3.13392	3.05128	2.53799	3.43478	3.37660					
	3.31223						AVRG		3.24831		12.72587
96 Bromobenzene	1.39665	1.08279	1.10082	0.94301	1.09834	1.12885					
	1.15986						AVRG		1.13005		12.03852
97 n-Propylbenzene	9050	31463	64401	108880	384031	797088					
	1732255						LINR	0.01958	3.09858		0.99930
98 1,1,2,2-Tetrachloroethane++	0.97150	0.94077	0.92745	0.85107	0.92529	0.89270					
	0.82166						AVRG		0.90435		5.81965
99 2-Chlorotoluene	2.60539	1.97131	1.97129	1.66707	2.05815	2.07605					
	2.09838						AVRG		2.06395		13.54908
102 1,3,5-Trimethylbenzene	6278	23263	47137	80926	280832	575854					
	1278605						LINR	0.02387	2.28015		0.99951

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
100 1,2,3-Trichloropropane	1.02600	1.02691	0.97675	0.95115	1.02490	1.01540					
	0.96268						AVRG		0.99768		3.30915
101 trans-1,4-Dichloro-2-Butene	0.16489	0.17209	0.17408	0.17782	0.18824	0.18868					
	0.18247						AVRG		0.17832		4.91069
104 4-Chlorotoluene	5424	20141	39291	69953	231886	468180					
	980301						LINR	-0.00953	1.75542		0.99870
103 Cyclohexanone	+++++	2628	4955	9048	15866	44947					
	87416						LINR	0.05925	0.14522		0.99378
105 tert-butylbenzene	3177	12080	23871	40904	141308	292764					
	617181						LINR	0.00457	1.10694		0.99880
107 1,2,4-Trimethylbenzene	6269	23550	46375	82661	275207	563332					
	1183367						LINR	-0.00301	2.12037		0.99882
106 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+00		0.000e+00

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2
	200 Level 9										
108 sec-Butylbenzene	7867	27487	55003	92533	333221	651429					
	1377066						LINR	-0.00697	2.46577		0.99846
110 p-Isopropyltoluene	6963	23481	47469	81815	286978	575473					
	1255720						LINR	0.01146	2.24152		0.99935
109 Dicyclopentadiene	2.36365	2.25350	2.38874	2.18499	2.45169	2.58874					
	2.58736						AVRG		2.40267		6.41377
113 1,3-Dichlorobenzene	2.00502	1.44707	1.48157	1.26567	1.53504	1.50272					
	1.50462						AVRG		1.53453		14.71673
115 1,4-Dichlorobenzene	2.11917	1.57705	1.55947	1.39353	1.56682	1.53819					
	1.56716						AVRG		1.61734		14.23953
117 n-Butylbenzene	6140	20034	37646	65214	231860	463772					
	1008748						LINR	0.00927	1.80088		0.99924
118 1,2-Dichlorobenzene	1.75791	1.42633	1.44027	1.31650	1.53898	1.49486					
	1.46618						AVRG		1.49158		9.13442

2130721p.s.b/8260dodw12.m

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
End Cal Date : 21-JUL-2013 20:28
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
94 2-methylnapthalene	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
119 1,2-Dibromo-3-Chloropropane	0.20905 0.27545	0.26375	0.25900	0.27725	0.29012	0.28778	AVRG		0.26606		10.37189	
163 3,3 Dimethyl-1-Butanol	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
123 Benzal Chloride	+++++ +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+00		0.000e+00	<-
120 Hexachlorobutadiene	1813 225131	4623	8367	14172	49859	101324	LINR	0.01628	0.40053		0.99935	
122 1,2,4-Trichlorobenzene	3067 530414	9672	18644	37512	117260	245799	LINR	0.01253	0.94795		0.99955	
124 Naphthalene	2.91592 2.86981	2.50115	2.59790	2.63418	2.81825	3.02494	AVRG		2.76602		6.90399	

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GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 26-JUN-2013 20:50
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Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Cal Date : 22-Jul-2013 10:42 clh

Compound	1 Level 3 / 200 Level 9	5 Level 4	10 Level 5	20 Level 6	50 Level 7	100 Level 8	Curve	Coefficients b	m1	m2	%RSD or R^2	
125 1,2,3-Trichlorobenzene	2821	9809	19529	37639	115224	248500						
	536693						LINR	0.01683	0.95925		0.99952	
M 126 Total Diethylbenzene	*****	*****	*****	*****	*****	*****						
	*****						AVRG		0.000e+00		0.000e+00	<-
$ 40 Dibromofluoromethane	0.27624	0.27837	0.27856	0.27861	0.28204	0.28245						
	0.27988						AVRG		0.27945		0.78472	
$ 50 1,2-Dichloroethane-d4	0.14306	0.14258	0.14427	0.14325	0.13975	0.14412						
	0.14370						AVRG		0.14296		1.07288	
68 Toluene-d8	2.50964	2.60131	2.56292	2.49160	2.48331	2.47305						
	2.26055						AVRG		2.48320		4.37303	
95 Bromofluorobenzene	0.99141	1.03176	1.01203	0.98869	1.03037	1.03240						
	0.97972						AVRG		1.00948		2.25498	

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Report Date: 22-Jul-2013 11:05

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: 1600
Level: LOW
Data Type: MS DATA
SpikeList File: icv.spk
Sublist File: 8260b.sub
Method File: /var/chem/msv12.i/2130721p.s.b/8260dodw12.m
Misc Info: MSV~28093~*1*CLH

Client SDG: 2130721p.s
Fraction: VOA
Client Smp ID: ICV050
Operator: CLH
SampleType: LCS
Quant Type: ISTD

SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1	Dichlorodifluoromethane	50.0	52.5	104.91	80-120
2	Chloromethane ++	50.0	50.8	101.67	80-120
3	Vinyl Chloride +	50.0	53.1	106.16	80-120
6	Bromomethane	50.0	49.2	98.41	80-120
7	Chloroethane	50.0	52.6	105.16	80-120
8	Trichlorofluoromethane	50.0	56.0	112.04	80-120
10	1,1-Dichloroethene +	50.0	52.2	104.33	80-120
11	Carbon Disulfide	50.0	51.4	102.90	80-120
12	1,1,2Trichlotrifluoroethane	50.0	55.5	111.05	80-120
13	Methyl Iodide	50.0	50.8	101.68	80-120
14	Acrolein	250	272	108.94	80-120
16	Methylene Chloride	50.0	50.1	100.14	80-120
17	Acetone	50.0	44.2	88.46	80-120
18	trans-1,2-Dichloroethene	50.0	50.9	101.73	80-120
19	Methyl Acetate	50.0	51.3	102.63	80-120
20	Hexane	50.0	53.5	107.03	80-120
21	MTBE	50.0	49.4	98.76	80-120
26	1,1-Dichloroethane ++	50.0	51.7	103.32	80-120
27	Acrylonitrile	250	255	102.05	80-120
28	Vinyl Acetate	50.0	53.7	107.32	80-120
29	cis-1,2-Dichloroethene	50.0	51.1	102.15	80-120
30	2,2-Dichloropropane	50.0	54.2	108.39	80-120
32	Cyclohexane	50.0	55.4	110.77	80-120
34	Bromochloromethane	50.0	52.8	105.53	80-120
35	Chloroform +	50.0	50.3	100.52	80-120
36	Carbon Tetrachloride	50.0	50.1	100.14	80-120
41	1,1,1-Trichloroethane	50.0	52.9	105.76	80-120
43	1,1-Dichloropropene	50.0	51.6	103.26	80-120
44	2-Butanone	50.0	47.5	95.02	80-120
31	Heptane	50.0	0.00	*	80-120
46	Benzene	50.0	51.0	101.90	80-120
51	1,2-Dichloroethane	50.0	50.6	101.22	80-120
55	Methyl Cyclohexane	50.0	55.0	110.02	80-120

SPIKE	COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
56	Trichloroethene	50.0	51.0	102.02	80-120
57	Dibromomethane	50.0	52.2	104.35	80-120
59	1,2-Dichloropropane +	50.0	53.3	106.68	80-120
60	Bromodichloromethane	50.0	54.1	108.26	80-120
65	1-Bromo-2-chloroethane	50.0	51.3	102.52	80-120
64	2-Chloroethyl vinyl ether	50.0	53.5	107.01	80-120
67	cis-1,3-Dichloropropene	50.0	54.0	108.04	80-120
69	Toluene +	50.0	50.0	99.98	80-120
71	Tetrachloroethene	50.0	50.6	101.30	80-120
73	4-methyl-2-pentanone	50.0	48.5	97.07	80-120
74	trans-1,3-Dichloropropene	50.0	53.4	106.80	80-120
76	1,1,2-Trichloroethane	50.0	50.3	100.63	80-120
78	Dibromochloromethane	50.0	51.8	103.51	80-120
79	1,3-Dichloropropane	50.0	48.9	97.86	80-120
80	1,2-Dibromoethane(EDB)	50.0	50.1	100.24	80-120
83	2-Hexanone	50.0	47.3	94.69	80-120
86	1-Chlorohexane	50.0	51.6	103.27	80-120
85	Chlorobenzene ++	50.0	49.1	98.23	80-120
87	Ethylbenzene +	50.0	49.6	99.27	80-120
88	1,1,1,2-Tetrachloroethane	50.0	51.0	101.94	80-120
89	p,m-Xylene	100	101	100.69	80-120
90	o-Xylene	50.0	51.3	102.51	80-120
91	Styrene	50.0	51.9	103.79	80-120
92	Bromoform ++	50.0	51.8	103.59	80-120
93	Isopropylbenzene	50.0	52.2	104.35	80-120
96	Bromobenzene	50.0	47.4	94.74	80-120
97	n-Propylbenzene	50.0	49.4	98.89	80-120
98	1,1,2,2-Tetrachloroethane++	50.0	49.3	98.51	80-120
99	2-Chlorotoluene	50.0	49.1	98.12	80-120
102	1,3,5-Trimethylbenzene	50.0	49.2	98.42	80-120
100	1,2,3-Trichloropropane	50.0	48.6	97.24	80-120
101	trans-1,4-Dichloro-2-Butene	50.0	50.2	100.34	80-120
104	4-Chlorotoluene	50.0	51.8	103.57	80-120
105	tert-butylbenzene	50.0	50.2	100.44	80-120
107	1,2,4-Trimethylbenzene	50.0	50.2	100.35	80-120
108	sec-Butylbenzene	50.0	51.7	103.43	80-120
110	p-Isopropyltoluene	50.0	51.5	102.95	80-120
113	1,3-Dichlorobenzene	50.0	49.9	99.82	80-120
115	1,4-Dichlorobenzene	50.0	47.6	95.30	80-120
117	n-Butylbenzene	50.0	52.1	104.28	80-120
118	1,2-Dichlorobenzene	50.0	49.6	99.26	80-120
119	1,2-Dibromo-3-Chloropropane	50.0	50.9	101.88	80-120
120	Hexachlorobutadiene	50.0	51.4	102.89	80-120
122	1,2,4-Trichlorobenzene	50.0	49.5	98.99	80-120
124	Naphthalene	50.0	50.4	100.82	80-120
125	1,2,3-Trichlorobenzene	50.0	48.3	96.57	80-120

Data File: /var/chem/msv12.i/2130730p.s.b/j8607.d
Report Date: 30-Jul-2013 22:47

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i
Lab File ID: j8607.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/msv12.i/2130730p.s.b/8260dodw12.m

Injection Date: 30-JUL-2013 21:26
Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Init. Cal. Times: 20:50 20:28
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Dichlorodifluoromethane	0.31453	0.22749	0.22749	0.010	-27.67160	20.00000	Averaged	<- MT
2 Chloromethane ++	44.39974	50.00000	0.16730	0.100	-11.20051	20.00000	Linear	
3 Vinyl Chloride +	0.26840	0.24638	0.24638	0.010	-8.20738	20.00000	Averaged	
6 Bromomethane	40.46022	50.00000	0.15193	0.010	-19.07956	20.00000	Linear	
7 Chloroethane	35.27518	50.00000	0.14744	0.010	-29.44965	20.00000	Linear	<- MT
8 Trichlorofluoromethane	0.54848	0.51565	0.51565	0.010	-5.98487	20.00000	Averaged	
10 1,1-Dichloroethene +	0.32346	0.31619	0.31619	0.010	-2.24828	20.00000	Averaged	
11 Carbon Disulfide	44.81945	50.00000	0.87096	0.010	-10.36110	20.00000	Linear	
12 1,1,2Trichlotrifluoroethane	0.31748	0.32171	0.32171	0.010	1.33215	20.00000	Averaged	
13 Methyl Iodide	48.52768	50.00000	0.32603	0.010	-2.94464	20.00000	Linear	
14 Acrolein	0.02313	0.02713	0.02713	0.010	17.29820	20.00000	Averaged	
16 Methylene Chloride	0.29121	0.28432	0.28432	0.010	-2.36515	20.00000	Averaged	
17 Acetone	0.16194	0.19287	0.19287	0.010	19.09847	20.00000	Averaged	
18 trans-1,2-Dichloroethene	0.31746	0.30834	0.30834	0.010	-2.87347	20.00000	Averaged	
19 Methyl Acetate	0.23523	0.27392	0.27392	0.010	16.44755	20.00000	Averaged	
20 Hexane	0.22970	0.21601	0.21601	0.010	-5.95748	20.00000	Averaged	
21 MTBE	0.79606	0.77500	0.77500	0.010	-2.64565	20.00000	Averaged	
26 1,1-Dichloroethane ++	0.41408	0.39235	0.39235	0.100	-5.24775	20.00000	Averaged	
27 Acrylonitrile	0.11258	0.12146	0.12146	0.010	7.88568	20.00000	Averaged	
28 Vinyl Acetate	0.27239	0.29580	0.29580	0.010	8.59785	20.00000	Averaged	
29 cis-1,2-Dichloroethene	0.32651	0.32294	0.32294	0.010	-1.09232	20.00000	Averaged	
M 75 Total 1,2-Dichloroethene	0.32198	0.31564	0.31564	0.010	-1.97037	20.00000	Averaged	
30 2,2-Dichloropropane	0.38362	0.39982	0.39982	0.010	4.22070	20.00000	Averaged	
32 Cyclohexane	0.31108	0.30305	0.30305	0.010	-2.58310	20.00000	Averaged	
34 Bromochloromethane	0.15199	0.17325	0.17325	0.010	13.98873	20.00000	Averaged	
35 Chloroform +	0.49333	0.48222	0.48222	0.010	-2.25106	20.00000	Averaged	
36 Carbon Tetrachloride	48.25990	50.00000	0.36534	0.010	-3.48019	20.00000	Linear	
$ 40 Dibromofluoromethane	0.27945	0.27169	0.27169	0.010	-2.77728	20.00000	Averaged	
41 1,1,1-Trichloroethane	0.42425	0.42755	0.42755	0.010	0.77757	20.00000	Averaged	
44 2-Butanone	0.18071	0.21805	0.21805	0.010	20.66254	20.00000	Averaged	<- MT
43 1,1-Dichloropropene	0.34267	0.33909	0.33909	0.010	-1.04609	20.00000	Averaged	
46 Benzene	1.05418	1.02199	1.02199	0.010	-3.05311	20.00000	Averaged	
$ 50 1,2-Dichloroethane-d4	0.14296	0.14661	0.14661	0.010	2.55296	20.00000	Averaged	
51 1,2-Dichloroethane	0.35036	0.35698	0.35698	0.010	1.89152	20.00000	Averaged	
55 Methyl Cyclohexane	0.35349	0.34910	0.34910	0.010	-1.24195	20.00000	Averaged	

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 30-JUL-2013 21:26
Lab File ID: j8607.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130730p.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
56 Trichloroethene	0.33799	0.35858	0.35858	0.010	6.09166	20.00000	Averaged
57 Dibromomethane	0.20188	0.20890	0.20890	0.010	3.47858	20.00000	Averaged
59 1,2-Dichloropropane +	0.23573	0.24630	0.24630	0.010	4.48248	20.00000	Averaged
60 Bromodichloromethane	0.36588	0.39404	0.39404	0.010	7.69800	20.00000	Averaged
65 1-Bromo-2-chloroethane	0.04931	0.05426	0.05426	0.010	10.04068	20.00000	Averaged
64 2-Chloroethyl vinyl ether	0.17315	0.21524	0.21524	0.010	24.31169	20.00000	Averaged <- MT
67 cis-1,3-Dichloropropene	0.41257	0.43832	0.43832	0.010	6.24294	20.00000	Averaged
$ 68 Toluene-d8	2.48320	2.45811	2.45811	0.010	-1.01011	20.00000	Averaged
69 Toluene +	3.01896	2.89424	2.89424	0.010	-4.13152	20.00000	Averaged
71 Tetrachloroethene	0.69390	0.73786	0.73786	0.010	6.33572	20.00000	Averaged
73 4-methyl-2-pentanone	0.78739	0.86596	0.86596	0.010	9.97898	20.00000	Averaged
74 trans-1,3-Dichloropropene	0.39110	0.43410	0.43410	0.010	10.99348	20.00000	Averaged
M 82 1-3 Dichloropropene total	0.40183	0.43621	0.43621	0.010	8.55477	20.00000	Averaged
76 1,1,2-Trichloroethane	0.72489	0.74086	0.74086	0.010	2.20316	20.00000	Averaged
78 Dibromochloromethane	0.89518	0.99343	0.99343	0.010	10.97477	20.00000	Averaged
79 1,3-Dichloropropane	1.07262	1.07659	1.07659	0.010	0.37031	20.00000	Averaged
80 1,2-Dibromoethane(EDB)	0.82393	0.88581	0.88581	0.010	7.51018	20.00000	Averaged
83 2-Hexanone	0.66017	0.74477	0.74477	0.010	12.81514	20.00000	Averaged
86 1-Chlorohexane	51.66825	50.00000	0.89353	0.010	3.33650	20.00000	Linear
85 Chlorobenzene ++	2.20944	2.23245	2.23245	0.300	1.04146	20.00000	Averaged
87 Ethylbenzene +	1.13370	1.13015	1.13015	0.010	-0.31282	20.00000	Averaged
88 1,1,1,2-Tetrachloroethane	0.75682	0.82040	0.82040	0.010	8.40193	20.00000	Averaged
89 p,m-Xylene	1.36819	1.35885	1.35885	0.010	-0.68215	20.00000	Averaged
90 o-Xylene	1.34263	1.31279	1.31279	0.010	-2.22256	20.00000	Averaged
M 121 TOTAL XYLENE	1.35967	1.34350	1.34350	0.010	-1.18919	20.00000	Averaged
91 Styrene	2.24313	2.33262	2.33262	0.010	3.98917	20.00000	Averaged
92 Bromoform ++	0.83517	0.96358	0.96358	0.100	15.37565	20.00000	Averaged
93 Isopropylbenzene	3.24831	3.18641	3.18641	0.010	-1.90534	20.00000	Averaged
$ 95 Bromofluorobenzene	1.00948	1.12811	1.12811	0.010	11.75117	20.00000	Averaged
96 Bromobenzene	1.13005	1.04034	1.04034	0.010	-7.93873	20.00000	Averaged
97 n-Propylbenzene	46.09483	50.00000	2.79589	0.010	-7.81034	20.00000	Linear
98 1,1,2,2-Tetrachloroethane++	0.90435	0.87979	0.87979	0.300	-2.71612	20.00000	Averaged
99 2-Chlorotoluene	2.06395	1.92638	1.92638	0.010	-6.66538	20.00000	Averaged
102 1,3,5-Trimethylbenzene	46.65445	50.00000	2.07315	0.010	-6.69109	20.00000	Linear
100 1,2,3-Trichloropropane	0.99768	1.00389	1.00389	0.010	0.62181	20.00000	Averaged

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msv12.i Injection Date: 30-JUL-2013 21:26
Lab File ID: j8607.d Init. Cal. Date(s): 26-JUN-2013 21-JUL-2013
Analysis Type: WATER Init. Cal. Times: 20:50 20:28
Lab Sample ID: 1400 Quant Type: ISTD
Method: /var/chem/msv12.i/2130730p.s.b/8260dodw12.m

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
101 trans-1,4-Dichloro-2-Butene	0.17832	0.19374	0.19374	0.010	8.64791	20.00000	Averaged
104 4-Chlorotoluene	49.46440	50.00000	1.75335	0.010	-1.07119	20.00000	Linear
105 tert-butylbenzene	46.86625	50.00000	1.03250	0.010	-6.26749	20.00000	Linear
107 1,2,4-Trimethylbenzene	49.10268	50.00000	2.08871	0.010	-1.79463	20.00000	Linear
108 sec-Butylbenzene	48.26684	50.00000	2.39748	0.010	-3.46633	20.00000	Linear
110 p-Isopropyltoluene	47.95221	50.00000	2.12403	0.010	-4.09558	20.00000	Linear
113 1,3-Dichlorobenzene	1.53453	1.52397	1.52397	0.010	-0.68823	20.00000	Averaged
115 1,4-Dichlorobenzene	1.61734	1.57399	1.57399	0.010	-2.68056	20.00000	Averaged
117 n-Butylbenzene	47.81207	50.00000	1.70538	0.010	-4.37586	20.00000	Linear
118 1,2-Dichlorobenzene	1.49158	1.52535	1.52535	0.010	2.26437	20.00000	Averaged
119 1,2-Dibromo-3-Chloropropane	0.26606	0.31996	0.31996	0.010	20.25842	20.00000	Averaged <-M
120 Hexachlorobutadiene	55.44117	50.00000	0.43759	0.010	10.88233	20.00000	Linear
122 1,2,4-Trichlorobenzene	57.24833	50.00000	1.07349	0.010	14.49666	20.00000	Linear
124 Naphthalene	2.76602	3.13266	3.13266	0.010	13.25512	20.00000	Averaged
125 1,2,3-Trichlorobenzene	55.10800	50.00000	1.04110	0.010	10.21601	20.00000	Linear

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Lab File ID (Standard): 2130721p/j8204 Date Analyzed: 07/21/13 Time: 1945

Instrument ID: MSV12 GC Column: RTX-VMS-30M ID: .25 (mm)

Analytical Batch: 512786 Heated Burge: (Y/N) N

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	245081	6.64	98512	9.11	124955	10.57

EPA Sample No.		#		#		#		#		#		#
LCS1219076	255378		6.64		107229		9.11		143245		10.57	
LCSD1219077	252107		6.64		100757		9.11		134279		10.57	
MB1219075	250519		6.64		94460		9.12		124127		10.57	
B398MW1-3Q13	244264		6.64		94816		9.11		129299		10.57	
B398MW1-3Q13 MS	256729		6.64		104555		9.11		137878		10.57	
B398MW1-3Q13 MSD	252152		6.64		103528		9.12		139687		10.57	
B398MW9-3Q13	242083		6.64		95209		9.12		124933		10.57	
B398DW1-3Q13	246644		6.64		94393		9.11		125211		10.57	
DUP2072413	238326		6.64		93883		9.11		126250		10.57	
TRIP BLANK	242652		6.64		96315		9.12		126671		10.57	

IS 1 ID: Fluorobenzene
IS 2 ID: Chlorobenzene d5
IS 3 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 21-JUL-2013
Instrument: msv12.i
Analyst(s): CEK

Standard	Conc	Std ID#	Expiration
BFB IS/SS	50	7-57-7	12/15/13
8260 IS/SS	50	7-57-7	12/15/13
8260	50	7-60-11	07/31/13
AC/AC/VA	250/50	7-61-1	09/20/13
2-CVE	50	7-58-13	12/28/13
8260 ICV	50	7-57-8	12/15/13
AC/AC/VA ICV	250/50	7-60-10	09/20/13
2-CVE ICV	50	7-54-12	10/30/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		j8199bfb.d	0.00 ml	21-JUL-2013 17:21	1.000	LBH	2
1000		j8199wbfb.d	0.00 ml	21-JUL-2013 17:21	1.000	LBH	2
1203		j8200.d	5.00 ml	21-JUL-2013 18:18	1.000	CLH	13
1203		j8200w.d	5.00 ml	21-JUL-2013 18:18	1.000	CLH	13
1204		j8201.d	5.00 ml	21-JUL-2013 18:40	1.000	CLH	14
1204		j8201w.d	5.00 ml	21-JUL-2013 18:40	1.000	CLH	14
1205		j8202.d	5.00 ml	21-JUL-2013 19:02	1.000	CLH	15
1205		j8202w.d	5.00 ml	21-JUL-2013 19:02	1.000	CLH	15
1206		j8203.d	5.00 ml	21-JUL-2013 19:23	1.000	CLH	16
1206		j8203w.d	5.00 ml	21-JUL-2013 19:23	1.000	CLH	16
1207		j8204.d	5.00 ml	21-JUL-2013 19:45	1.000	CLH	17
1207		j8204w.d	5.00 ml	21-JUL-2013 19:45	1.000	CLH	17
1208		j8205.d	5.00 ml	21-JUL-2013 20:06	1.000	CLH	18
1208		j8205w.d	5.00 ml	21-JUL-2013 20:06	1.000	CLH	18
1209		j8206.d	5.00 ml	21-JUL-2013 20:28	1.000	CLH	19
1209		j8206w.d	5.00 ml	21-JUL-2013 20:28	1.000	CLH	19
BLANK		j8207.d	5.00 ml	21-JUL-2013 20:50	1.000	CLH	81
1600		j8208.d	5.00 ml	21-JUL-2013 21:11	1.000	CLH	82
1600		j8208w.d	5.00 ml	21-JUL-2013 21:11	1.000	CLH	82
1215754		j8209.d	5.00 ml	21-JUL-2013 21:33	1.000	CLH	83
1215755		j8210.d	5.00 ml	21-JUL-2013 21:54	1.000	CLH	84
BLANK		j8211.d	5.00 ml	21-JUL-2013 22:16	1.000	CLH	85
1400		j8212.d	5.00 ml	21-JUL-2013 23:10	1.000	CLH	86
1215943		j8212L.d	5.00 ml	21-JUL-2013 23:10	1.000	CLH	86
1215944		j8213.d	5.00 ml	21-JUL-2013 23:32	1.000	CLH	87
MB		j8214.d	5.00 ml	21-JUL-2013 23:53	1.000	CLH	88
1215753		j8215.d	5.00 ml	22-JUL-2013 00:14	1.000	CLH	89
21307181712		j8216.d	5.00 ml	22-JUL-2013 00:36	1.000	CLH	1
21307181714		j8217.d	5.00 ml	22-JUL-2013 00:58	1.000	CLH	2
21307181715		j8218.d	5.00 ml	22-JUL-2013 01:19	1.000	CLH	3
BLANK		j8219.d	5.00 ml	22-JUL-2013 01:40	1.000	CLH	4
21307181701		j8220.d	5.00 ml	22-JUL-2013 02:02	1.000	CLH	5
21307181702		j8221.d	5.00 ml	22-JUL-2013 02:23	1.000	CLH	6
21307181703		j8222.d	5.00 ml	22-JUL-2013 02:44	1.000	CLH	7
21307181704		j8223.d	5.00 ml	22-JUL-2013 03:06	1.000	CLH	8
21307181705		j8224.d	5.00 ml	22-JUL-2013 03:27	1.000	CLH	9

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 21-JUL-2013
Instrument: msv12.i
Analyst(s): LBH

Standard	Conc ppm
Int. Standard	50
Surrogate	50
8260	50
Ac/Ac/VA	250/50
CVE	50

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
21307181706		j8225.d	5.00 ml	22-JUL-2013 03:49	1.000	CLH	10
21307181707		j8226.d	5.00 ml	22-JUL-2013 04:10	1.000	CLH	11
21307181708		j8227.d	5.00 ml	22-JUL-2013 04:32	1.000	CLH	12
21307181709		j8228.d	5.00 ml	22-JUL-2013 04:53	1.000	CLH	13
21307181710		j8229.d	5.00 ml	22-JUL-2013 05:15	1.000	CLH	14

TUNE TIME = 05:21 07-22-13

LABORATORY CHRONICLE: MSV DEPARTMENT

Date: 30-JUL-2013
Instrument: msv12.i
Analyst(s): CEK
JCK

Standard	Conc	Std ID#	Expiration
BFB IS/SS	50	7-54-11	10/27/13
8260 IS/SS	50	7-54-11	10/27/13
8260	50	7-61-05	08/08/13
AC/AC/VA	250/50	7-61-04	09/20/13
2-CVE	50	7-58-13	12/28/13

Sample ID	Comments	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS
1000		j8606.d	0.00 ml	30-JUL-2013 20:48	1.000	CEK	2
1400		j8607.d	5.00 ml	30-JUL-2013 21:26	1.000	CEK	1
1219076		j8607L.d	5.00 ml	30-JUL-2013 21:26	1.000	CEK	1
1219077		j8608.d	5.00 ml	30-JUL-2013 21:48	1.000	CEK	2
BLANK		j8609.d	5.00 ml	30-JUL-2013 22:10	1.000	CEK	3
BLANK		j8610.d	5.00 ml	30-JUL-2013 22:32	1.000	CEK	4
1219075		j8611.d	5.00 ml	30-JUL-2013 22:54	1.000	CEK	4
21307271219		j8612.d	5.00 ml	30-JUL-2013 23:16	1.000	CEK	5
21307260801		j8613.d	5.00 ml	30-JUL-2013 23:38	1.000	JCK	6
21307271220		j8614ms.d	5.00 ml	31-JUL-2013 00:00	1.000	JCK	7
21307271221		j8615msd.d	5.00 ml	31-JUL-2013 00:22	1.000	JCK	7
21307260802		j8616ms.d	5.00 ml	31-JUL-2013 00:43	1.000	JCK	8
21307260803		j8617msd.d	5.00 ml	31-JUL-2013 01:05	1.000	JCK	8
BLANK		j8618.d	5.00 ml	31-JUL-2013 01:27	1.000	JCK	9
21307260804		j8619.d	5.00 ml	31-JUL-2013 01:49	1.000	JCK	10
21307260805		j8620.d	5.00 ml	31-JUL-2013 02:11	1.000	JCK	11
21307260806		j8621.d	5.00 ml	31-JUL-2013 02:33	1.000	JCK	12
21307260807		j8622.d	5.00 ml	31-JUL-2013 02:54	1.000	JCK	13
21307271218		j8623.d	5.00 ml	31-JUL-2013 03:16	20.000	JCK	14
BLANK		j8624.d	5.00 ml	31-JUL-2013 03:38	1.000	JCK	15
21307260901		j8625.d	5.00 ml	31-JUL-2013 04:00	1.000	JCK	16
21307260902		j8626.d	5.00 ml	31-JUL-2013 04:21	1.000	JCK	17
21307260903		j8627.d	5.00 ml	31-JUL-2013 04:43	1.000	JCK	18
21307260904		j8628.d	5.00 ml	31-JUL-2013 05:04	1.000	JCK	19
21307260905		j8629.d	5.00 ml	31-JUL-2013 05:26	1.000	JCK	20
21307260906		j8630.d	5.00 ml	31-JUL-2013 05:48	1.000	JCK	21
BLANK		j8631.d	5.00 ml	31-JUL-2013 06:09	1.000	JCK	22

TUNE = 08:48

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

CONCENTRATION UNITS: ug/L

Sample ID: B398MW1-3Q13

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 21307260801

Date Collected: 07/24/13 Time: 1640

Date Received: 07/26/13

Date Extracted:

Date Analyzed: 08/05/13 Time: 1126

Dilution Factor: 5 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6028

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	709		27.5	500

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

CONCENTRATION UNITS: ug/L

Sample ID: B398MW1-3Q13 MS

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 21307260802

Date Collected: 07/24/13 Time: 1640

Date Received: 07/26/13

Date Extracted:

Date Analyzed: 08/05/13 Time: 1140

Dilution Factor: 5 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6029

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	3580		27.5	500

FORM I ORG-1

213072608 50

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

CONCENTRATION UNITS: ug/L

Sample ID: B398MW1-3Q13 MSD

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 21307260803

Date Collected: 07/24/13 Time: 1640

Date Received: 07/26/13

Date Extracted:

Date Analyzed: 08/05/13 Time: 1154

Dilution Factor: 5 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6030

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	2940		27.5	500

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513021

Sample ID: B398MW9-3Q13
Contract:
SAS No.: SDG No.: 213072608
Lab Sample ID: 21307260804
Date Collected: 07/24/13 Time: 1920
Date Received: 07/26/13
Date Extracted:
Date Analyzed: 08/05/13 Time: 0358
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A
Lab File ID: 2130804/v6022

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	202		5.50	100

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

CONCENTRATION UNITS: ug/L

Sample ID: B398DW1-3Q13

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 21307260805

Date Collected: 07/24/13 Time: 1800

Date Received: 07/26/13

Date Extracted:

Date Analyzed: 08/05/13 Time: 0412

Dilution Factor: 1 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6023

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	40.2	J	5.50	100

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

CONCENTRATION UNITS: ug/L

Sample ID: DUP2072413

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 21307260806

Date Collected: 07/24/13 Time: 0000

Date Received: 07/26/13

Date Extracted:

Date Analyzed: 08/05/13 Time: 0426

Dilution Factor: 1 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6024

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	36.7	J	5.50	100

FORM I ORG-1

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 5 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: ID: (mm)
Concentrated Extract Volume: 5000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: Analytical Batch: 513021

Sample ID: TRIP BLANK
Contract:
SAS No.: SDG No.: 213072608
Lab Sample ID: 21307260807
Date Collected: 07/24/13 Time: 0000
Date Received: 07/26/13
Date Extracted:
Date Analyzed: 08/05/13 Time: 0440
Dilution Factor: 1 Analyst: BMR
Prep Method: 8015C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

CONCENTRATION UNITS: ug/L

Lab File ID: 2130804/v6025

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5.50	U	5.50	100

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 5 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: ID: (mm)

Concentrated Extract Volume: 5000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: Analytical Batch: 513021

CONCENTRATION UNITS: ug/L

Sample ID: MB1220414

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 1220414

Date Collected: Time:

Date Received:

Date Extracted:

Date Analyzed: 08/04/13 Time: 2346

Dilution Factor: 1 Analyst: BMR

Prep Method: 8015C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCV6A

Lab File ID: 2130804/v6004

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
8006-61-9	GRO	5.50	U	5.50	100

FORM I ORG-1

2E
WATER ORGANIC SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

GC Column (1): ID: (mm) GC Cloumn (2): ID: (mm)

Method: SW846 8015C

	EPA SAMPLE NO.	SMC1 1-(1)	Lo	Hi	F	SMC2 2	Lo	Hi	F	SMC3 3	Lo	Hi	F	SMC4 4	Lo	Hi	F	TOT OUT
1.	B398MW1-3Q13	70	49	136														0
2.	B398MW1-3Q13 MS	91	49	136														0
3.	B398MW1-3Q13 MSD	89	49	136														0
4.	B398MW9-3Q13	77	49	136														0
5.	B398DW1-3Q13	78	49	136														0
6.	DUP2072413	76	49	136														0
7.	TRIP BLANK	67	49	136														0
8.	MB1220414	66	49	136														0
9.	LCS1220415	84	49	136														0

SMC 1 : Bromochlorobenzene SMC 2 :

SMC 3 : SMC 4 :

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

3E
WATER ORGANICS MS/MSD RECOVERY

Lab Name: GCAL Sample ID: B398MW1-3Q13

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Contract: Method: SW846 8015C

Prep Batch: Analytical Batch: 513021

SAMPLE NO : 21307260802

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC	MS % REC FLAG	QC. LIMITS
GRO	ug/L	2500	709	3580	115		70 - 128

SAMPLE NO : 21307260803

COMPOUND	UNITS	SPIKE ADDED	MSD CONC.	MSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
GRO	ug/L	2500	2940	89		20		70 - 128	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

213072608 58

3E

WATER ORGANICS LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Contract: Method: SW846 8015C

Prep Batch: Analytical Batch: 513021

SAMPLE NO : 1220415

COMPOUND	*UNITS*	*SPIKE ADDED*	*SAMPLE CONCENTRATION*	*LCS CONCENTRATION*	*LCS % REC*	*LCS % REC FLAG*	*QC. LIMITS*
GRO	ug/L	500	0	481	96		70 - 128

RPD : 0 out of 0 outside limits

Spike Recovery: 0 out of 1 outside limits

FORM III ORG-1

4C

ORGANIC METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1220414

Lab Code: LA024 Case No.:

Contract:

Lab Sample ID: 1220414

SAS No.: SDG No.: 213072608

Matrix: Water Sulfur Cleanup: (Y/N) N

Date Extracted:

Date Analyzed (1): 08/04/13 Time (1): 2346

Date Analyzed (2): Time (2):

Instrument ID (1): GCV6A

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

Method: SW846 8015C

Prep Batch: Analytical Batch: 513021

Lab File ID: 2130804/v6004

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS1220415	1220415	08/04/13	2332	GCV6A
2.	B398MW9-3Q13	21307260804	08/05/13	0358	GCV6A
3.	B398DW1-3Q13	21307260805	08/05/13	0412	GCV6A
4.	DUP2072413	21307260806	08/05/13	0426	GCV6A
5.	TRIP BLANK	21307260807	08/05/13	0440	GCV6A
6.	B398MW1-3Q13	21307260801	08/05/13	1126	GCV6A
7.	B398MW1-3Q13 MS	21307260802	08/05/13	1140	GCV6A
8.	B398MW1-3Q13 MSD	21307260803	08/05/13	1154	GCV6A

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 04-APR-2013 15:42
End Cal Date : 04-APR-2013 16:38
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : Falcon
Method file : /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Cal Date : 05-Apr-2013 11:18 bmr
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcv6a.i/2130404p.b/v6002.d
Level 2: /var/chem/gcv6a.i/2130404p.b/v6003.d
Level 3: /var/chem/gcv6a.i/2130404p.b/v6004.d
Level 4: /var/chem/gcv6a.i/2130404p.b/v6005.d
Level 5: /var/chem/gcv6a.i/2130404p.b/v6006.d

Compound	100.000 Level 1	500.000 Level 2	800.000 Level 3	1000.000 Level 4	3000.000 Level 5	RRF	% RSD
S 1 Total TPHG	14923	17696	14850	14949	15165	15517	7.888
2 Fluorobenzene	57035	78297	69511	67027	90466	72467	17.379
3 TPHG 1	4385	5372	4389	4431	4374	4590	9.535
4 TPHG 2	917	1110	925	933	951	967	8.359
5 TPHG 3	3523	4372	3587	3583	3675	3748	9.422
6 TPHG 4	1440	1728	1434	1477	1506	1517	8.015
7 TPHG 5	2068	2337	2022	2032	2086	2109	6.159
8 TPHG 6	2591	2777	2493	2493	2573	2585	4.489
$ 9 Bromochlorobenzene	25045	30214	34019	35801	49379	34892	26.044
GRO	39,287	49,130	40,756	39,683	40,825	41,936	9.72%

Data File: /var/chem/gcv6a.i/2130404p.b/v6007.d
Report Date: 05-Apr-2013 11:18

GCAL, Inc.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: ICV6/16/2
Level: LOW
Data Type: GC MULTI COMP
SpikeList File: TPHG.spk
Sublist File: all.sub
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Misc Info: 6/16/16

Client SDG: 2130404p
Fraction: VOA
Client Smp ID: ICV6/16/2
Operator: BMR
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
S 1 Total TPHG	500	499	99.81	67-127

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 9 Bromochlorobenzene	30.0	28.5	94.88	49-136

Report Date: 05-Aug-2013 16:01

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv6a.i
Lab File ID: v6002.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/gcv6a.i/2130804.b/GASHBw.m

Injection Date: 04-AUG-2013 23:18
Init. Cal. Date(s): 04-APR-2013 04-APR-2013
Init. Cal. Times: 15:42 16:38
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	15517	15864	0.010	-2.23621	20.00000	Averaged
2 Fluorobenzene	72467	84992	0.010	-17.28308	20.00000	Averaged
3 TPHG 1	4590	5007	0.010	-9.07913	20.00000	Averaged
4 TPHG 2	967	1004	0.010	-3.79254	20.00000	Averaged
5 TPHG 3	3748	3757	0.010	-0.23299	20.00000	Averaged
6 TPHG 4	1517	1526	0.010	-0.60687	20.00000	Averaged
7 TPHG 5	2109	2046	0.010	2.98871	20.00000	Averaged
8 TPHG 6	2585	2524	0.010	2.37292	20.00000	Averaged
$ 9 Bromochlorobenzene	34892	29316	0.010	15.97955	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 6.06356
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

Data File: /var/chem/gcv6a.i/2130804.b/v6015.d
Report Date: 05-Aug-2013 16:02

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv6a.i
Lab File ID: v6015.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/gcv6a.i/2130804.b/GASHBw.m

Injection Date: 05-AUG-2013 02:20
Init. Cal. Date(s): 04-APR-2013 04-APR-2013
Init. Cal. Times: 15:42 16:38
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	15517	13492	0.010	13.04956	20.00000	Averaged
2 Fluorobenzene	72467	72925	0.010	-0.63147	20.00000	Averaged
3 TPHG 1	4590	3971	0.010	13.48994	20.00000	Averaged
4 TPHG 2	967	889	0.010	8.13027	20.00000	Averaged
5 TPHG 3	3748	3278	0.010	12.53705	20.00000	Averaged
6 TPHG 4	1517	1362	0.010	10.22236	20.00000	Averaged
7 TPHG 5	2109	1785	0.010	15.35638	20.00000	Averaged
8 TPHG 6	2585	2207	0.010	14.62812	20.00000	Averaged
$ 9 Bromochlorobenzene	34892	30085	0.010	13.77692	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 11.31356
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

Data File: /var/chem/gcv6a.i/2130804.b/v6026.d
Report Date: 06-Aug-2013 14:54

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv6a.i
Lab File ID: v6026.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/gcv6a.i/2130804.b/GASHBw.m

Injection Date: 05-AUG-2013 04:54
Init. Cal. Date(s): 04-APR-2013 04-APR-2013
Init. Cal. Times: 15:42 16:38
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	15517	14671	0.010	5.44991	20.00000	Averaged
2 Fluorobenzene	72467	71311	0.010	1.59533	20.00000	Averaged
3 TPHG 1	4590	4385	0.010	4.46366	20.00000	Averaged
4 TPHG 2	967	914	0.010	5.50633	20.00000	Averaged
5 TPHG 3	3748	3545	0.010	5.41514	20.00000	Averaged
6 TPHG 4	1517	1459	0.010	3.83171	20.00000	Averaged
7 TPHG 5	2109	1947	0.010	7.66883	20.00000	Averaged
8 TPHG 6	2585	2421	0.010	6.36943	20.00000	Averaged
S 9 Bromochlorobenzene	34892	29940	0.010	14.19201	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 6.05471
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

Data File: /var/chem/gcv6a.i/2130804.b/v6031.d
Report Date: 05-Aug-2013 16:02

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gcv6a.i
Lab File ID: v6031.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/gcv6a.i/2130804.b/GASHBw.m

Injection Date: 05-AUG-2013 12:08
Init. Cal. Date(s): 04-APR-2013 04-APR-2013
Init. Cal. Times: 15:42 16:38
Quant Type: ESTD

COMPOUND	RRF / AMOUNT	RF500	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
S 1 Total TPHG	15517	14816	0.010	4.51604	20.00000	Averaged
2 Fluorobenzene	72467	69962	0.010	3.45686	20.00000	Averaged
3 TPHG 1	4590	4328	0.010	5.71004	20.00000	Averaged
4 TPHG 2	967	940	0.010	2.78004	20.00000	Averaged
5 TPHG 3	3748	3584	0.010	4.37237	20.00000	Averaged
6 TPHG 4	1517	1436	0.010	5.35629	20.00000	Averaged
7 TPHG 5	2109	2017	0.010	4.34353	20.00000	Averaged
8 TPHG 6	2585	2510	0.010	2.90175	20.00000	Averaged
$ 9 Bromochlorobenzene	34892	31046	0.010	11.02038	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 4.93970
Maximun Average %D/Drift = 15.00000
* Passed Average %D/Drift Test.

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 05/24/2013
Instrument: gcv6a.i
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Batch: /var/chem/gcv6a.i/2130404p.b
Column-Detector: DB-624-30

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
GROMARKER		v6001C.d	0.00 ml	04-APR-2013 15:28	1.000	BMR	1	all
TPHG6/16/9		v6002.d	0.00 ml	04-APR-2013 15:42	1.000	BMR	1	all
TPHG500/6/17/2		v6003.d	0.00 ml	04-APR-2013 15:56	1.000	BMR	1	all
TPHG800/6/17/2		v6004.d	0.00 ml	04-APR-2013 16:10	1.000	BMR	1	all
TPHG1000/6/17/		v6005.d	0.00 ml	04-APR-2013 16:24	1.000	BMR	1	all
TPHG3000/6/17/		v6006.d	0.00 ml	04-APR-2013 16:38	1.000	BMR	1	all
ICV6/16/2		v6007.d	0.00 ml	04-APR-2013 16:52	1.000	BMR	1	all
LOD		v6008.d	0.00 ml	04-APR-2013 17:06	1.000	BMR	1	all
LOQ		v6009.d	0.00 ml	04-APR-2013 17:20	1.000	BMR	1	all
LOD40		v6010.d	5.00 g	04-APR-2013 17:34	50.000	BMR	1	all
LOQ100		v6011.d	5.00 g	04-APR-2013 17:48	50.000	BMR	1	all

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 08/06/2013
Instrument: gcv6a.i
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Batch: /var/chem/gcv6a.i/2130804.b
Column-Detector: DB-624-30

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
GROMARKER		v6001C.d	0.00 ml	04-APR-2013 15:28	1.000	BMR	1	all
GROMARKER		v6001.d	0.00 ml	04-AUG-2013 23:04	1.000	BMR	1	all
1400		v6002.d	0.00 ml	04-AUG-2013 23:18	1.000	BMR	1	all
1220415		v6003.d	0.00 ml	04-AUG-2013 23:32	1.000	BMR	1	all
1220414		v6004.d	0.00 ml	04-AUG-2013 23:46	1.000	BMR	1	all
21307251401		v6005.d	0.00 ml	05-AUG-2013 00:00	1.000	BMR	1	all
21307251402		v6006.d	0.00 ml	05-AUG-2013 00:14	1.000	BMR	1	all
21307251403		v6007.d	0.00 ml	05-AUG-2013 00:28	1.000	BMR	1	all
21307251404		v6008.d	0.00 ml	05-AUG-2013 00:42	1.000	BMR	1	all
21307251405		v6009.d	0.00 ml	05-AUG-2013 00:56	50.000	BMR	1	all
21307251406		v6010.d	0.00 ml	05-AUG-2013 01:10	50.000	BMR	1	all
21307251407		v6011.d	0.00 ml	05-AUG-2013 01:24	1.000	BMR	1	all
21307251408		v6012.d	0.00 ml	05-AUG-2013 01:38	1.000	BMR	1	all
21307251409		v6013.d	0.00 ml	05-AUG-2013 01:52	1.000	BMR	1	all
21307251410		v6014.d	0.00 ml	05-AUG-2013 02:06	1.000	BMR	1	all
1400		v6015.d	0.00 ml	05-AUG-2013 02:20	1.000	BMR	1	all
21307251411		v6016.d	0.00 ml	05-AUG-2013 02:34	1.000	BMR	1	all
21307251412		v6017.d	0.00 ml	05-AUG-2013 02:48	1.000	BMR	1	all
21307251413		v6018.d	0.00 ml	05-AUG-2013 03:02	1.000	BMR	1	all
21307261801		v6019.d	0.00 ml	05-AUG-2013 03:16	1.000	BMR	1	all
21307261802		v6020.d	0.00 ml	05-AUG-2013 03:30	1.000	BMR	1	all
21307261803		v6021.d	0.00 ml	05-AUG-2013 03:44	1.000	BMR	1	all
21307260804		v6022.d	0.00 ml	05-AUG-2013 03:58	1.000	BMR	1	all
21307260805		v6023.d	0.00 ml	05-AUG-2013 04:12	1.000	BMR	1	all
21307260806		v6024.d	0.00 ml	05-AUG-2013 04:26	1.000	BMR	1	all
21307260807		v6025.d	0.00 ml	05-AUG-2013 04:40	1.000	BMR	1	all
1400		v6026.d	0.00 ml	05-AUG-2013 04:54	1.000	BMR	1	all
		v6027.d	0.00 ml	05-AUG-2013 05:08	1.000	BMR	1	all
21307260801		v6028.d	0.00 ml	05-AUG-2013 11:26	5.000	BMR	1	all
21307260802		v6029.d	0.00 ml	05-AUG-2013 11:40	5.000	BMR	1	all
21307260803		v6030.d	0.00 ml	05-AUG-2013 11:54	5.000	BMR	1	all
1400		v6031.d	0.00 ml	05-AUG-2013 12:08	1.000	BMR	1	all
		v6031L.d	0.00 ml	05-AUG-2013 12:08	1.000	BMR	1	all
BLK		v6032.d	0.00 ml	05-AUG-2013 12:22	1.000	BMR	1	all
TCLPBLK		v6033.d	0.00 ml	05-AUG-2013 12:38	1.000	BMR	1	all
21307303501		v6034.d	0.00 ml	05-AUG-2013 14:08	5.000	BMR	1	all

LABORATORY CHRONICLE: GCV DEPARTMENT

Date: 08/06/2013
Instrument: gcv6a.i
Method File: /var/chem/gcv6a.i/2130404p.b/GASHBw.m
Batch: /var/chem/gcv6a.i/2130804.b
Column-Detector: DB-624-30

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307303502		v6035.d	0.00 ml	05-AUG-2013 14:22	1.000	BMR	1	all
21307303503		v6036.d	0.00 ml	05-AUG-2013 14:36	1.000	BMR	1	all
21307303504		v6037.d	0.00 ml	05-AUG-2013 14:50	1.000	BMR	1	all
JUG TEST		v6038.d	0.00 ml	05-AUG-2013 15:04	1.000	BMR	1	all
21307303504		v6039.d	0.00 ml	05-AUG-2013 15:18	5.000	BMR	1	all
1400		v6040.d	0.00 ml	05-AUG-2013 15:40	1.000	BMR	1	all

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW1-3Q13

Contract:

Lab File ID: 2130729/i6454

Lab Sample ID: 21307260801

Date Collected: 07/24/13 Time: 1640

Date Received: 07/26/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1316

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	20.6		0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	92.1		0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW1-3Q13 MS

Contract:

Lab File ID: 2130729/i6455

Lab Sample ID: 21307260802

Date Collected: 07/24/13 Time: 1640

Date Received: 07/26/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1329

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	108		0.030	0.100
83-32-9	Acenaphthene	110		0.00820	0.100
208-96-8	Acenaphthylene	75.0		0.025	0.100
120-12-7	Anthracene	78.3		0.041	0.100
56-55-3	Benzo(a)anthracene	80.3		0.020	0.100
50-32-8	Benzo(a)pyrene	80.0		0.011	0.100
205-99-2	Benzo(b)fluoranthene	77.7		0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	79.8		0.011	0.100
207-08-9	Benzo(k)fluoranthene	85.8		0.017	0.100
218-01-9	Chrysene	79.4		0.018	0.100
206-44-0	Fluoranthene	84.1		0.012	0.100
86-73-7	Fluorene	82.4		0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	85.1		0.00520	0.100
91-20-3	Naphthalene	178		0.00970	0.100
85-01-8	Phenanthrene	80.9		0.00720	0.100
129-00-0	Pyrene	86.2		0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW1-3Q13 MSD

Contract:

Lab File ID: 2130729/i6456

Lab Sample ID: 21307260803

Date Collected: 07/24/13 Time: 1640

Date Received: 07/26/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1343

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	104		0.030	0.100
83-32-9	Acenaphthene	109		0.00820	0.100
208-96-8	Acenaphthylene	77.1		0.025	0.100
120-12-7	Anthracene	77.9		0.041	0.100
56-55-3	Benzo(a)anthracene	78.8		0.020	0.100
50-32-8	Benzo(a)pyrene	78.1		0.011	0.100
205-99-2	Benzo(b)fluoranthene	77.3		0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	76.3		0.011	0.100
207-08-9	Benzo(k)fluoranthene	82.8		0.017	0.100
218-01-9	Chrysene	77.7		0.018	0.100
206-44-0	Fluoranthene	83.3		0.012	0.100
86-73-7	Fluorene	83.0		0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	72.5		0.00520	0.100
91-20-3	Naphthalene	163		0.00970	0.100
85-01-8	Phenanthrene	79.1		0.00720	0.100
129-00-0	Pyrene	86.5		0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398MW9-3Q13

Contract:

Lab File ID: 2130729/i6457

Lab Sample ID: 21307260804

Date Collected: 07/24/13 Time: 1920

Date Received: 07/26/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1356

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	10.0		0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.244		0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	38.7		0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: B398DW1-3Q13

Contract:

Lab File ID: 2130729/i6458

Lab Sample ID: 21307260805

Date Collected: 07/24/13 Time: 1800

Date Received: 07/26/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1409

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.109		0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.560		0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: DUP2072413

Contract:

Lab File ID: 2130729/i6459

Lab Sample ID: 21307260806

Date Collected: 07/24/13 Time: 0000

Date Received: 07/26/13

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 1423

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
91-57-6	2-Methylnaphthalene	0.030	U	0.030	0.100
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.611		0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5MS-30 ID: .25 (mm)

Concentrated Extract Volume: 1000 (µL)

Injection Volume: 1.0 (µL)

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS: ug/L

Sample ID: MB1217456

Contract:

Lab File ID: 2130729/i6438

Lab Sample ID: 1217456

Date Collected: Time:

Date Received:

Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 0944

Dilution Factor: 1 Analyst: KCB

Prep Method: 3510C

Analytical Method: 8270D SIM

Instrument ID: MSSV5

Prep Batch: 512477 Analytical Batch: 512612

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
83-32-9	Acenaphthene	0.00820	U	0.00820	0.100
208-96-8	Acenaphthylene	0.025	U	0.025	0.100
120-12-7	Anthracene	0.041	U	0.041	0.100
56-55-3	Benzo(a)anthracene	0.020	U	0.020	0.100
205-99-2	Benzo(b)fluoranthene	0.00870	U	0.00870	0.100
207-08-9	Benzo(k)fluoranthene	0.017	U	0.017	0.100
191-24-2	Benzo(g,h,i)perylene	0.011	U	0.011	0.100
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.100
218-01-9	Chrysene	0.018	U	0.018	0.100
206-44-0	Fluoranthene	0.012	U	0.012	0.100
86-73-7	Fluorene	0.040	U	0.040	0.100
193-39-5	Indeno(1,2,3-cd)pyrene	0.00520	U	0.00520	0.100
91-20-3	Naphthalene	0.00970	U	0.00970	0.100
85-01-8	Phenanthrene	0.00720	U	0.00720	0.100
129-00-0	Pyrene	0.015	U	0.015	0.100
91-57-6	2-Methylnaphthalene	0.030	U	0.030	0.100

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Method: 8270D SIM Level: (low/med) LOW

	EPA SAMPLE NO.	SMC1	#	SMC2	#	SMC3	#	SMC4	#	SMC5	#	SMC6	#	TOT OUT
1 .	B398MW1-3Q13	69		66		68								0
2 .	B398MW1-3Q13 MS	69		76		61								0
3 .	B398MW1-3Q13 MSD	72		75		57								0
4 .	B398MW9-3Q13	68		70		63								0
5 .	B398DW1-3Q13	69		64		81								0
6 .	DUP2072413	70		62		76								0
7 .	MB1217456	74		69		94								0
8 .	LCS1217457	74		68		91								0
9 .	LCSD1217458	71		71		84								0

CONTROL LIMITS

SMC 1	Nitrobenzene-d5	43	110
SMC 2	2-Fluorobiphenyl	16	128
SMC 3	Terphenyl-d14	47	121
SMC 4			
SMC 5			
SMC 6			

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

3C
WATER SEMIVOLATILE MS/MSD RECOVERY

Lab Name: GCAL | Sample ID: B398MW1-3Q13

Lab Code: LA024 | Case No.: | SAS No.: | SDG No.: 213072608

Contract: | Method: 8270D SIM

Prep Batch: 512477 | Analytical Batch.: 512612

Spike HSN : 21307260802

COMPOUND	*UNITS*	*SPIKE ADDED*	*SAMPLE CONCENTRATION*	*MS CONCENTRATION*	*MS % REC*	*REC FLAG*	*QC. LIMITS*
2-Methylnaphthalene	ug/L	100	20.6	108	87		30 - 120
Acenaphthene	ug/L	100	0	110	110		30 - 120
Acenaphthylene	ug/L	100	0	75	75		30 - 130
Anthracene	ug/L	100	0	78.3	78		50 - 120
Benzo(a)anthracene	ug/L	100	0	80.3	80		44 - 123
Benzo(a)pyrene	ug/L	100	0	80	80		42 - 128
Benzo(b)fluoranthene	ug/L	100	0	77.7	78		43 - 129
Benzo(g,h,i)perylene	ug/L	100	0	79.8	80		49 - 120
Benzo(k)fluoranthene	ug/L	100	0	85.8	86		46 - 126
Chrysene	ug/L	100	0	79.4	79		47 - 120
Fluoranthene	ug/L	100	0	84.1	84		37 - 129
Fluorene	ug/L	100	0	82.4	82		30 - 125
Indeno(1,2,3-cd)pyrene	ug/L	100	0	85.1	85		35 - 138
Naphthalene	ug/L	100	92.1	178	86		30 - 120
Phenanthrene	ug/L	100	0	80.9	81		43 - 120
Pyrene	ug/L	100	0	86.2	86		47 - 120

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

FORM III SV-1

3C
WATER SEMIVOLATILE MS/MSD RECOVERY

Lab Name: GCAL Sample ID: B398MW1-3Q13

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Contract: Method: 8270D SIM

Prep Batch: 512477 Analytical Batch.: 512612

Spike Dupe HSN : 21307260803

COMPOUND	UNITS	SPIKE ADDED	MSD CONC.	MSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
2-Methylnaphthalene	ug/L	100	104	83		4		30 - 120	0 - 40
Acenaphthene	ug/L	100	109	109		.9		30 - 120	0 - 40
Acenaphthylene	ug/L	100	77.1	77		3		30 - 130	0 - 40
Anthracene	ug/L	100	77.9	78		.5		50 - 120	0 - 40
Benzo(a)anthracene	ug/L	100	78.8	79		2		44 - 123	0 - 40
Benzo(a)pyrene	ug/L	100	78.1	78		2		42 - 128	0 - 40
Benzo(b)fluoranthene	ug/L	100	77.3	77		.5		43 - 129	0 - 40
Benzo(g,h,i)perylene	ug/L	100	76.3	76		4		49 - 120	0 - 40
Benzo(k)fluoranthene	ug/L	100	82.8	83		4		46 - 126	0 - 40
Chrysene	ug/L	100	77.7	78		2		47 - 120	0 - 40
Fluoranthene	ug/L	100	83.3	83		1		37 - 129	0 - 40
Fluorene	ug/L	100	83	83		.7		30 - 125	0 - 40
Indeno(1,2,3-cd)pyrene	ug/L	100	72.5	73		16		35 - 138	0 - 40
Naphthalene	ug/L	100	163	71		9		30 - 120	0 - 40
Phenanthrene	ug/L	100	79.1	79		2		43 - 120	0 - 40
Pyrene	ug/L	100	86.5	87		.3		47 - 120	0 - 40

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

FORM III SV-1

3C
WATER SEMIVOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Contract: Method: 8270D SIM

Prep Batch: 512477 Analytical Batch.: 512612

Spike HSN : 1217457

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	REC FLAG	QC. LIMITS
2-Methylnaphthalene	ug/L	100	0	81.8	82		30 - 120
Acenaphthene	ug/L	100	0	102	102		30 - 120
Acenaphthylene	ug/L	100	0	82	82		30 - 130
Anthracene	ug/L	100	0	80.9	81		50 - 120
Benzo(a)anthracene	ug/L	100	0	90.7	91		44 - 123
Benzo(a)pyrene	ug/L	100	0	88	88		42 - 128
Benzo(b)fluoranthene	ug/L	100	0	84.1	84		43 - 129
Benzo(g,h,i)perylene	ug/L	100	0	87.9	88		49 - 120
Benzo(k)fluoranthene	ug/L	100	0	94.7	95		46 - 126
Chrysene	ug/L	100	0	83.2	83		47 - 120
Fluoranthene	ug/L	100	0	91.7	92		37 - 129
Fluorene	ug/L	100	0	79.7	80		30 - 125
Indeno(1,2,3-cd)pyrene	ug/L	100	0	93.6	94		35 - 138
Naphthalene	ug/L	100	0	76.9	77		30 - 120
Phenanthrene	ug/L	100	0	84.4	84		43 - 120
Pyrene	ug/L	100	0	92.4	92		47 - 120

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

FORM III SV-1

3C
WATER SEMIVOLATILE LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Contract: Method: 8270D SIM

Prep Batch: 512477 Analytical Batch.: 512612

Spike Dupe HSN : 1217458

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
2-Methylnaphthalene	ug/L	100	82.8	83		1		30 - 120	0 - 40
Acenaphthene	ug/L	100	106	106		4		30 - 120	0 - 40
Acenaphthylene	ug/L	100	77.7	78		5		30 - 130	0 - 40
Anthracene	ug/L	100	78.2	78		3		50 - 120	0 - 40
Benzo(a)anthracene	ug/L	100	84.5	85		7		44 - 123	0 - 40
Benzo(a)pyrene	ug/L	100	85.6	86		3		42 - 128	0 - 40
Benzo(b)fluoranthene	ug/L	100	83.9	84		.2		43 - 129	0 - 40
Benzo(g,h,i)perylene	ug/L	100	84.3	84		4		49 - 120	0 - 40
Benzo(k)fluoranthene	ug/L	100	91.2	91		4		46 - 126	0 - 40
Chrysene	ug/L	100	82.4	82		1		47 - 120	0 - 40
Fluoranthene	ug/L	100	84	84		9		37 - 129	0 - 40
Fluorene	ug/L	100	81.5	82		2		30 - 125	0 - 40
Indeno(1,2,3-cd)pyrene	ug/L	100	90.5	91		3		35 - 138	0 - 40
Naphthalene	ug/L	100	76.1	76		1		30 - 120	0 - 40
Phenanthrene	ug/L	100	81.6	82		3		43 - 120	0 - 40
Pyrene	ug/L	100	86.3	86		7		47 - 120	0 - 40

RPD : 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

FORM III SV-1

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: GCAL

Lab Code: LA024 Case No.:

Lab File ID: 2130729/i6438

GC Column: RTX-5MS-30 ID: .25 (mm)

Instrument ID: MSSV5 Matrix: Water

Level: LOW

Sample ID: MB1217456

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 1217456 Date Extracted: 07/26/13

Date Analyzed: 07/29/13 Time: 0944

Method: 8270D SIM

Prep Batch: 512477 Analytical Batch: 512612

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1.	LCS1217457	1217457	2130729/i6439	07/29/13	0957
2.	LCSD1217458	1217458	2130729/i6440	07/29/13	1011
3.	B398MW1-3Q13	21307260801	2130729/i6454	07/29/13	1316
4.	B398MW1-3Q13 MS	21307260802	2130729/i6455	07/29/13	1329
5.	B398MW1-3Q13 MSD	21307260803	2130729/i6456	07/29/13	1343
6.	B398MW9-3Q13	21307260804	2130729/i6457	07/29/13	1356
7.	B398DW1-3Q13	21307260805	2130729/i6458	07/29/13	1409
8.	DUP2072413	21307260806	2130729/i6459	07/29/13	1423

FORM IV SV

5B
Semivolatile Organics Instrument Performance Check
Decafluorotriphenylphosphine (DFTPP)

Lab Name: GCAL Contract:
Lab Code: LA024 Case No: SAS No: SDG No: 213072608
Lab File ID: 2130711/i6074s DFTPP Inj. Date: 07/11/13
Instrument ID Number: MSSV5 DFTPP Inj. Time: 0853
GC Column: RTX-5MS-30M ID: .25 (mm)
Analytical Batch: 511562

m/e	ION ABUNDANCE CRITERIA	%Relative Abundance		
51	30.0-60.0% of mass 198	35.85	( )	( )
68	Less than 2% of mass 69	0.43	(1.21)	(1)
69	Mass 69 relative abundance	35.69	( )	( )
70	Less than 2.0% of mass 69	0	(0)	(1)
127	40.0-60.0% of mass 198	48.11	( )	( )
197	Less than 1.0% of mass 198	0.68	( )	( )
198	Base Peak, 100% relative abundance	100	( )	( )
199	5.0-9.0% of mass 198	7.03	( )	( )
275	10.0-30.0% of mass 198	27.8	( )	( )
365	Greater than 1.0% of mass 198	3.44	( )	( )
441	Present, but less than mass 443	12.6	( )	( )
442	Greater than 40.00% of mass 198	133.41	( )	( )
443	17.0-23.0% of mass 442	24.45	(18.33)	(2)

(1) - Value is % mass 69 (2) - Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

Sample No.	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
STD050	1205	2130711/i6078	07/11/13	0959
STD010	1204	2130711/i6079	07/11/13	1018
STD080	1206	2130711/i6080	07/11/13	1032
STD120	1207	2130711/i6081	07/11/13	1045
STD160	1208	2130711/i6082	07/11/13	1058
STD200	1209	2130711/i6083	07/11/13	1112
STD002	1203	2130711/i6084	07/11/13	1125
STD001	1202	2130711/i6085	07/11/13	1138
STD0.1	1201	2130711/i6086	07/11/13	1152
STDICV	1600	2130711/i6087	07/11/13	1205

FORM V SV

5B

SEMIVOLATILE ORGANICS INSTRUMENT PERFORMANCE CHECI

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: GCAL

Contract:

Lab Code: LA024 Case No.:

SAS No.: SDG No.: 213072608

Lab File ID: 2130729/i6431x

DFTPP Injection Date: 07/29/13 Time: 0744

GC Column: RTX-5MS-30 ID: .25 (mm)

Analytical Batch: 512612

Instrument ID: MSSV5

m / e	*ION ABUNDANCE CRITERIA*	*% Relative Abundance*
51	30.0-60.0% of mass 198	35.17 ( ) ( )
68	Less than 2% of mass 69	0 (0) (1)
69	Mass 69 relative abundance	36.41 ( ) ( )
70	Less than 2.0% of mass 69	0 (0) (1)
127	40.0-60.0% of mass 198	47.3 ( ) ( )
197	Less than 1.0% of mass 198	.37 ( ) ( )
198	Base Peak, 100% relative abundance	100 ( ) ( )
199	5.0-9.0% of mass 198	6.96 ( ) ( )
275	10.0-30.0% of mass 198	27.24 ( ) ( )
365	Greater than 1.0% of mass 198	3.37 ( ) ( )
441	Present, but less than mass 443	17.28 ( ) ( )
442	Greater than 40.00% of mass 198	141.1 ( ) ( )
443	17.0-23.0% of mass 442	26.14 (18.53) (2)

(1)-Value is % mass 69 (2)-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	SAMPLE NO.	*LAB SAMPLE ID*	*LAB FILE ID*	*DATE ANALYZED*	*TIME ANALYZED*
1.	STD050	1400	2130729/i6433s	07/29/13	0817
2.	MB1217456	1217456	2130729/i6438	07/29/13	0944
3.	LCS1217457	1217457	2130729/i6439	07/29/13	0957
4.	LCSD1217458	1217458	2130729/i6440	07/29/13	1011
5.	B398MW1-3Q13	21307260801	2130729/i6454	07/29/13	1316
6.	B398MW1-3Q13 MS	21307260802	2130729/i6455	07/29/13	1329
7.	B398MW1-3Q13 MSD	21307260803	2130729/i6456	07/29/13	1343
8.	B398MW9-3Q13	21307260804	2130729/i6457	07/29/13	1356
9.	B398DW1-3Q13	21307260805	2130729/i6458	07/29/13	1409
10.	DUP2072413	21307260806	2130729/i6459	07/29/13	1423

FORM V SV

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Calibration File Names:
Level 1: /var/chem/MSSV5.i/2130711.s.b/i6086.d
Level 2: /var/chem/MSSV5.i/2130711.s.b/i6085.d
Level 3: /var/chem/MSSV5.i/2130711.s.b/i6084.d
Level 4: /var/chem/MSSV5.i/2130711.s.b/i6079.d
Level 5: /var/chem/MSSV5.i/2130711.s.b/i6078.d
Level 6: /var/chem/MSSV5.i/2130711.s.b/i6080.d
Level 7: /var/chem/MSSV5.i/2130711.s.b/i6081.d
Level 8: /var/chem/MSSV5.i/2130711.s.b/i6082.d
Level 9: /var/chem/MSSV5.i/2130711.s.b/i6083.d

Compound	0.1000 Level 1	1 Level 2	2 Level 3	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	120 Level 7	160 Level 8	200 Level 9								
6 Naphthalene	0.98618	1.06629	1.03265	1.05299	1.03573	1.01731					
	1.01194	1.00095	0.97962				AVRG		1.02041		2.86700
7 2-Methylnaphthalene	0.71608	0.63295	0.63971	0.65604	0.66792	0.64861					
	0.63690	0.63867	0.65974				AVRG		0.65518		3.91975
9 Acenaphthylene	1.95617	2.11845	2.21569	1.58088	2.31572	2.36944					
	2.36485	2.22299	2.08869				AVRG		2.13699		11.65323

2130711 2508 85

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1 / 120 Level 7	1 Level 2 / 160 Level 8	2 Level 3 / 200 Level 9	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
11 Acenaphthene +	1.00396	1.32324	1.28101	1.08159	1.18048	1.18882						
	1.15375	1.13790	1.12985				AVRG		1.16451		8.27530	
12 Fluorene	1.66636	1.68477	1.70032	1.36353	1.60697	1.60564						
	1.58722	1.54598	1.46329				AVRG		1.58045		6.93060	
14 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
15 Pentachlorophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
17 Phenanthrene	1.45613	1.13982	1.10909	1.11654	1.10306	1.08019						
	1.07209	1.05874	1.01537				AVRG		1.12789		11.38053	
18 Anthracene	1.55274	1.08459	1.09388	1.04858	1.09327	1.09111						
	1.09650	1.09466	1.05906				AVRG		1.13493		13.88800	
19 Fluoranthene +	1.11797	1.05007	1.09661	1.16484	1.34474	1.22434						
	1.30885	1.25856	1.20745				AVRG		1.19705		8.24502	

2130711.s.b 88

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1 / 120 Level 7	1 Level 2 / 160 Level 8	2 Level 3 / 200 Level 9	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
20 Pyrene	1.14724	1.07974	1.12416	1.12600	1.21377	1.09224						
	1.10688	1.12670	1.13856				AVRG		1.12837		3.41964	
22 Benzo(a)anthracene	520	3174	7714	36366	203320	311763						
	474956	679497	840715				QUAD	0.00467	0.91455	-0.00499	0.99991	
24 Chrysene	1.52294	1.27403	1.23132	1.26897	1.24532	1.24739						
	1.24250	1.17711	1.16727				AVRG		1.26409		8.21338	
25 Benzo(b)fluoranthene	239	2252	5983	33634	220402	357864						
	543365	770627	915413				QUAD	0.01169	1.01455	-0.00505	0.99909	<-
26 Benzo(k)fluoranthene	1.19900	0.97166	1.01900	1.19078	1.23114	1.23298						
	1.25556	1.20158	1.21249				AVRG		1.16824		8.62453	
27 Benzo(a)pyrene +	664	3043	7633	32420	224182	377533						
	593045	790053	952630				LINR	0.01342	1.05078		0.99982	
29 Indeno(1,2,3-cd)pyrene	369	1819	4861	24569	167746	333935						
	526299	746065	963805				QUAD	0.03474	1.18521	-0.04647	0.99922	

2130711 08 BT

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1 / 120 Level 7	1 Level 2 / 160 Level 8	2 Level 3 / 200 Level 9	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
30 Dibenzo(a,h)anthracene	302	2800	7010	36006	226892	404396						
	660330	865827	1032008				LINR	0.02772	1.14936		0.99915	
31 Benzo(g,h,i)perylene	1.51046	1.20433	1.22139	1.22188	1.28627	1.37476						
	1.41741	1.36755	1.31243				AVRG		1.32405		7.77599	
192 1-Methylnapthalene	0.62814	0.58994	0.58863	0.59992	0.61051	0.59123						
	0.58641	0.57791	0.59883				AVRG		0.59683		2.50870	
§ 1 2-Fluorophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
2 Phenol-d5	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
4 Nitrobenzene-d5	0.38317	0.36079	0.39266	0.36845	0.37275	0.36906						
	0.36598	0.35987	0.35017				AVRG		0.36921		3.43773	
§ 8 2-Fluorobiphenyl	1.57839	1.78863	1.77394	1.44215	1.69975	1.66351						
	1.71199	1.65919	1.59563				AVRG		1.65702		6.47194	

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-MAY-2013 08:17
End Cal Date : 11-JUL-2013 11:52
Quant Method : ISTD
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Cal Date : 11-Jul-2013 14:40 kcb

Compound	0.1000 Level 1	1 Level 2	2 Level 3	10 Level 4	50 Level 5	80 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	120 Level 7	160 Level 8	200 Level 9									
$ 13 2,4,6-Tribromophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++	+++++	+++++				AVRG		0.000e+00		0.000e+00	<-
$ 21 Terphenyl-d14	0.67761	0.66917	0.72668	0.71467	0.77297	0.66164						
	0.68153	0.70657	0.74231				AVRG		0.70591		5.26140	

2130711S08 B8

Data File: /var/chem/MSSV5.i/2130711.s.b/i6087.d
Report Date: 11-Jul-2013 13:38

GCAL, Inc.

RECOVERY REPORT

Client Name: 48-22-14
Client SDG: 2130711.s
Sample Matrix: LIQUID
Fraction: SV
Lab Smp Id: 1600
Client Smp ID: STDICV
Level: LOW
Operator: KCB
Data Type: MS DATA
SampleType: LCS
SpikeList File: SIMpahICV.spk
Quant Type: ISTD
Sublist File: sim8270pah.sub
Method File: /var/chem/MSSV5.i/2130711.s.b/SIMLS_05.m
Misc Info: STDICV*MSSV~9732~*

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
6 Naphthalene	50.0	45.5	91.01	70-130
7 2-Methylnaphthalene	50.0	45.5	91.09	70-130
9 Acenaphthylene	50.0	51.2	102.37	70-130
11 Acenaphthene +	50.0	45.9	91.77	70-130
12 Fluorene	50.0	46.3	92.63	70-130
17 Phenanthrene	50.0	44.1	88.12	70-130
18 Anthracene	50.0	43.0	86.00	70-130
19 Fluoranthene +	50.0	45.7	91.38	70-130
20 Pyrene	50.0	46.4	92.81	70-130
22 Benzo(a)anthracene	50.0	44.9	89.89	70-130
24 Chrysene	50.0	44.5	89.05	70-130
25 Benzo(b)fluoranthene	50.0	41.9	83.83	70-130
26 Benzo(k)fluoranthene	50.0	49.9	99.71	70-130
27 Benzo(a)pyrene +	50.0	44.3	88.57	70-130
29 Indeno(1,2,3-cd)pyrene	50.0	41.8	83.55	70-130
30 Dibenzo(a,h)anthracene	50.0	42.4	84.85	70-130
31 Benzo(g,h,i)perylene	50.0	47.2	94.44	70-130
192 1-Methylnapthalene	50.0	47.5	94.97	70-130

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 4 Nitrobenzene-d5	50.0	43.8	87.70	43-110
$ 8 2-Fluorobiphenyl	50.0	43.2	86.33	16-128
$ 21 Terphenyl-d14	50.0	44.1	88.17	47-121

Data File: /var/chem/MSSV5.i/2130729.s.b/i6433s.d
Report Date: 29-Jul-2013 09:12

GCAL, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSSV5.i
Lab File ID: i6433s.d
Analysis Type: WATER
Lab Sample ID: 1400
Method: /var/chem/MSSV5.i/2130729.s.b/SIMLS_05.m

Injection Date: 29-JUL-2013 08:17
Init. Cal. Date(s): 15-MAY-2013 11-JUL-2013
Init. Cal. Times: 08:17 11:52
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF50	CCAL RRF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 Nitrobenzene-d5	0.36921	0.37069	0.37069	0.050	0.40090	30.00000	Averaged
6 Naphthalene	1.02041	1.03359	1.03359	0.700	1.29233	30.00000	Averaged
7 2-Methylnaphthalene	0.65518	0.66959	0.66959	0.400	2.20025	30.00000	Averaged
192 1-Methylnapthalene	0.59683	0.60761	0.60761	0.400	1.80472	30.00000	Averaged
$ 8 2-Fluorobiphenyl	1.65702	1.61363	1.61363	0.050	-2.61850	30.00000	Averaged
9 Acenaphthylene	2.13699	1.89972	1.89972	0.900	-11.10292	30.00000	Averaged
11 Acenaphthene +	1.16451	1.09033	1.09033	0.900	-6.37055	20.00000	Averaged
12 Fluorene	1.58045	1.56162	1.56162	0.900	-1.19137	30.00000	Averaged
17 Phenanthrene	1.12789	1.09674	1.09674	0.700	-2.76178	30.00000	Averaged
18 Anthracene	1.13493	1.07774	1.07774	0.700	-5.03971	30.00000	Averaged
19 Fluoranthene +	1.19705	1.23126	1.23126	0.600	2.85776	20.00000	Averaged
20 Pyrene	1.12837	1.20716	1.20716	0.600	6.98304	30.00000	Averaged
$ 21 Terphenyl-d14	0.70591	0.80213	0.80213	0.050	13.63153	30.00000	Averaged
22 Benzo(a)anthracene	52.75233	50.00000	1.15868	0.800	5.50466	30.00000	Quadratic
24 Chrysene	1.26409	1.20191	1.20191	0.700	-4.91899	30.00000	Averaged
25 Benzo(b)fluoranthene	49.33716	50.00000	0.96922	0.700	-1.32567	30.00000	Quadratic
26 Benzo(k)fluoranthene	1.16824	1.31450	1.31450	0.700	12.51934	30.00000	Averaged
27 Benzo(a)pyrene +	49.81380	50.00000	1.03558	0.700	-0.37241	30.00000	Linear
29 Indeno(1,2,3-cd)pyrene	50.03383	50.00000	0.85684	0.500	0.06765	30.00000	Quadratic
30 Dibenzo(a,h)anthracene	50.42673	50.00000	1.13368	0.400	0.85346	30.00000	Linear
31 Benzo(g,h,i)perylene	1.32405	1.31914	1.31914	0.500	-0.37111	30.00000	Averaged

Average %D / Drift Results.

Calculated Average %D/Drift = 4.00898
Maximun Average %D/Drift = 30.00000
* Passed Average %D/Drift Test.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Lab File ID (Standard): 2130729/i6433s Date Analyzed: 07/29/13 Time: 0817

Instrument ID: MSSV5 GC Column: RTX-5MS-30M ID: .25 (mm)

Analytical Batch: 512612 Method: SW-846 8270D SIM

	IS1 Area	RT	IS2 Area	RT	IS3 Area	RT
STANDARD	128590	1.86	61914	2.87	133220	3.78

EPA Sample No.		#		#		#		#		#		#
MB1217456	122116		1.86		63547		2.87		125495		3.78	
LCS1217457	106126		1.86		54954		2.87		108100		3.78	
LCSD1217458	121779		1.86		60824		2.87		122525		3.78	
B398MW1-3Q13	118356		1.86		63781		2.87		118367		3.78	
B398MW1-3Q13 MS	124570		1.86		60298		2.87		124202		3.78	
B398MW1-3Q13 MSD	115376		1.86		55700		2.87		121940		3.78	
B398MW9-3Q13	109922		1.86		53598		2.87		107028		3.78	
B398DW1-3Q13	109898		1.86		60753		2.87		109748		3.78	
DUP2072413	108802		1.86		60815		2.87		105085		3.78	

IS 1 ID: Naphthalene-d8
IS 2 ID: Acenaphthene-d10
IS 3 ID: Phenanthrene-d10

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 internal standard values with an asterisk.
* Values outside of QC limits.

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Lab File ID (Standard): 2130729/i6433s Date Analyzed: 07/29/13 Time: 0817

Instrument ID: MSSV5 GC Column: RTX-5MS-30M ID: .25 (mm)

Analytical Batch: 512612 Method: SW-846 8270D SIM

	IS4 Area	RT	IS5 Area	RT	IS6 Area	RT
STANDARD	139662	5.89	167492	8.11		

EPA Sample No.	IS4 Area	#	RT	#	IS5 Area	#	RT	#	IS6 Area	#	RT	#
MB1217456	129357		5.89		160562		8.11		0		0.00	
LCS1217457	118997		5.89		146831		8.11		0		0.00	
LCSD1217458	132297		5.89		163394		8.11		0		0.00	
B398MW1-3Q13	115319		5.89		141089		8.11		0		0.00	
B398MW1-3Q13 MS	133476		5.89		165628		8.11		0		0.00	
B398MW1-3Q13 MSD	129127		5.89		158264		8.11		0		0.00	
B398MW9-3Q13	108631		5.89		127423		8.11		0		0.00	
B398DW1-3Q13	101428		5.89		129697		8.11		0		0.00	
DUP2072413	115148		5.89		142868		8.11		0		0.00	

IS 4 ID: Chrysene-d12
IS 5 ID: Perylene-d12
IS 6 ID: 1,4-Dichlorobenzene-d4

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 internal standard values with an asterisk.
* Values outside of QC limits.

BASE NEUTRAL/ACID SAMPLE PREPARATION FORM 8270Ds.xls

EXTRACTION DATE/TIME: 7/26/13	Start: 6:45	End: 8:30	BATCH NO:	512477
MATRIX:	WATER ☑ SOIL ☐ OTHER ☐		LEVEL:	LOW ☑ MEDIUM ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	BN pH	Acid pH	SAMPLE TYPE	COMMENTS	METHOD
1	QC ACCOUNT	MB for HBN 512477 [EXTO/36274]	1217456	1000	1.0	>11	N/A	MB	-	LIQUID LIQUID/3520
2	QC ACCOUNT	LCS for HBN 512477 [EXTO/36274	1217457	1000	1.0	>11		LCS	-	N/A
3	QC ACCOUNT	LCSD for HBN 512477 [EXTO/3627	1217458	1000	1.0	>11		LCSD	-	SEPARATORY FUNNEL/3510
4	4841	EB072313	21307242115	1000	1.0	>11		EQBK	-	✓
5	4841	B398PW1-3Q13	21307251401	1000	1.0	>11		SAMPLE	-	SONICATOR/3550
6	4841	B398MW2-3Q13	21307251402	1000	1.0	>11		SAMPLE	-	N/A
7	4841	B398MW3-3Q13	21307251403	1000	1.0	>11		SAMPLE	-	SOXHLET/3540
8	4841	B398MW4-3Q13	21307251404	1000	1.0	>11		SAMPLE	-	N/A
9	4841	DUP1072413	21307251405	1000	1.0	>11		FLDDUP	-	GPC CLEANUP/3640
10	4841	B398MW5-3Q13	21307251406	1000	1.0	>11		SAMPLE	-	N/A
11	4841	B398MW6-3Q13	21307251407	1000	1.0	>11		SAMPLE	-	WASTE DILUTION/3580
12	4841	B398MW7-3Q13	21307251408	1000	1.0	>11		SAMPLE	-	N/A
13	4841	B398MW8-3Q13	21307251409	1000	1.0	>11		SAMPLE	-	TCLP EXTRACTION FLUID 1
14	4841	B398MW10-3Q13	21307251410	1000	1.0	>11		SAMPLE	-	N/A
15	4841	B398MW11-3Q13	21307251411	1000	1.0	>11		SAMPLE	-	TCLP EXTRACTION FLUID 2
16	4841	B398MW12-3Q13	21307251412	1000	1.0	>11	✓	SAMPLE	-	N/A
17			213072608 01	1000	1.0	>11				MECL2/Acetone No:
18		MS	213072608 02	1000	1.0	>11				N/A
19		MSD	213072608 03	1000	1.0	>11				ACETONE LOT NO:
20			213072608 04	1000	1.0	>11				N/A
21			213072608 05	1000	1.0	>11				MeCL2 Lot No:
22			213072608 06	1000	1.0	>11				DI726
23										Sodium Sulfate Lot No:
24										0000040569
25										
26										
27										
28										

COMMENTS: SAMPLE PREPARATION INCLUDE DETERMINATION OF SAMPLE VOLUME/WEIGHT, SOLVENT EXTRACTION AND EVAPORATION OF SOLVENT TO FINAL VOLUME

BALANCE ID: N/A TEMP: 100°C

SURROGATE ID	507-100-10	8270 SPIKE ID		~~625 SP~~ SIMS SPIKE ID	507-96-9	TECHNICIAN	DATE
VOLUME	1.0mL	VOLUME		VOLUME	1.0mL	TES	7/26/13
CONCENTRATION	50/100 µg/mL	CONCENTRATION		CONCENTRATION	100 µg/mL		
NaOH	502-20-4	ACID	N/A			SUPERVISOR	DATE
SPIKE WITNESS	BDT					SKS	7-26-13

Revision 3, 10/04/2010

213072608 94

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 11-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions:

MISC:

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1100	48-13-13	i6074c.d	0.00 ml	11-JUL-2013 08:53	1.000	KCB	1	all
1100	48-13-13	i6074.d	0.00 ml	11-JUL-2013 08:53	1.000	KCB	1	all
1100	48-13-13	i6074s.d	0.00 ml	11-JUL-2013 08:53	1.000	KCB	1	all
1400	48-19-1	i6075.d	1000.00 ml	11-JUL-2013 09:12	1.000	KCB	2	8270c
1400	48-19-1	i6076.d	1000.00 ml	11-JUL-2013 09:27	1.000	KCB	2	sim8270pah
1400	48-18-1	i6077.d	1000.00 ml	11-JUL-2013 09:44	1.000	KCB	3	app9
1205	48-22-4	i6078.d	1000.00 ml	11-JUL-2013 09:59	1.000	KCB	2	sim8270pah
1204	48-22-5	i6079.d	1000.00 ml	11-JUL-2013 10:18	1.000	KCB	4	sim8270pah
1206	48-22-6	i6080.d	1000.00 ml	11-JUL-2013 10:32	1.000	KCB	5	sim8270pah
1207	48-22-7	i6081.d	1000.00 ml	11-JUL-2013 10:45	1.000	KCB	6	sim8270pah
1208	48-22-8	i6082.d	1000.00 ml	11-JUL-2013 10:58	1.000	KCB	7	sim8270pah
1209	48-22-9	i6083.d	1000.00 ml	11-JUL-2013 11:12	1.000	KCB	8	sim8270pah
1203	48-22-10	i6084.d	1000.00 ml	11-JUL-2013 11:25	1.000	KCB	9	sim8270pah
1202	48-22-11	i6085.d	1000.00 ml	11-JUL-2013 11:38	1.000	KCB	10	sim8270pah
1201	48-22-13	i6086.d	1000.00 ml	11-JUL-2013 11:52	1.000	KCB	11	sim8270pah
1600	48-22-14	i6087.d	1000.00 ml	11-JUL-2013 12:05	1.000	KCB	12	sim8270pah
1211892	BLK	i6088.d	1000.00 ml	11-JUL-2013 12:38	1.000	KCB	13	sim8270pah
1211893	LCS	i6089.d	1000.00 ml	11-JUL-2013 12:52	1.000	KCB	14	sim8270pah
1211894	LCSD	i6090.d	1000.00 ml	11-JUL-2013 13:05	1.000	KCB	15	sim8270pah
21307094701	4783	i6091.d	980.00 ml	11-JUL-2013 13:18	1.000	KCB	16	sim8270pah
21307094702	MS	i6092.d	980.00 ml	11-JUL-2013 13:31	1.000	KCB	17	sim8270pah
21307094703	MSD	i6093.d	980.00 ml	11-JUL-2013 13:45	1.000	KCB	18	sim8270pah
21307094704	4783	i6094.d	980.00 ml	11-JUL-2013 13:58	1.000	KCB	19	sim8270pah
21307094705	4783	i6095.d	980.00 ml	11-JUL-2013 14:11	1.000	KCB	20	sim8270pah
21307094706	4783	i6096.d	980.00 ml	11-JUL-2013 14:25	1.000	KCB	21	sim8270pah
21307094708	4783	i6097.d	980.00 ml	11-JUL-2013 14:38	1.000	KCB	22	sim8270pah
21307080201	4817	i6098.d	900.00 ml	11-JUL-2013 14:56	1.000	KCB	23	SA8270
1212444	BLK	i6099.d	30.00 g	11-JUL-2013 15:16	1.000	KCB	24	SA8270+a9
1212445	LCS	i6100.d	30.00 g	11-JUL-2013 15:35	1.000	KCB	25	lcs
1212446	LCSD	i6101.d	30.00 g	11-JUL-2013 15:54	1.000	KCB	26	lcs
21307105801	0115	i6102.d	30.00 g	11-JUL-2013 16:13	1.000	KCB	27	SA8270+a9
1212447	MS	i6103.d	30.00 g	11-JUL-2013 16:32	1.000	KCB	28	SA8270+a9
1212448	MSD	i6104.d	30.10 g	11-JUL-2013 16:51	1.000	KCB	29	SA8270+a9
21307105802	0115	i6105.d	30.00 g	11-JUL-2013 17:10	1.000	KCB	30	SA8270+a9
21307105803	0115	i6106.d	30.00 g	11-JUL-2013 17:28	1.000	KCB	31	SA8270+a9
SOLBLK	SOLBLK	i6107.d	1000.00 ml	11-JUL-2013 17:47	1.000	KCB	99	SA8270

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 11-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions:

MISC:

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
SOLBLK	SOLBLK	i6108.d	1000.00 ml	11-JUL-2013 18:05	1.000	KCB	99	SA8270
SOLBLK	SOLBLK	i6109.d	1000.00 ml	11-JUL-2013 18:24	1.000	KCB	100	SA8270
SOLBLK	SOLBLK	i6110.d	1000.00 ml	11-JUL-2013 18:42	1.000	KCB	100	SA8270
SOLBLK	SOLBLK	i6111.d	1000.00 ml	11-JUL-2013 19:00	1.000	KCB	100	SA8270

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 29-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions: _____

MISC: _____

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1100	48-13-13	i6430.d	0.00 ml	29-JUL-2013 07:24	1.000	KCB	1	all
1100	48-13-13	i6431c.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1100	48-13-13	i6431.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1100	48-13-13	i6431s.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1100	48-13-13	i6431xd.d	0.00 ml	29-JUL-2013 07:44	1.000	KCB	1	all
1400	48-24-4	i6432.d	1000.00 ml	29-JUL-2013 08:02	1.000	KCB	2	8270c
1400	48-24-4	i6432xd.d	1000.00 ml	29-JUL-2013 08:02	1.000	KCB	2	8270c
1400	48-22-4	i6433s.d	1000.00 ml	29-JUL-2013 08:17	1.000	KCB	2	sim8270pah
1400	48-18-1	i6434.d	1000.00 ml	29-JUL-2013 08:34	1.000	KCB	3	app9
21307232602	4847	i6435.d	30.00 g	29-JUL-2013 08:52	10.000	KCB	4	pah+lcs
21307232604	4847	i6436.d	30.20 g	29-JUL-2013 09:11	10.000	KCB	5	pah+lcs
21307232605	4847	i6437.d	30.00 g	29-JUL-2013 09:29	1.000	KCB	6	pah+lcs
1217456	BLK	i6438.d	1000.00 ml	29-JUL-2013 09:44	1.000	KCB	7	sim8270pah
1217457	LCS	i6439.d	1000.00 ml	29-JUL-2013 09:57	1.000	KCB	8	sim8270pah
1217458	LCSD	i6440.d	1000.00 ml	29-JUL-2013 10:11	1.000	KCB	9	sim8270pah
21307242115	4841	i6441.d	1000.00 ml	29-JUL-2013 10:24	1.000	KCB	10	sim8270pah
21307251401	4841	i6442.d	1000.00 ml	29-JUL-2013 10:37	1.000	KCB	11	sim8270pah
21307251402	4841	i6443.d	1000.00 ml	29-JUL-2013 10:50	1.000	KCB	12	sim8270pah
21307251403	4841	i6444.d	1000.00 ml	29-JUL-2013 11:03	1.000	KCB	13	sim8270pah
21307251404	4841	i6445.d	1000.00 ml	29-JUL-2013 11:17	1.000	KCB	14	sim8270pah
21307251405	4841	i6446.d	1000.00 ml	29-JUL-2013 11:30	1.000	KCB	15	sim8270pah
21307251406	4841	i6447.d	1000.00 ml	29-JUL-2013 11:43	1.000	KCB	16	sim8270pah
21307251407	4841	i6448.d	1000.00 ml	29-JUL-2013 11:57	1.000	KCB	17	sim8270pah
21307251408	4841	i6449.d	1000.00 ml	29-JUL-2013 12:10	1.000	KCB	18	sim8270pah
21307251409	4841	i6450.d	1000.00 ml	29-JUL-2013 12:23	1.000	KCB	19	sim8270pah
21307251410	4841	i6451.d	1000.00 ml	29-JUL-2013 12:36	1.000	KCB	20	sim8270pah
21307251411	4841	i6452.d	1000.00 ml	29-JUL-2013 12:50	1.000	KCB	21	sim8270pah
21307251412	4841	i6453.d	1000.00 ml	29-JUL-2013 13:03	1.000	KCB	22	sim8270pah
21307260801	4841	i6454.d	1000.00 ml	29-JUL-2013 13:16	1.000	KCB	23	sim8270pah
21307260802	MS	i6455.d	1000.00 ml	29-JUL-2013 13:29	1.000	KCB	24	sim8270pah
21307260803	MSD	i6456.d	1000.00 ml	29-JUL-2013 13:43	1.000	KCB	25	sim8270pah
21307260804	4841	i6457.d	1000.00 ml	29-JUL-2013 13:56	1.000	KCB	26	sim8270pah
21307260805	4841	i6458.d	1000.00 ml	29-JUL-2013 14:09	1.000	KCB	27	sim8270pah
21307260806	4841	i6459.d	1000.00 ml	29-JUL-2013 14:23	1.000	KCB	28	sim8270pah
1216821	BLK	i6460.d	30.00 g	29-JUL-2013 14:36	1.000	KCB	29	sim8270pah
1216822	LCS	i6461.d	30.00 g	29-JUL-2013 15:22	1.000	KCB	30	sim8270pah

LABORATORY CHRONICLE: MSSV DEPARTMENT

Date: 29-JUL-2013
Instrument: MSSV5.i

Standard	Conc ppm	Lot No.
DFTPP	50	
Int. Standard	4000	

Inst. Conditions: _____

MISC: _____

Sample ID	ClientName	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1216823	LCSD	i6462.d	30.00 g	29-JUL-2013 15:35	1.000	KCB	31	sim8270pah
21307242101	4841	i6463.d	30.10 g	29-JUL-2013 15:48	1.000	KCB	32	sim8270pah
21307242102	MS	i6464.d	30.00 g	29-JUL-2013 16:02	1.000	KCB	33	sim8270pah
21307242103	MSD	i6465.d	30.00 g	29-JUL-2013 16:15	1.000	KCB	34	sim8270pah
21307242104	4841	i6466.d	30.10 g	29-JUL-2013 16:28	1.000	KCB	35	sim8270pah
21307242105	4841	i6467.d	30.20 g	29-JUL-2013 16:42	1.000	KCB	36	sim8270pah
21307242106	4841	i6468.d	30.00 g	29-JUL-2013 16:55	1.000	KCB	37	sim8270pah
21307242107	4841	i6469.d	30.00 g	29-JUL-2013 17:08	1.000	KCB	38	sim8270pah
21307242108	4841	i6470.d	30.00 g	29-JUL-2013 17:21	1.000	KCB	39	sim8270pah
21307242109	4841	i6471.d	30.10 g	29-JUL-2013 17:35	1.000	KCB	40	sim8270pah
21307242110	4841	i6472.d	30.20 g	29-JUL-2013 17:48	1.000	KCB	41	sim8270pah
21307242111	4841	i6473.d	30.00 g	29-JUL-2013 18:01	1.000	KCB	42	sim8270pah
21307242112	4841	i6474.d	30.00 g	29-JUL-2013 18:14	1.000	KCB	43	sim8270pah
21307242113	4841	i6475.d	30.20 g	29-JUL-2013 18:28	1.000	KCB	44	sim8270pah
21307242114	4841	i6476.d	30.00 g	29-JUL-2013 18:41	1.000	KCB	45	sim8270pah
21307242116	4841	i6477.d	30.00 g	29-JUL-2013 18:54	1.000	KCB	46	sim8270pah
21307242117	4841	i6478.d	30.00 g	29-JUL-2013 19:08	1.000	KCB	47	sim8270pah
SOLBLK	SOLBLK	i6479.d	30.00 g	29-JUL-2013 19:25	1.000	KCB	99	sim8270pah
SOLBLK	SOLBLK	i6480.d	30.00 g	29-JUL-2013 19:44	1.000	KCB	99	sim8270pah
SOLBLK	SOLBLK	i6481.d	30.00 g	29-JUL-2013 20:03	1.000	KCB	100	sim8270pah
SOLBLK	SOLBLK	i6482.d	30.00 g	29-JUL-2013 20:22	1.000	KCB	100	sim8270pah
SOLBLK	SOLBLK	i6483.d	30.00 g	29-JUL-2013 20:40	1.000	KCB	100	sim8270pah
SOLBLK	SOLBLK	i6484.d	30.00 g	29-JUL-2013 20:59	1.000	KCB	100	sim8270pah

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 1000 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512513 Analytical Batch: 512887

Sample ID: B398MW1-3Q13
Contract:
SAS No.: SDG No.: 213072608
Lab Sample ID: 21307260801
Date Collected: 07/24/13 Time: 1640
Date Received: 07/26/13
Date Extracted: 07/27/13
Date Analyzed: 07/31/13 Time: 1855
Dilution Factor: 1 Analyst: PMM
Prep Method: 3510C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A
Lab File ID: 2130731/sv21a018d

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	1100		44.9	125

FORM I ORG-1

213072608 98

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512513 Analytical Batch: 512887

CONCENTRATION UNITS: ug/L

Sample ID: B398MW1-3Q13 MS

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 21307260802

Date Collected: 07/24/13 Time: 1640

Date Received: 07/26/13

Date Extracted: 07/27/13

Date Analyzed: 07/31/13 Time: 1941

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130731/sv21a021d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	1980	E	44.9	125

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 1000 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512513 Analytical Batch: 512887

Sample ID: B398MW1-3Q13 MSD
Contract:
SAS No.: SDG No.: 213072608
Lab Sample ID: 21307260803
Date Collected: 07/24/13 Time: 1640
Date Received: 07/26/13
Date Extracted: 07/27/13
Date Analyzed: 07/31/13 Time: 1957
Dilution Factor: 1 Analyst: PMM
Prep Method: 3510C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

CONCENTRATION UNITS: ug/L
Lab File ID: 2130731/sv21a022d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	1900		44.9	125

FORM I ORG-1

213072608 100

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512513 Analytical Batch: 512887

Sample ID: B398MW9-3Q13

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 21307260804

Date Collected: 07/24/13 Time: 1920

Date Received: 07/26/13

Date Extracted: 07/27/13

Date Analyzed: 07/31/13 Time: 2012

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

CONCENTRATION UNITS: ug/L

Lab File ID: 2130731/sv21a023d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	774		44.9	125

FORM I ORG-1

213072608 101

1D
ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL
Lab Code: LA024 Case No.:
Matrix: Water
Sample wt/vol: 1000 Units: mL
Level: (low/med) LOW
% Moisture: decanted: (Y/N)
GC Column: RTX-5-30M ID: .53 (mm)
Concentrated Extract Volume: 1000 (µL)
Soil Aliquot Volume: (µL)
Injection Volume: 1 (µL)
GPC Cleanup: (Y/N) N pH:
Prep Batch: 512513 Analytical Batch: 512887

Sample ID: B398DW1-3Q13
Contract:
SAS No.: SDG No.: 213072608
Lab Sample ID: 21307260805
Date Collected: 07/24/13 Time: 1800
Date Received: 07/26/13
Date Extracted: 07/27/13
Date Analyzed: 07/31/13 Time: 2028
Dilution Factor: 1 Analyst: PMM
Prep Method: 3510C
Analytical Method: SW846 8015C
Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

CONCENTRATION UNITS: ug/L

Lab File ID: 2130731/sv21a024d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	270		44.9	125

FORM I ORG-1

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512513 Analytical Batch: 512887

CONCENTRATION UNITS: ug/L

Sample ID: DUP2072413

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 21307260806

Date Collected: 07/24/13 Time: 0000

Date Received: 07/26/13

Date Extracted: 07/27/13

Date Analyzed: 07/31/13 Time: 2043

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130731/sv21a025d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	115	J	44.9	125

1D

ORGANICS ANALYSIS DATA SHEET

Lab Name: GCAL

Lab Code: LA024 Case No.:

Matrix: Water

Sample wt/vol: 1000 Units: mL

Level: (low/med) LOW

% Moisture: decanted: (Y/N)

GC Column: RTX-5-30M ID: .53 (mm)

Concentrated Extract Volume: 1000 (µL)

Soil Aliquot Volume: (µL)

Injection Volume: 1 (µL)

GPC Cleanup: (Y/N) N pH:

Prep Batch: 512513 Analytical Batch: 512887

CONCENTRATION UNITS: ug/L

Sample ID: MB1217622

Contract:

SAS No.: SDG No.: 213072608

Lab Sample ID: 1217622

Date Collected: Time:

Date Received:

Date Extracted: 07/27/13

Date Analyzed: 07/31/13 Time: 1651

Dilution Factor: 1 Analyst: PMM

Prep Method: 3510C

Analytical Method: SW846 8015C

Sulfur Cleanup: (Y/N) N Instrument ID: GCS21A

Lab File ID: 2130731/sv21a010d

CAS NO.	COMPOUND	RESULT	Q	MDL	RL
GCSV-00-4	DRO	44.9	U	44.9	125

2E

WATER ORGANIC SURROGATE RECOVERY

Lab Name: GCAL Contract:

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

GC Column (1): RTX-5-30M ID: .53 (mm) GC Cloumn (2): ID: (mm)

Method: SW846 8015C

	EPA SAMPLE NO.	SMC1 1-(1)	Lo	Hi	F	SMC2 2	Lo	Hi	F	SMC3 3	Lo	Hi	F	SMC4 4	Lo	Hi	F	TOT OUT
1.	B398MW1-3Q13	92	59	120														0
2.	B398MW1-3Q13 MS	78	59	120														0
3.	B398MW1-3Q13 MSD	82	59	120														0
4.	B398MW9-3Q13	87	59	120														0
5.	B398DW1-3Q13	95	59	120														0
6.	DUP2072413	91	59	120														0
7.	MB1217622	93	59	120														0
8.	LCS1217623	91	59	120														0
9.	LCSD1217624	100	59	120														0

SMC 1 : O-Terphenyl SMC 2 :

SMC 3 : SMC 4 :

Column to be used to flag recovery limits

* Value outside of contract required limits

D Surrogate diluted out

3E
WATER ORGANICS MS/MSD RECOVERY

Lab Name: GCAL Sample ID: B398MW1-3Q13

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Contract: Method: SW846 8015C

Prep Batch: 512513 Analytical Batch: 512887

SAMPLE NO : 21307260802

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	MS CONCENTRATION	MS % REC	MS % REC FLAG	QC. LIMITS
DRO	ug/L	1000	1100	1980	89		47 - 120

SAMPLE NO : 21307260803

COMPOUND	UNITS	SPIKE ADDED	MSD CONC.	MSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
DRO	ug/L	1000	1900	80		4		47 - 120	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

3E

WATER ORGANICS LCS/LCSD RECOVERY

Lab Name: GCAL

Lab Code: LA024 Case No.: SAS No.: SDG No.: 213072608

Contract: Method: SW846 8015C

Prep Batch: 512513 Analytical Batch: 512887

SAMPLE NO : 1217623

COMPOUND	UNITS	SPIKE ADDED	SAMPLE CONCENTRATION	LCS CONCENTRATION	LCS % REC	LCS % REC FLAG	QC. LIMITS
DRO	ug/L	1000	0	888	89		47 - 120

SAMPLE NO : 1217624

COMPOUND	UNITS	SPIKE ADDED	LCSD CONC.	LCSD % REC	REC FLAG	% RPD	RPD FLAG	QC. LIMITS REC	QC. LIMITS RPD
DRO	ug/L	1000	979	98		10		47 - 120	0 - 40

RPD : 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

4C

ORGANIC METHOD BLANK SUMMARY

Lab Name: GCAL

Sample ID: MB1217622

Lab Code: LA024 Case No.:

Contract:

Lab Sample ID: 1217622

SAS No.: SDG No.: 213072608

Matrix: Water Sulfur Cleanup: (Y/N) N

Date Extracted: 07/27/13

Date Analyzed (1): 07/31/13 Time (1): 1651

Date Analyzed (2): Time (2):

Instrument ID (1): GCS21A

Instrument ID (2):

GC Column (1): RTX-5-30M ID: .53 (mm)

GC Column (2): ID: (mm)

Method: SW846 8015C

Prep Batch: 512513 Analytical Batch: 512887

Lab File ID: 2130731/sv21a0

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	INSTRUMENT ID
1.	LCS1217623	1217623	07/31/13	1706	GCS21A
2.	LCSD1217624	1217624	07/31/13	1722	GCS21A
3.	B398MW1-3Q13	21307260801	07/31/13	1855	GCS21A
4.	B398MW1-3Q13 MS	21307260802	07/31/13	1941	GCS21A
5.	B398MW1-3Q13 MSD	21307260803	07/31/13	1957	GCS21A
6.	B398MW9-3Q13	21307260804	07/31/13	2012	GCS21A
7.	B398DW1-3Q13	21307260805	07/31/13	2028	GCS21A
8.	DUP2072413	21307260806	07/31/13	2043	GCS21A

GCAL, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-APR-2013 11:51
End Cal Date : 25-APR-2013 09:55
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /var/chem/gcsv21a.i/2130731.b/DRO.m
Cal Date : 01-Aug-2013 12:05 pmm
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcsv21a.i/2130425.b/sv21a003s.d
Level 2: /var/chem/gcsv21a.i/2130425.b/sv21a004s.d
Level 3: /var/chem/gcsv21a.i/2130425.b/sv21a005s.d
Level 4: /var/chem/gcsv21a.i/2130425.b/sv21a006d.d
Level 5: /var/chem/gcsv21a.i/2130425.b/sv21a007s.d

Compound	125.000 Level 1	250.000 Level 2	500.000 Level 3	1000.000 Level 4	2000.000 Level 5	RRF	% RSD
1 DRO	2498452	2859870	2719950	2724559	2669587	2694483	4.837
$ 9 O-TERPHENYL	3136601	3412360	3191419	3143747	3068959	3190617	4.119

GCAL, Inc.

Data file : /var/chem/gcsv21a.i/2130425.b/sv21a002d.d
Lab Smp Id: DCM LOT #L026260
Inj Date : 25-APR-2013 08:39
Operator : pmm Inst ID: gcsv21a.i
Smp Info : DCM LOT #L026260
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130425.b/DRO.m
Meth Date : 25-Apr-2013 14:18 pmm Quant Type: ESTD
Cal Date : 03-APR-2013 12:51 Cal File: sv21a007s.d
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (UG/ML)	CONCENTRATIONS FINAL (ug/L)
1 DRO	6.726	4.750	1.976	23079174	8.46678	8.47(M1)

QC Flag Legend

M1- Compound response manually integrated because
Target system did not integrate.

Data File: /var/chem/gcsv21a.i/2130425.b/sv21a008d.d
Report Date: 29-Apr-2013 11:47

GCAL, Inc.

RECOVERY REPORT

Client Name:
Client SDG: 2130425
Sample Matrix: LIQUID
Fraction: SV
Lab Smp Id: 1600
Level: MED
Operator: pmm
Data Type: GC MULTI COMP
SampleType: LCS
SpikeList File: droicv.spk
Quant Type: ESTD
Sublist File: DRO.sub
Method File: /var/chem/gcsv21a.i/2130425.b/DRO.m
Misc Info:

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
1 DRO	500	461	92.20	85-115

GCAL, Inc.

Data file : /var/chem/gcsv21a.i/2130731.b/sv21a002d.d
Lab Smp Id: DCM 0000045679
Inj Date : 31-JUL-2013 09:03
Operator : pmm Inst ID: gcsv21a.i
Smp Info : DCM 0000045679
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130731.b/DRO.m
Meth Date : 31-Jul-2013 12:52 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (UG/ML)	CONCENTRATIONS FINAL (ug/L)
1 DRO	2.000	4.746	-2.746	26303954	9.76215	9.76(M1)

QC Flag Legend

M1- Compound response manually integrated because
Target system did not integrate.

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130731.b/sv21a003d.d
DCM file : /var/chem/gcsv21a.i/2130731.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 31-JUL-2013 09:19
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130731.b/DRO.m
Meth Date : 31-Jul-2013 12:52 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1288486398 - 67378011}{500.000}$$

$$= \frac{1221108387}{500.000}$$

$$= 2442216.8$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2442216.8 - 2694483}{2694483} \times 100$$

$$= -9.36\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130731.b/sv21a007d.d
DCM file : /var/chem/gcsv21a.i/2130731.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 31-JUL-2013 15:05
Operator : dlb Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130731.b/DRO.m
Meth Date : 31-Jul-2013 15:16 dlb Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 7 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{\text{(DRO Area) - (Surr Area)}}{\text{Conc}} = \frac{1318936351 - 68873250}{500.000}$$

$$= \frac{1250063101}{500.000}$$

$$= 2500126.2$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2500126.2 - 2694483}{2694483} \times 100$$

$$= -7.21\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130731.b/sv21a019d.d
DCM file : /var/chem/gcsv21a.i/2130731.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 31-JUL-2013 19:10
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130731.b/DRO.m
Meth Date : 01-Aug-2013 11:27 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 19 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1575095834 - 83181811}{500.000}$$

$$= \frac{1491914023}{500.000}$$

$$= 2983828.0$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2983828.0 - 2694483}{2694483} \times 100$$

$$= 10.74\ \%$$

GCAL, Inc.

DRO CALCULATION

Data file : /var/chem/gcsv21a.i/2130731.b/sv21a031d.d
DCM file : /var/chem/gcsv21a.i/2130731.b/sv21a002d.d
Lab Smp Id: 1400
Inj Date : 31-JUL-2013 22:15
Operator : pmm Inst ID: gcsv21a.i
Smp Info : 1400*1 84-43-9
Misc Info :
Comment :
Method : /var/chem/gcsv21a.i/2130731.b/DRO.m
Meth Date : 01-Aug-2013 11:28 pmm Quant Type: ESTD
Cal Date : 25-APR-2013 08:54 Cal File: sv21a003s.d
Als bottle: 31 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: DRO.sub
Target Version: 3.50
Processing Host: org.gcal.com

Concentration Formula: Amt * DF * Uf * Vt/(Vo * Vi) * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Vo	1000.00000	Volume of sample extracted (mL)
Vt	1000.00000	Volume of final extract (uL)
Vi	1.00000	Volume injected (uL)
Uf	1.00000	Correction factor

RF FORMULA:

$$\mathbf{RF} = \frac{(\text{DRO Area}) - (\text{Surr Area})}{\text{Conc}} = \frac{1510583706 - 83512715}{500.000}$$

$$= \frac{1427070991}{500.000}$$

$$= 2854142.0$$

$$\mathbf{\%D} = \frac{RF - RRF}{RRF} \times 100$$

$$= \frac{2854142.0 - 2694483}{2694483} \times 100$$

$$= 5.93\ \%$$

TPHD/TPHO SAMPLE PREPARATION FORM

EXTRACTION DATE/TIME: 7/27/13	Start: 10:30	End: 1:00	BATCH NO:	512513
MATRIX:	WATER ☑ SOIL ☐ OTHER ☐		LEVEL:	LOW ☐ MEDIUM ☐

	CLIENT	CLIENT ID	GCAL ID	INITIAL VOL/WT mL g	FINAL VOLUME (mL)	Init pH	SAMPLE TYPE	COMMENTS	METHOD
1	QC ACCOUNT	MB for HBN 512513 [EXTO/36278]	1217622	1000	1.0	<2	MB		SOXHLET/3540
2	QC ACCOUNT	LCS for HBN 512513 [EXTO/36278	1217623	1000	1.0	<2	LCS		N/A
3	QC ACCOUNT	LCSD for HBN 512513 [EXTO/3627	1217624	1000	1.0	<2	LCSD		SONICATOR/3550
4	4848	B-1-GW	21307252416	1000	1.0	<2	SAMPLE		N/A
5	4848	B-3-GW	21307252417	1000	1.0	<2	SAMPLE		SHAKER
6	4848	B-6-GW	21307252418	1000	1.0	<2	SAMPLE		✓
7	4841	B398MW1-3Q13	21307260801	1000	1.0	<2	SAMPLE		SEPARATORY FUNNEL/3510
8	4841	B398MW1-3Q13 MS	21307260802	1000	1.0	<2	MS		✓
9	4841	B398MW1-3Q13 MSD	21307260803	1000	1.0	<2	MSD		LIQUID/LIQUID
10	4841	B398MW9-3Q13	21307260804	1000	1.0	<2	SAMPLE		N/A
11	4841	B398DW1-3Q13	21307260805	1000	1.0	<2	SAMPLE		
12	4841	DUP2072413	21307260806	1000	1.0	<2	FLDDUP		
13	4271	SW-8 (1)	21307263601	1000	1.0	<2	SAMPLE		
14	4271	SW-8 (10)	21307263602	1000	1.0	<2	SAMPLE		
15	4271	SW-8 (25)	21307263603	1000	1.0	<2	SAMPLE		
16	4271	SW-8 (50)	21307263604	1000	1.0	<2	SAMPLE		
17	4271	SW-8 (75)	21307263605	1000	1.0	<2	SAMPLE		
18	4271	SW-8 (100)	21307263606	1000	1.0	<2	SAMPLE		
19	4271	SW-8 (125)	21307263607	1000	1.0	<2	SAMPLE		
20	4271	SW-8 (150)	21307263608	1000	1.0	<2	SAMPLE	Emulsified	
21									
22									
23									MeCL2 Lot No:
24									DI 726
25									
26									
27									Sodium Sulfate Lot No:
28									0000040569

COMMENTS: SAMPLE PREPARATION INCLUDE DETERMINATION OF SAMPLE VOLUME/WEIGHT, SOLVENT EXTRACTION AND EVAPORATION OF SOLVENT TO FINAL VOLUME

BALANCE ID: N/A TEMP: 100°C

TPHD SURR ID	507-100-3	TPHD SPIKE ID	567-90-1	TPHO SPIKE ID		TECHNICIAN	DATE
VOLUME	1.0 mL	VOLUME	1.0 mL	VOLUME		TES	7/27/13
CONCENTRATION	50 µg/mL	CONCENTRATION	1000 µg/mL	CONCENTRATION			
		ACID	76-70-2			SUPERVISOR	DATE
SPIKE WITNESS	SDL					SKB	7-29-13

Revision 3, 10/04/2010

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 04/29/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130425.b/CM.m
Batch: /var/chem/gcsv21a.i/2130425.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21a001d.d	35.00 ml	25-APR-2013 08:24	1.000	pmm	1	8015
DCM LOT #L0262		sv21a002d.d	1000.00 ml	25-APR-2013 08:39	1.000	pmm	2	DRO
DCM LOT #L0262		sv21a002o.d	1000.00 ml	25-APR-2013 08:39	1.000	pmm	2	all
1201		sv21a003d.d	1000.00 ml	25-APR-2013 08:54	1.000	pmm	3	DRO
1201		sv21a003s.d	1000.00 ml	25-APR-2013 08:54	1.000	pmm	3	O-TERPH
1202		sv21a004d.d	1000.00 ml	25-APR-2013 09:09	1.000	pmm	4	DRO
1202		sv21a004s.d	1000.00 ml	25-APR-2013 09:09	1.000	pmm	4	O-TERPH
1203		sv21a005d.d	1000.00 ml	25-APR-2013 09:25	1.000	pmm	5	DRO
1203		sv21a005s.d	1000.00 ml	25-APR-2013 09:25	1.000	pmm	5	O-TERPH
1204		sv21a006d.d	1000.00 ml	25-APR-2013 09:40	1.000	pmm	6	DRO
1204		sv21a006s.d	1000.00 ml	25-APR-2013 09:40	1.000	pmm	6	O-TERPH
1205		sv21a007d.d	1000.00 ml	25-APR-2013 09:55	1.000	pmm	7	DRO
1205		sv21a007s.d	1000.00 ml	25-APR-2013 09:55	1.000	pmm	7	O-TERPH
1600		sv21a008d.d	1.00 ml	25-APR-2013 10:10	1.000	pmm	8	DRO
DCM LOT #L0262		sv21a009d.d	1000.00 ml	25-APR-2013 10:25	1.000	pmm	9	DRO
DCM LOT #L0262		sv21a009o.d	1000.00 ml	25-APR-2013 10:25	1.000	pmm	9	all
1201		sv21a010o.d	1000.00 ml	25-APR-2013 10:41	1.000	pmm	10	all
1202		sv21a011o.d	1000.00 ml	25-APR-2013 10:56	1.000	pmm	11	all
1203		sv21a012o.d	1000.00 ml	25-APR-2013 11:11	1.000	pmm	12	all
1204		sv21a013o.d	1000.00 ml	25-APR-2013 11:26	1.000	pmm	13	all
1205		sv21a014o.d	1000.00 ml	25-APR-2013 11:41	1.000	pmm	14	all
1600		sv21a015o.d	1.00 ml	25-APR-2013 11:56	1.000	pmm	15	all
DCM LOT #L0262		sv21a016d.d	1000.00 ml	25-APR-2013 12:11	1.000	pmm	100	DRO
DCM LOT #L0262		sv21a016o.d	1000.00 ml	25-APR-2013 12:11	1.000	pmm	100	all

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 08/01/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130731.b/CM.m
Batch: /var/chem/gcsv21a.i/2130731.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
cm		sv21a001d.d	35.00 ml	31-JUL-2013 08:48	1.000	pmm	1	8015
DCM 0000045679		sv21a002d.d	1000.00 ml	31-JUL-2013 09:03	1.000	pmm	2	DRO
DCM 0000045679		sv21a002o.d	1000.00 ml	31-JUL-2013 09:03	1.000	pmm	2	all
1400		sv21a003d.d	1000.00 ml	31-JUL-2013 09:19	1.000	pmm	3	DRO
1400		sv21a003s.d	1000.00 ml	31-JUL-2013 09:19	1.000	pmm	3	O-TERPH
1400		sv21a004o.d	1000.00 ml	31-JUL-2013 09:34	1.000	pmm	4	all
21307232143		sv21a005d.d	10.00 g	31-JUL-2013 14:35	20.000	dlb	5	DRO
21307232143		sv21a005s.d	10.00 g	31-JUL-2013 14:35	20.000	dlb	5	O-TERPH
21307232152		sv21a006d.d	10.00 g	31-JUL-2013 14:50	1000.000	dlb	6	DRO
21307232152		sv21a006s.d	10.00 g	31-JUL-2013 14:50	1000.000	dlb	6	O-TERPH
1400		sv21a007d.d	1000.00 ml	31-JUL-2013 15:05	1.000	dlb	7	DRO
1400		sv21a007s.d	1000.00 ml	31-JUL-2013 15:05	1.000	dlb	7	O-TERPH
1400		sv21a008o.d	1000.00 ml	31-JUL-2013 16:20	1.000	pmm	8	all
21307246702		sv21a009d.d	30.20 g	31-JUL-2013 16:35	100.000	pmm	9	DRO
21307246702		sv21a009s.d	30.20 g	31-JUL-2013 16:35	100.000	pmm	9	O-TERPH
1217622		sv21a010d.d	1000.00 ml	31-JUL-2013 16:51	1.000	pmm	10	DRO
1217625		sv21a010o.d	1000.00 ml	31-JUL-2013 16:51	1.000	pmm	10	all
1217622		sv21a010s.d	1000.00 ml	31-JUL-2013 16:51	1.000	pmm	10	O-TERPH
1217623		sv21a011d.d	1000.00 ml	31-JUL-2013 17:06	1.000	pmm	11	DRO
1217623		sv21a011s.d	1000.00 ml	31-JUL-2013 17:06	1.000	pmm	11	O-TERPH
1217624		sv21a012d.d	1000.00 ml	31-JUL-2013 17:22	1.000	pmm	12	DRO
1217624		sv21a012s.d	1000.00 ml	31-JUL-2013 17:22	1.000	pmm	12	O-TERPH
1217626		sv21a013o.d	1000.00 ml	31-JUL-2013 17:37	1.000	pmm	13	all
1217627		sv21a014o.d	1000.00 ml	31-JUL-2013 17:53	1.000	pmm	14	all
21307252416		sv21a015d.d	1000.00 ml	31-JUL-2013 18:08	1.000	pmm	15	DRO
21307252416		sv21a015o.d	1000.00 ml	31-JUL-2013 18:08	1.000	pmm	15	all
21307252416		sv21a015s.d	1000.00 ml	31-JUL-2013 18:08	1.000	pmm	15	O-TERPH
21307252417		sv21a016d.d	1000.00 ml	31-JUL-2013 18:24	1.000	pmm	16	DRO
21307252417		sv21a016o.d	1000.00 ml	31-JUL-2013 18:24	1.000	pmm	16	all
21307252417		sv21a016s.d	1000.00 ml	31-JUL-2013 18:24	1.000	pmm	16	O-TERPH
21307252418		sv21a017d.d	1000.00 ml	31-JUL-2013 18:39	1.000	pmm	17	DRO
21307252418		sv21a017o.d	1000.00 ml	31-JUL-2013 18:39	1.000	pmm	17	all
21307252418		sv21a017s.d	1000.00 ml	31-JUL-2013 18:39	1.000	pmm	17	O-TERPH
21307260801		sv21a018d.d	1000.00 ml	31-JUL-2013 18:55	1.000	pmm	18	DRO
21307260801		sv21a018s.d	1000.00 ml	31-JUL-2013 18:55	1.000	pmm	18	O-TERPH
1400		sv21a019d.d	1000.00 ml	31-JUL-2013 19:10	1.000	pmm	19	DRO

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 08/01/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130731.b/CM.m
Batch: /var/chem/gcsv21a.i/2130731.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
1400		sv21a019s.d	1000.00 ml	31-JUL-2013 19:10	1.000	pmm	19	O-TERPH
1400		sv21a020o.d	1000.00 ml	31-JUL-2013 19:26	1.000	pmm	20	all
21307260802		sv21a021d.d	1000.00 ml	31-JUL-2013 19:41	1.000	pmm	21	DRO
21307260802		sv21a021s.d	1000.00 ml	31-JUL-2013 19:41	1.000	pmm	21	O-TERPH
21307260803		sv21a022d.d	1000.00 ml	31-JUL-2013 19:57	1.000	pmm	22	DRO
21307260803		sv21a022s.d	1000.00 ml	31-JUL-2013 19:57	1.000	pmm	22	O-TERPH
21307260804		sv21a023d.d	1000.00 ml	31-JUL-2013 20:12	1.000	pmm	23	DRO
21307260804		sv21a023s.d	1000.00 ml	31-JUL-2013 20:12	1.000	pmm	23	O-TERPH
21307260805		sv21a024d.d	1000.00 ml	31-JUL-2013 20:28	1.000	pmm	24	DRO
21307260805		sv21a024s.d	1000.00 ml	31-JUL-2013 20:28	1.000	pmm	24	O-TERPH
21307260806		sv21a025d.d	1000.00 ml	31-JUL-2013 20:43	1.000	pmm	25	DRO
21307260806		sv21a025s.d	1000.00 ml	31-JUL-2013 20:43	1.000	pmm	25	O-TERPH
21307263601		sv21a026d.d	1000.00 ml	31-JUL-2013 20:58	1.000	pmm	26	DRO
21307263601		sv21a026o.d	1000.00 ml	31-JUL-2013 20:58	1.000	pmm	26	all
21307263601		sv21a026s.d	1000.00 ml	31-JUL-2013 20:58	1.000	pmm	26	O-TERPH
21307263602		sv21a027d.d	1000.00 ml	31-JUL-2013 21:14	1.000	pmm	27	DRO
21307263602		sv21a027o.d	1000.00 ml	31-JUL-2013 21:14	1.000	pmm	27	all
21307263602		sv21a027s.d	1000.00 ml	31-JUL-2013 21:14	1.000	pmm	27	O-TERPH
21307263603		sv21a028d.d	1000.00 ml	31-JUL-2013 21:29	1.000	pmm	28	DRO
21307263603		sv21a028o.d	1000.00 ml	31-JUL-2013 21:29	1.000	pmm	28	all
21307263603		sv21a028s.d	1000.00 ml	31-JUL-2013 21:29	1.000	pmm	28	O-TERPH
21307263604		sv21a029d.d	1000.00 ml	31-JUL-2013 21:45	1.000	pmm	29	DRO
21307263604		sv21a029o.d	1000.00 ml	31-JUL-2013 21:45	1.000	pmm	29	all
21307263604		sv21a029s.d	1000.00 ml	31-JUL-2013 21:45	1.000	pmm	29	O-TERPH
21307263605		sv21a030d.d	1000.00 ml	31-JUL-2013 22:00	1.000	pmm	30	DRO
21307263605		sv21a030o.d	1000.00 ml	31-JUL-2013 22:00	1.000	pmm	30	all
21307263605		sv21a030s.d	1000.00 ml	31-JUL-2013 22:00	1.000	pmm	30	O-TERPH
1400		sv21a031d.d	1000.00 ml	31-JUL-2013 22:15	1.000	pmm	31	DRO
1400		sv21a031s.d	1000.00 ml	31-JUL-2013 22:15	1.000	pmm	31	O-TERPH
1400		sv21a032o.d	1000.00 ml	31-JUL-2013 22:31	1.000	pmm	32	all
21307263606		sv21a033d.d	1000.00 ml	31-JUL-2013 22:46	1.000	pmm	33	DRO
21307263606		sv21a033o.d	1000.00 ml	31-JUL-2013 22:46	1.000	pmm	33	all
21307263606		sv21a033s.d	1000.00 ml	31-JUL-2013 22:46	1.000	pmm	33	O-TERPH
21307263607		sv21a034d.d	1000.00 ml	31-JUL-2013 23:01	1.000	pmm	34	DRO
21307263607		sv21a034o.d	1000.00 ml	31-JUL-2013 23:01	1.000	pmm	34	all
21307263607		sv21a034s.d	1000.00 ml	31-JUL-2013 23:01	1.000	pmm	34	O-TERPH

LABORATORY CHRONICLE: GCSV DEPARTMENT

Date: 08/01/2013
Instrument: gcsv21a.i
Method File: /var/chem/gcsv21a.i/2130731.b/CM.m
Batch: /var/chem/gcsv21a.i/2130731.b
Column-Detector: DB-5MS-30M

Sample ID	Standard ID	DataFile	Wgt/Vol	Injection Time	Dil	Anal	ALS	Comments
21307263608		sv21a035d.d	1000.00 ml	31-JUL-2013 23:16	1.000	pmm	35	DRO
21307263608		sv21a035o.d	1000.00 ml	31-JUL-2013 23:16	1.000	pmm	35	all
21307263608		sv21a035s.d	1000.00 ml	31-JUL-2013 23:16	1.000	pmm	35	O-TERPH
1400		sv21a036d.d	1000.00 ml	31-JUL-2013 23:32	1.000	pmm	36	DRO
1400		sv21a036s.d	1000.00 ml	31-JUL-2013 23:32	1.000	pmm	36	O-TERPH
1400		sv21a037o.d	1000.00 ml	31-JUL-2013 23:47	1.000	pmm	37	all

Resolution Consultants/4841/213072608/8/6/13

RESOLUTION CONSULTANTS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No.: | Page 1 of 1

Project Name: NAVFAC | PO No.: | Project No.: | Phase:

Site Location: Building 398 NCBC Gulfport

CTO No.: | RC Project Manager: Kirk Giessinger

Sampler/Site Phone#: Kirk Giessinger / 601-519-2420

Lab Name: GCAL | Turnaround Time(specify):

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	BTEX	MTBE	PAHs	GRO	DRO						Extra Volume for MS/MSD	HOLD	
								(3)→													
	B398MW1-3Q13		07/24/13	1640	WG	N		30	X	X	X	X	X						X		1,2
	B398MW9-3Q13		07/24/13	1920	WG	N		10	X	X	X	X	X								4
	B398DW1-3Q13		07/24/13	1800	WG	N		10	X	X	X	X	X								5
	DUP2072413		07/24/13	—	WG	FD		10	X	X	X	X	X								6

***Field* Comments:** Trip Blank Included with VOC's 7

***Lab* Comments:** 3.9 E22 3.1 3.8

Sample Shipment and Delivery Details

Number of coolers in shipment: 3

Samples Iced?(check) Yes X No

Method of Shipment: FedEx

Airbill No: 7963 1474 0952

Date Shipped: 7/25/13

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1 [signature]	7/25/13	11:30	1		
2 Fed Ex			2 [signature]	7/26/13	945
3			3		

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: **HA**=Hydrochloric Acid, **NI**=Nitric Acid, **SH**=Sodium Hydroxide, **SA**=Sulfuric Acid, **ME**=Methanol, **SB**=sodium bisulfate, **ST**=Sodium Thiosulfate, If **NO preservative** added leave blank

Rev 5/12

GCAL ANALYTICAL LABORATORIES LLC

SAMPLE RECEIVING CHECKLIST

213072608

SAMPLE DELIVERY GROUP	213072608
Client 4841 - Resolution Consultants	**Transport Method** FEDEX
Profile Number 244458	**Received By** Saucier, Charlotte
Line Item(s) 2 - Water	**Receive Date(s)** 07/26/13

CHECKLIST			
Were all samples received using proper thermal preservation?	☑ Yes	☐ No	☐ NA
When used, were all custody seals intact?	☑ Yes	☐ No	☐ NA
Were all samples received in proper containers?	☑ Yes	☐ No	☐ NA
Were all samples received using proper chemical preservation?	☑ Yes	☐ No	☐ NA
Was preservative added to any container at the lab?	☐ Yes	☑ No	☐ NA
Were all containers received in good condition?	☑ Yes	☐ No	☐ NA
Were all VOA vials received with no head space?	☑ Yes	☐ No	☐ NA
Do all sample labels match the Chain of Custody?	☑ Yes	☐ No	☐ NA
Did the Chain of Custody list the sampling technician?	☑ Yes	☐ No	☐ NA
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☑ Yes	☐ No	☐ NA

COOLERS

Airbill	Temp(oC)
7963 1474 0952	3.9 (E22) 3.1 3.8

DISCREPANCIES

None

LABORATORY PRESERVATIONS

None

NOTES

213072608 123

NELAP CERTIFICATE NUMBER: 01955
DOD ELAP CERTIFICATE NUMBER: L14-243

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 05/15/2015

GCAL Report 215042341

Deliver To	EnSafe Inc 5724 Summer Trees Dr Memphis, TN 38134 901-937-4315
Attn	Tina Cantwell

Project NCBC Gulfport Bldg 398 / JM35

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
MDL	Method Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
DL	Dilution
N	Metals Matrix Spike or Matrix Spike Duplicate Recovery is outside control limits
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Authorized Signature
GCAL Report 215042341

Case Narrative

Client: Resolution Consultants **Report:** 215042341

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

VOLATILES MASS SPECTROMETRY

In the EPA 8260B analysis, samples 21504234102 (B398GMW01-2Q15), 21504234103 (B398GMW01-2Q15 MS) and 21504234104 (B398GMW01-2Q15 MSD) had to be diluted to bracket the concentration of target analytes within the calibration range of the instrument. The dilution is reflected in elevated detection limits.

SEMI-VOLATILES MASS SPECTROMETRY

In the EPA 8270D SIM analysis, samples 21504234102 (B398GMW01-2Q15), 21504234103 (B398GMW01-2Q15 MS), 21504234104 (B398GMW01-2Q15 MSD), 21504234110 (B398GMW08-2Q15), 21504234111 (B398GMW09-2Q15), 21504234112 (B398GMW10-2Q15), and 21504234114 (B398GMW12-2Q15) had to be diluted to bracket the concentration of target analytes within the calibration range of the instrument. This is reflected in elevated detection limits. The recoveries for the surrogates are reported as D, diluted out for those analyses performed at a 10 or higher dilution.

In the EPA 8270D SIM analysis, the areas for the internal standards, Napthalene-d8, Acenaphthalene-d10, and Phenanthrene-d10 are outside the acceptance range for the 1X performed for sample 21504234111 (B398GMW09-2Q15). Analytes associated with these internal standard are reported at 10X. The dilution is reflected in elevated detection limits.

In the EPA 8270D SIM analysis for prep batch 556921, the MS/MSD exhibited recovery failures. Affected analytes are flagged “J” in the Form 1 for the parent sample. Some recoveries are affected by the high concentration of the analyte in the parent sample. All LCS/LCSD recoveries are acceptable.

VOLATILES GAS CHROMATOGRAPHY

In the EPA 8015C GRO analysis, samples 21504234102(B398GMW01-2Q15), 21504234103(B398GMW01-2Q15 MS), 21504234104(B398GMW01-2Q15 MSD) and 21504234114(B398GMW12-2Q15) had to be diluted to bracket the concentration of target analyte(s) within the calibration range of the instrument.

MISCELLANEOUS

For Samples 21504234110 (B398GMW08-2Q15) and 21504234114 (B398GMW12-2Q15), a date, time of collection or sample ID discrepancy between a container label and the chain of custody was noted at receipt.

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21504234101	B398GDW01-2Q15	Water	04/22/2015 09:00	04/23/2015 10:30
21504234102	B398GMW01-2Q15	Water	04/21/2015 15:05	04/23/2015 10:30
21504234103	B398GMW01-2Q15 MS	Water	04/21/2015 15:05	04/23/2015 10:30
21504234104	B398GMW01-2Q15 MSD	Water	04/21/2015 15:05	04/23/2015 10:30
21504234105	B398GMW02-2Q15	Water	04/21/2015 17:55	04/23/2015 10:30
21504234106	B398GMW03-2Q15	Water	04/22/2015 10:55	04/23/2015 10:30
21504234107	B398GMW04-2Q15	Water	04/21/2015 19:00	04/23/2015 10:30
21504234108	B398GMW06-2Q15	Water	04/21/2015 17:40	04/23/2015 10:30
21504234109	B398GMW07-2Q15	Water	04/21/2015 19:00	04/23/2015 10:30
21504234110	B398GMW08-2Q15	Water	04/21/2015 17:00	04/23/2015 10:30
21504234111	B398GMW09-2Q15	Water	04/22/2015 08:55	04/23/2015 10:30
21504234112	B398GMW10-2Q15	Water	04/22/2015 09:55	04/23/2015 10:30
21504234113	B398GMW11-2Q15	Water	04/22/2015 10:05	04/23/2015 10:30
21504234114	B398GMW12-2Q15	Water	04/21/2015 15:12	04/23/2015 10:30
21504234115	B398HDW01-2Q15	Water	04/22/2015 09:00	04/23/2015 10:30
21504234116	EB042215	Water	04/22/2015 11:15	04/23/2015 10:30
21504234117	TB042215	Water	04/22/2015 11:00	04/23/2015 10:30

Sample Results

B398GDW01-2Q15	Collect Date	04/22/2015 09:00	GCAL ID	21504234101
	Receive Date	04/23/2015 10:30	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 11:46	LBH	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	Benzene	0.500U	0.200	0.500	1.00	ug/L
100-41-4	Ethylbenzene	0.500U	0.200	0.500	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.8	ug/L	102	75 - 120
1868-53-7	Dibromofluoromethane	50	52.9	ug/L	106	85 - 115
2037-26-5	Toluene d8	50	51.1	ug/L	102	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	51.2	ug/L	102	70 - 120

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 12:26	CEK	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	**2-Methylnaphthalene**	**0.065J**	**0.041**	**0.102**	**0.102**	**ug/L**
83-32-9	Acenaphthene	0.051U	0.013	0.051	0.102	ug/L
208-96-8	Acenaphthylene	0.102U	0.041	0.102	0.102	ug/L
120-12-7	Anthracene	0.102U	0.041	0.102	0.102	ug/L
56-55-3	**Benzo(a)anthracene**	**0.226**	**0.026**	**0.051**	**0.102**	**ug/L**
50-32-8	**Benzo(a)pyrene**	**0.245**	**0.013**	**0.051**	**0.102**	**ug/L**
205-99-2	**Benzo(b)fluoranthene**	**0.273**	**0.013**	**0.051**	**0.102**	**ug/L**
191-24-2	**Benzo(g,h,i)perylene**	**0.199**	**0.013**	**0.051**	**0.102**	**ug/L**
207-08-9	Benzo(k)fluoranthene	0.051U	0.026	0.051	0.102	ug/L
218-01-9	**Chrysene**	**0.325**	**0.026**	**0.051**	**0.102**	**ug/L**
206-44-0	**Fluoranthene**	**0.126**	**0.013**	**0.051**	**0.102**	**ug/L**
86-73-7	Fluorene	0.102U	0.041	0.102	0.102	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	0.051U	0.013	0.051	0.102	ug/L
91-20-3	**Naphthalene**	**0.106**	**0.013**	**0.051**	**0.102**	**ug/L**
85-01-8	**Phenanthrene**	**0.094J**	**0.013**	**0.051**	**0.102**	**ug/L**
129-00-0	**Pyrene**	**0.473**	**0.026**	**0.051**	**0.102**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.10	3.04	ug/L	60	55 - 111
321-60-8	2-Fluorobiphenyl	5.10	3.11	ug/L	61	53 - 106
1718-51-0	Terphenyl-d14	5.10	4.82	ug/L	94	58 - 132

Sample Results

B398GDW01-2Q15

Collect Date	04/22/2015 09:00	**GCAL ID**	21504234101
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/04/2015 19:55	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**23.5J**	**11.2**	**40.0**	**100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	20.8	ug/L	69	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 11:21	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**141**	**44.9**	**80.0**	**125**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	50	30.7	ug/L	61	56 - 125

B398GMW01-2Q15

Collect Date	04/21/2015 15:05	**GCAL ID**	21504234102
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/25/2015 16:11	CLH	557021

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**681**	**2.00**	**5.00**	**10.0**	**ug/L**
100-41-4	**Ethylbenzene**	**77.6**	**2.00**	**5.00**	**10.0**	**ug/L**
1634-04-4	tert-Butyl methyl ether (MTBE)	5.00U	2.00	5.00	10.0	ug/L
108-88-3	Toluene	5.00U	2.00	5.00	10.0	ug/L
1330-20-7	**Xylene (total)**	**124**	**4.00**	**10.0**	**30.0**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	500	545	ug/L	109	75 - 120
1868-53-7	Dibromofluoromethane	500	479	ug/L	96	85 - 115
2037-26-5	Toluene d8	500	515	ug/L	103	85 - 120
17060-07-0	1,2-Dichloroethane-d4	500	492	ug/L	98	70 - 120

Sample Results

B398GMW01-2Q15	**Collect Date**	04/21/2015 15:05	**GCAL ID**	21504234102
	Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	20	04/30/2015 21:04	TKH2	557475

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	**2-Methylnaphthalene**	**21.8**	**0.800**	**2.00**	**2.00**	**ug/L**
83-32-9	Acenaphthene	1.00U	0.250	1.00	2.00	ug/L
208-96-8	Acenaphthylene	2.00U	0.800	2.00	2.00	ug/L
120-12-7	Anthracene	2.00U	0.800	2.00	2.00	ug/L
56-55-3	Benzo(a)anthracene	1.00U	0.500	1.00	2.00	ug/L
50-32-8	Benzo(a)pyrene	1.00U	0.250	1.00	2.00	ug/L
205-99-2	Benzo(b)fluoranthene	1.00U	0.250	1.00	2.00	ug/L
191-24-2	Benzo(g,h,i)perylene	1.00U	0.250	1.00	2.00	ug/L
207-08-9	Benzo(k)fluoranthene	1.00U	0.500	1.00	2.00	ug/L
218-01-9	Chrysene	1.00U	0.500	1.00	2.00	ug/L
206-44-0	Fluoranthene	1.00U	0.250	1.00	2.00	ug/L
86-73-7	Fluorene	2.00U	0.800	2.00	2.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	1.00U	0.250	1.00	2.00	ug/L
91-20-3	**Naphthalene**	**86.4**	**0.250**	**1.00**	**2.00**	**ug/L**
85-01-8	Phenanthrene	1.00U	0.250	1.00	2.00	ug/L
129-00-0	Pyrene	1.00U	0.500	1.00	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	4.04	ug/L	81	55 - 111
321-60-8	2-Fluorobiphenyl	5	4.16	ug/L	83	53 - 106
1718-51-0	Terphenyl-d14	5	5.02	ug/L	100	58 - 132

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	05/04/2015 21:05	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**3070**	**112**	**400**	**1000**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	300	206	ug/L	69	49 - 136

Sample Results

B398GMW01-2Q15

Collect Date	04/21/2015 15:05	**GCAL ID**	21504234102
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 11:32	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**973**	**44.9**	**80.0**	**125**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	50	30.9	ug/L	62	56 - 125

B398GMW01-2Q15 MS

Collect Date	04/21/2015 15:05	**GCAL ID**	21504234103
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/25/2015 18:06	CLH	557021

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**1160**	**2.00**	**5.00**	**10.0**	**ug/L**
100-41-4	**Ethylbenzene**	**619**	**2.00**	**5.00**	**10.0**	**ug/L**
1634-04-4	**tert-Butyl methyl ether (MTBE)**	**532**	**2.00**	**5.00**	**10.0**	**ug/L**
108-88-3	**Toluene**	**497**	**2.00**	**5.00**	**10.0**	**ug/L**
1330-20-7	**Xylene (total)**	**1710**	**4.00**	**10.0**	**30.0**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	500	510	ug/L	102	75 - 120
1868-53-7	Dibromofluoromethane	500	482	ug/L	96	85 - 115
2037-26-5	Toluene d8	500	511	ug/L	102	85 - 120
17060-07-0	1,2-Dichloroethane-d4	500	478	ug/L	96	70 - 120

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	20	04/30/2015 21:23	TKH2	557475

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	**2-Methylnaphthalene**	**27.9**	**0.800**	**2.00**	**2.00**	**ug/L**
83-32-9	**Acenaphthene**	**4.62**	**0.250**	**1.00**	**2.00**	**ug/L**
208-96-8	**Acenaphthylene**	**4.77**	**0.800**	**2.00**	**2.00**	**ug/L**
120-12-7	**Anthracene**	**5.46**	**0.800**	**2.00**	**2.00**	**ug/L**
56-55-3	**Benzo(a)anthracene**	**4.37**	**0.500**	**1.00**	**2.00**	**ug/L**
50-32-8	**Benzo(a)pyrene**	**3.41**	**0.250**	**1.00**	**2.00**	**ug/L**
205-99-2	**Benzo(b)fluoranthene**	**4.58**	**0.250**	**1.00**	**2.00**	**ug/L**
191-24-2	**Benzo(g,h,i)perylene**	**2.40**	**0.250**	**1.00**	**2.00**	**ug/L**
207-08-9	**Benzo(k)fluoranthene**	**4.76**	**0.500**	**1.00**	**2.00**	**ug/L**
218-01-9	**Chrysene**	**5.32**	**0.500**	**1.00**	**2.00**	**ug/L**
206-44-0	**Fluoranthene**	**5.54**	**0.250**	**1.00**	**2.00**	**ug/L**
86-73-7	**Fluorene**	**3.52**	**0.800**	**2.00**	**2.00**	**ug/L**

Sample Results

B398GMW01-2Q15 MS	Collect Date	04/21/2015 15:05	GCAL ID	21504234103
	Receive Date	04/23/2015 10:30	Matrix	Water

EPA 8270D SIM (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	20	04/30/2015 21:23	TKH2	557475

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
193-39-5	Indeno(1,2,3-cd)pyrene	1.80J	0.250	1.00	2.00	ug/L
91-20-3	Naphthalene	92.5	0.250	1.00	2.00	ug/L
85-01-8	Phenanthrene	4.98	0.250	1.00	2.00	ug/L
129-00-0	Pyrene	5.21	0.500	1.00	2.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	3.86	ug/L	77	55 - 111
321-60-8	2-Fluorobiphenyl	5	4.23	ug/L	85	53 - 106
1718-51-0	Terphenyl-d14	5	5.13	ug/L	103	58 - 132

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	05/04/2015 21:56	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	Gasoline Range Organics	7060	112	400	1000	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	300	234	ug/L	78	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 13:20	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	Diesel Range Organics	1700	44.9	80.0	125	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	50	34	ug/L	68	56 - 125

Sample Results

B398GMW01-2Q15 MSD	Collect Date	04/21/2015 15:05	GCAL ID	21504234104
	Receive Date	04/23/2015 10:30	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	04/25/2015 18:27	CLH	557021

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	Benzene	1110	2.00	5.00	10.0	ug/L
100-41-4	Ethylbenzene	593	2.00	5.00	10.0	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	533	2.00	5.00	10.0	ug/L
108-88-3	Toluene	475	2.00	5.00	10.0	ug/L
1330-20-7	Xylene (total)	1630	4.00	10.0	30.0	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	500	513	ug/L	103	75 - 120
1868-53-7	Dibromofluoromethane	500	480	ug/L	96	85 - 115
2037-26-5	Toluene d8	500	507	ug/L	101	85 - 120
17060-07-0	1,2-Dichloroethane-d4	500	479	ug/L	96	70 - 120

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	20	04/30/2015 21:41	TKH2	557475

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	2-Methylnaphthalene	37.1	0.842	2.11	2.11	ug/L
83-32-9	Acenaphthene	5.26	0.263	1.05	2.11	ug/L
208-96-8	Acenaphthylene	5.49	0.842	2.11	2.11	ug/L
120-12-7	Anthracene	5.63	0.842	2.11	2.11	ug/L
56-55-3	Benzo(a)anthracene	4.66	0.526	1.05	2.11	ug/L
50-32-8	Benzo(a)pyrene	2.76	0.263	1.05	2.11	ug/L
205-99-2	Benzo(b)fluoranthene	4.66	0.263	1.05	2.11	ug/L
191-24-2	Benzo(g,h,i)perylene	1.96J	0.263	1.05	2.11	ug/L
207-08-9	Benzo(k)fluoranthene	4.66	0.526	1.05	2.11	ug/L
218-01-9	Chrysene	5.59	0.526	1.05	2.11	ug/L
206-44-0	Fluoranthene	5.91	0.263	1.05	2.11	ug/L
86-73-7	Fluorene	3.96	0.842	2.11	2.11	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	1.36J	0.263	1.05	2.11	ug/L
91-20-3	Naphthalene	112	0.263	1.05	2.11	ug/L
85-01-8	Phenanthrene	5.37	0.263	1.05	2.11	ug/L
129-00-0	Pyrene	5.55	0.526	1.05	2.11	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.26	4.55	ug/L	86	55 - 111
321-60-8	2-Fluorobiphenyl	5.26	4.89	ug/L	93	53 - 106
1718-51-0	Terphenyl-d14	5.26	5.55	ug/L	105	58 - 132

Sample Results

B398GMW01-2Q15 MSD

Collect Date	04/21/2015 15:05	**GCAL ID**	21504234104
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	10	05/04/2015 22:13	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**6820**	**112**	**400**	**1000**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	300	273	ug/L	91	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 13:32	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**1630**	**44.9**	**80.0**	**125**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	50	31.6	ug/L	63	56 - 125

B398GMW02-2Q15

Collect Date	04/21/2015 17:55	**GCAL ID**	21504234105
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/25/2015 21:58	CLH	557021

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	Benzene	0.500U	0.200	0.500	1.00	ug/L
100-41-4	Ethylbenzene	0.500U	0.200	0.500	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.9	ug/L	102	75 - 120
1868-53-7	Dibromofluoromethane	50	51.2	ug/L	102	85 - 115
2037-26-5	Toluene d8	50	52.8	ug/L	106	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	51.3	ug/L	103	70 - 120

Sample Results

B398GMW02-2Q15	**Collect Date**	04/21/2015 17:55	**GCAL ID**	21504234105
	Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 13:40	CEK	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	2-Methylnaphthalene	0.102U	0.041	0.102	0.102	ug/L
83-32-9	**Acenaphthene**	**1.20**	**0.013**	**0.051**	**0.102**	**ug/L**
208-96-8	Acenaphthylene	0.102U	0.041	0.102	0.102	ug/L
120-12-7	**Anthracene**	**0.096J**	**0.041**	**0.102**	**0.102**	**ug/L**
56-55-3	Benzo(a)anthracene	0.051U	0.026	0.051	0.102	ug/L
50-32-8	Benzo(a)pyrene	0.051U	0.013	0.051	0.102	ug/L
205-99-2	Benzo(b)fluoranthene	0.051U	0.013	0.051	0.102	ug/L
191-24-2	Benzo(g,h,i)perylene	0.051U	0.013	0.051	0.102	ug/L
207-08-9	Benzo(k)fluoranthene	0.051U	0.026	0.051	0.102	ug/L
218-01-9	Chrysene	0.051U	0.026	0.051	0.102	ug/L
206-44-0	**Fluoranthene**	**0.094J**	**0.013**	**0.051**	**0.102**	**ug/L**
86-73-7	**Fluorene**	**0.798**	**0.041**	**0.102**	**0.102**	**ug/L**
193-39-5	Indeno(1,2,3-cd)pyrene	0.051U	0.013	0.051	0.102	ug/L
91-20-3	Naphthalene	0.051U	0.013	0.051	0.102	ug/L
85-01-8	**Phenanthrene**	**0.232**	**0.013**	**0.051**	**0.102**	**ug/L**
129-00-0	**Pyrene**	**0.073J**	**0.026**	**0.051**	**0.102**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.10	3.74	ug/L	73	55 - 111
321-60-8	2-Fluorobiphenyl	5.10	3.49	ug/L	68	53 - 106
1718-51-0	Terphenyl-d14	5.10	4.73	ug/L	93	58 - 132

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/04/2015 22:28	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**152**	**11.2**	**40.0**	**100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	25.5	ug/L	85	49 - 136

Sample Results

B398GMW02-2Q15

Collect Date	04/21/2015 17:55	**GCAL ID**	21504234105
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 13:49	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**246**	**44.9**	**80.0**	**125**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	50	33.9	ug/L	68	56 - 125

B398GMW03-2Q15

Collect Date	04/22/2015 10:55	**GCAL ID**	21504234106
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/25/2015 22:19	CLH	557021

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	Benzene	0.500U	0.200	0.500	1.00	ug/L
100-41-4	Ethylbenzene	0.500U	0.200	0.500	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51	ug/L	102	75 - 120
1868-53-7	Dibromofluoromethane	50	51.8	ug/L	104	85 - 115
2037-26-5	Toluene d8	50	51.5	ug/L	103	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	51.7	ug/L	103	70 - 120

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 13:58	JMC2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	2-Methylnaphthalene	0.100U	0.040	0.100	0.100	ug/L
83-32-9	Acenaphthene	0.050U	0.013	0.050	0.100	ug/L
208-96-8	Acenaphthylene	0.100U	0.040	0.100	0.100	ug/L
120-12-7	Anthracene	0.100U	0.040	0.100	0.100	ug/L
56-55-3	Benzo(a)anthracene	0.050U	0.025	0.050	0.100	ug/L
50-32-8	Benzo(a)pyrene	0.050U	0.013	0.050	0.100	ug/L
205-99-2	Benzo(b)fluoranthene	0.050U	0.013	0.050	0.100	ug/L
191-24-2	Benzo(g,h,i)perylene	0.050U	0.013	0.050	0.100	ug/L
207-08-9	Benzo(k)fluoranthene	0.050U	0.025	0.050	0.100	ug/L
218-01-9	Chrysene	0.050U	0.025	0.050	0.100	ug/L
206-44-0	Fluoranthene	0.050U	0.013	0.050	0.100	ug/L
86-73-7	Fluorene	0.100U	0.040	0.100	0.100	ug/L

Sample Results

B398GMW03-2Q15	Collect Date	04/22/2015 10:55	GCAL ID	21504234106
	Receive Date	04/23/2015 10:30	Matrix	Water

EPA 8270D SIM (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 13:58	JMC2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
193-39-5	Indeno(1,2,3-cd)pyrene	0.050U	0.013	0.050	0.100	ug/L
91-20-3	**Naphthalene**	**0.181**	**0.013**	**0.050**	**0.100**	**ug/L**
85-01-8	Phenanthrene	0.050U	0.013	0.050	0.100	ug/L
129-00-0	Pyrene	0.050U	0.025	0.050	0.100	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	3.89	ug/L	78	55 - 111
321-60-8	2-Fluorobiphenyl	5	3.66	ug/L	73	53 - 106
1718-51-0	Terphenyl-d14	5	5.03	ug/L	101	58 - 132

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/04/2015 22:41	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	Gasoline Range Organics	40.0U	11.2	40.0	100	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	22.5	ug/L	75	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 12:33	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	Diesel Range Organics	83.3U	46.7	83.3	130	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	52.10	30.6	ug/L	59	56 - 125

Sample Results

B398GMW04-2Q15	**Collect Date**	04/21/2015 19:00	**GCAL ID**	21504234107
	Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/25/2015 22:40	CLH	557021

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**0.556J**	**0.200**	**0.500**	**1.00**	**ug/L**
100-41-4	Ethylbenzene	0.500U	0.200	0.500	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.9	ug/L	102	75 - 120
1868-53-7	Dibromofluoromethane	50	50.6	ug/L	101	85 - 115
2037-26-5	Toluene d8	50	52.3	ug/L	105	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	51.1	ug/L	102	70 - 120

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 14:17	JMC2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	2-Methylnaphthalene	0.100U	0.040	0.100	0.100	ug/L
83-32-9	Acenaphthene	0.050U	0.013	0.050	0.100	ug/L
208-96-8	Acenaphthylene	0.100U	0.040	0.100	0.100	ug/L
120-12-7	Anthracene	0.100U	0.040	0.100	0.100	ug/L
56-55-3	Benzo(a)anthracene	0.050U	0.025	0.050	0.100	ug/L
50-32-8	Benzo(a)pyrene	0.050U	0.013	0.050	0.100	ug/L
205-99-2	Benzo(b)fluoranthene	0.050U	0.013	0.050	0.100	ug/L
191-24-2	Benzo(g,h,i)perylene	0.050U	0.013	0.050	0.100	ug/L
207-08-9	Benzo(k)fluoranthene	0.050U	0.025	0.050	0.100	ug/L
218-01-9	Chrysene	0.050U	0.025	0.050	0.100	ug/L
206-44-0	Fluoranthene	0.050U	0.013	0.050	0.100	ug/L
86-73-7	Fluorene	0.100U	0.040	0.100	0.100	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	0.050U	0.013	0.050	0.100	ug/L
91-20-3	**Naphthalene**	**0.151**	**0.013**	**0.050**	**0.100**	**ug/L**
85-01-8	Phenanthrene	0.050U	0.013	0.050	0.100	ug/L
129-00-0	Pyrene	0.050U	0.025	0.050	0.100	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	3.87	ug/L	77	55 - 111
321-60-8	2-Fluorobiphenyl	5	3.69	ug/L	74	53 - 106
1718-51-0	Terphenyl-d14	5	4.95	ug/L	99	58 - 132

Sample Results

B398GMW04-2Q15

Collect Date	04/21/2015 19:00	**GCAL ID**	21504234107
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/04/2015 22:52	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	Gasoline Range Organics	40.0U	11.2	40.0	100	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	21.2	ug/L	71	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 12:51	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	Diesel Range Organics	83.3U	46.7	83.3	130	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	52.10	31.1	ug/L	60	56 - 125

B398GMW06-2Q15

Collect Date	04/21/2015 17:40	**GCAL ID**	21504234108
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 12:08	LBH	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	Benzene	0.500U	0.200	0.500	1.00	ug/L
100-41-4	Ethylbenzene	0.500U	0.200	0.500	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.8	ug/L	100	75 - 120
1868-53-7	Dibromofluoromethane	50	53.5	ug/L	107	85 - 115
2037-26-5	Toluene d8	50	53.4	ug/L	107	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	51.9	ug/L	104	70 - 120

Sample Results

B398GMW06-2Q15	**Collect Date**	04/21/2015 17:40	**GCAL ID**	21504234108
	Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 14:35	TKH2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	2-Methylnaphthalene	0.100U	0.040	0.100	0.100	ug/L
83-32-9	**Acenaphthene**	**0.587**	**0.013**	**0.050**	**0.100**	**ug/L**
208-96-8	Acenaphthylene	0.100U	0.040	0.100	0.100	ug/L
120-12-7	**Anthracene**	**0.106**	**0.040**	**0.100**	**0.100**	**ug/L**
56-55-3	**Benzo(a)anthracene**	**0.235**	**0.025**	**0.050**	**0.100**	**ug/L**
50-32-8	**Benzo(a)pyrene**	**0.250**	**0.013**	**0.050**	**0.100**	**ug/L**
205-99-2	**Benzo(b)fluoranthene**	**0.276**	**0.013**	**0.050**	**0.100**	**ug/L**
191-24-2	**Benzo(g,h,i)perylene**	**0.204**	**0.013**	**0.050**	**0.100**	**ug/L**
207-08-9	**Benzo(k)fluoranthene**	**0.044J**	**0.025**	**0.050**	**0.100**	**ug/L**
218-01-9	**Chrysene**	**0.342**	**0.025**	**0.050**	**0.100**	**ug/L**
206-44-0	**Fluoranthene**	**0.231**	**0.013**	**0.050**	**0.100**	**ug/L**
86-73-7	**Fluorene**	**0.294**	**0.040**	**0.100**	**0.100**	**ug/L**
193-39-5	Indeno(1,2,3-cd)pyrene	0.050U	0.013	0.050	0.100	ug/L
91-20-3	Naphthalene	0.050U	0.013	0.050	0.100	ug/L
85-01-8	**Phenanthrene**	**0.186**	**0.013**	**0.050**	**0.100**	**ug/L**
129-00-0	**Pyrene**	**0.564**	**0.025**	**0.050**	**0.100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	3.54	ug/L	71	55 - 111
321-60-8	2-Fluorobiphenyl	5	3.19	ug/L	64	53 - 106
1718-51-0	Terphenyl-d14	5	4.28	ug/L	86	58 - 132

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/04/2015 23:07	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	Gasoline Range Organics	40.0U	11.2	40.0	100	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	23.3	ug/L	78	49 - 136

Sample Results

B398GMW06-2Q15

Collect Date	04/21/2015 17:40	**GCAL ID**	21504234108
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 14:03	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**353**	**46.7**	**83.3**	**130**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	52.10	35.1	ug/L	67	56 - 125

B398GMW07-2Q15

Collect Date	04/21/2015 19:00	**GCAL ID**	21504234109
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 13:35	LBH	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**0.945J**	**0.200**	**0.500**	**1.00**	**ug/L**
100-41-4	**Ethylbenzene**	**1.59**	**0.200**	**0.500**	**1.00**	**ug/L**
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	52.4	ug/L	105	75 - 120
1868-53-7	Dibromofluoromethane	50	51.2	ug/L	102	85 - 115
2037-26-5	Toluene d8	50	53.1	ug/L	106	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	50.5	ug/L	101	70 - 120

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 14:54	TKH2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	**2-Methylnaphthalene**	**0.677**	**0.040**	**0.100**	**0.100**	**ug/L**
83-32-9	Acenaphthene	0.050U	0.013	0.050	0.100	ug/L
208-96-8	Acenaphthylene	0.100U	0.040	0.100	0.100	ug/L
120-12-7	Anthracene	0.100U	0.040	0.100	0.100	ug/L
56-55-3	**Benzo(a)anthracene**	**0.087J**	**0.025**	**0.050**	**0.100**	**ug/L**
50-32-8	**Benzo(a)pyrene**	**0.107**	**0.013**	**0.050**	**0.100**	**ug/L**
205-99-2	**Benzo(b)fluoranthene**	**0.097J**	**0.013**	**0.050**	**0.100**	**ug/L**
191-24-2	Benzo(g,h,i)perylene	0.050U	0.013	0.050	0.100	ug/L
207-08-9	Benzo(k)fluoranthene	0.050U	0.025	0.050	0.100	ug/L
218-01-9	**Chrysene**	**0.125**	**0.025**	**0.050**	**0.100**	**ug/L**
206-44-0	Fluoranthene	0.050U	0.013	0.050	0.100	ug/L
86-73-7	Fluorene	0.100U	0.040	0.100	0.100	ug/L

Sample Results

B398GMW07-2Q15	Collect Date	04/21/2015 19:00	GCAL ID	21504234109
	Receive Date	04/23/2015 10:30	Matrix	Water

EPA 8270D SIM (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 14:54	TKH2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
193-39-5	Indeno(1,2,3-cd)pyrene	0.050U	0.013	0.050	0.100	ug/L
91-20-3	**Naphthalene**	**0.204**	**0.013**	**0.050**	**0.100**	**ug/L**
85-01-8	Phenanthrene	0.050U	0.013	0.050	0.100	ug/L
129-00-0	**Pyrene**	**0.154**	**0.025**	**0.050**	**0.100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	3.66	ug/L	73	55 - 111
321-60-8	2-Fluorobiphenyl	5	3.5	ug/L	70	53 - 106
1718-51-0	Terphenyl-d14	5	4.39	ug/L	88	58 - 132

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/04/2015 23:20	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**67.3J**	**11.2**	**40.0**	**100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	22.2	ug/L	74	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 14:18	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**157**	**45.8**	**81.6**	**128**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	51	35	ug/L	69	56 - 125

Sample Results

B398GMW08-2Q15	Collect Date	04/21/2015 17:00	GCAL ID	21504234110
	Receive Date	04/23/2015 10:30	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 12:53	LBH	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**0.909J**	**0.200**	**0.500**	**1.00**	**ug/L**
100-41-4	**Ethylbenzene**	**0.301J**	**0.200**	**0.500**	**1.00**	**ug/L**
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	**Xylene (total)**	**7.38**	**0.400**	**1.00**	**3.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	52.1	ug/L	104	75 - 120
1868-53-7	Dibromofluoromethane	50	52.3	ug/L	105	85 - 115
2037-26-5	Toluene d8	50	49.2	ug/L	98	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	50.8	ug/L	102	70 - 120

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	05/05/2015 17:33	JMC2	557814

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	**2-Methylnaphthalene**	**6.56**	**0.042**	**0.104**	**0.104**	**ug/L**
83-32-9	**Acenaphthene**	**0.640**	**0.013**	**0.052**	**0.104**	**ug/L**
208-96-8	Acenaphthylene	0.104U	0.042	0.104	0.104	ug/L
120-12-7	Anthracene	0.104U	0.042	0.104	0.104	ug/L
56-55-3	Benzo(a)anthracene	0.052U	0.026	0.052	0.104	ug/L
50-32-8	Benzo(a)pyrene	0.052U	0.013	0.052	0.104	ug/L
205-99-2	Benzo(b)fluoranthene	0.052U	0.013	0.052	0.104	ug/L
191-24-2	Benzo(g,h,i)perylene	0.052U	0.013	0.052	0.104	ug/L
207-08-9	Benzo(k)fluoranthene	0.052U	0.026	0.052	0.104	ug/L
218-01-9	Chrysene	0.052U	0.026	0.052	0.104	ug/L
206-44-0	Fluoranthene	0.052U	0.013	0.052	0.104	ug/L
86-73-7	**Fluorene**	**1.04**	**0.042**	**0.104**	**0.104**	**ug/L**
193-39-5	Indeno(1,2,3-cd)pyrene	0.052U	0.013	0.052	0.104	ug/L
91-20-3	**Naphthalene**	**3.07**	**0.013**	**0.052**	**0.104**	**ug/L**
85-01-8	**Phenanthrene**	**0.210**	**0.013**	**0.052**	**0.104**	**ug/L**
129-00-0	Pyrene	0.052U	0.026	0.052	0.104	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.21	4.02	ug/L	77	55 - 111
321-60-8	2-Fluorobiphenyl	5.21	3.85	ug/L	74	53 - 106
1718-51-0	Terphenyl-d14	5.21	4.09	ug/L	79	58 - 132

Sample Results

B398GMW08-2Q15

Collect Date	04/21/2015 17:00	**GCAL ID**	21504234110
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/04/2015 23:46	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**282**	**11.2**	**40.0**	**100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	30.4	ug/L	101	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 14:31	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**850**	**44.9**	**80.0**	**125**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	50	31.4	ug/L	63	56 - 125

B398GMW09-2Q15

Collect Date	04/22/2015 08:55	**GCAL ID**	21504234111
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 13:14	LBH	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**47.9**	**0.200**	**0.500**	**1.00**	**ug/L**
100-41-4	**Ethylbenzene**	**17.8**	**0.200**	**0.500**	**1.00**	**ug/L**
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	53	ug/L	106	75 - 120
1868-53-7	Dibromofluoromethane	50	50.4	ug/L	101	85 - 115
2037-26-5	Toluene d8	50	52.7	ug/L	105	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	49.8	ug/L	100	70 - 120

Sample Results

B398GMW09-2Q15	**Collect Date**	04/22/2015 08:55	**GCAL ID**	21504234111
	Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	05/05/2015 17:52	JMC2	557814

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
56-55-3	**Benzo(a)anthracene**	**0.028J**	**0.025**	**0.050**	**0.100**	**ug/L**
50-32-8	Benzo(a)pyrene	0.050U	0.013	0.050	0.100	ug/L
205-99-2	**Benzo(b)fluoranthene**	**0.025J**	**0.013**	**0.050**	**0.100**	**ug/L**
191-24-2	Benzo(g,h,i)perylene	0.050U	0.013	0.050	0.100	ug/L
207-08-9	Benzo(k)fluoranthene	0.050U	0.025	0.050	0.100	ug/L
218-01-9	**Chrysene**	**0.030J**	**0.025**	**0.050**	**0.100**	**ug/L**
193-39-5	Indeno(1,2,3-cd)pyrene	0.050U	0.013	0.050	0.100	ug/L
129-00-0	**Pyrene**	**0.049J**	**0.025**	**0.050**	**0.100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	4.17	ug/L	83	55 - 111
321-60-8	2-Fluorobiphenyl	5	3.65	ug/L	73	53 - 106
1718-51-0	Terphenyl-d14	5	4.34	ug/L	87	58 - 132

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	10	04/29/2015 23:31	TKH2	557329

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	**2-Methylnaphthalene**	**8.14**	**0.400**	**1.00**	**1.00**	**ug/L**
83-32-9	Acenaphthene	0.500U	0.125	0.500	1.00	ug/L
208-96-8	Acenaphthylene	1.00U	0.400	1.00	1.00	ug/L
120-12-7	Anthracene	1.00U	0.400	1.00	1.00	ug/L
206-44-0	Fluoranthene	0.500U	0.125	0.500	1.00	ug/L
86-73-7	Fluorene	1.00U	0.400	1.00	1.00	ug/L
91-20-3	**Naphthalene**	**51.8**	**0.125**	**0.500**	**1.00**	**ug/L**
85-01-8	Phenanthrene	0.500U	0.125	0.500	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	Diluted Out	ug/L	**0***	55 - 111
321-60-8	2-Fluorobiphenyl	5	Diluted Out	ug/L	**0***	53 - 106
1718-51-0	Terphenyl-d14	5	Diluted Out	ug/L	**0***	58 - 132

Sample Results

B398GMW09-2Q15	Collect Date	04/22/2015 08:55	GCAL ID	21504234111
	Receive Date	04/23/2015 10:30	Matrix	Water

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/04/2015 23:59	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**508**	**11.2**	**40.0**	**100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	24.4	ug/L	81	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 14:47	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**1300**	**44.9**	**80.0**	**125**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	50	32.2	ug/L	64	56 - 125

B398GMW10-2Q15	Collect Date	04/22/2015 09:55	GCAL ID	21504234112
	Receive Date	04/23/2015 10:30	Matrix	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 13:57	LBH	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**66.1**	**0.200**	**0.500**	**1.00**	**ug/L**
100-41-4	**Ethylbenzene**	**15.8**	**0.200**	**0.500**	**1.00**	**ug/L**
1634-04-4	**tert-Butyl methyl ether (MTBE)**	**10.5**	**0.200**	**0.500**	**1.00**	**ug/L**
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	**Xylene (total)**	**3.71**	**0.400**	**1.00**	**3.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	53.2	ug/L	106	75 - 120
1868-53-7	Dibromofluoromethane	50	48.6	ug/L	97	85 - 115
2037-26-5	Toluene d8	50	51.4	ug/L	103	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	48.7	ug/L	97	70 - 120

Sample Results

B398GMW10-2Q15	**Collect Date**	04/22/2015 09:55	**GCAL ID**	21504234112
	Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	10	04/29/2015 23:49	DSL	557329

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	**2-Methylnaphthalene**	**27.8**	**0.444**	**1.11**	**1.11**	**ug/L**
83-32-9	Acenaphthene	0.556U	0.139	0.556	1.11	ug/L
208-96-8	Acenaphthylene	1.11U	0.444	1.11	1.11	ug/L
120-12-7	Anthracene	1.11U	0.444	1.11	1.11	ug/L
56-55-3	Benzo(a)anthracene	0.556U	0.278	0.556	1.11	ug/L
50-32-8	Benzo(a)pyrene	0.556U	0.139	0.556	1.11	ug/L
205-99-2	Benzo(b)fluoranthene	0.556U	0.139	0.556	1.11	ug/L
191-24-2	Benzo(g,h,i)perylene	0.556U	0.139	0.556	1.11	ug/L
207-08-9	Benzo(k)fluoranthene	0.556U	0.278	0.556	1.11	ug/L
218-01-9	Chrysene	0.556U	0.278	0.556	1.11	ug/L
206-44-0	Fluoranthene	0.556U	0.139	0.556	1.11	ug/L
86-73-7	Fluorene	1.11U	0.444	1.11	1.11	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	0.556U	0.139	0.556	1.11	ug/L
91-20-3	**Naphthalene**	**84.1**	**0.139**	**0.556**	**1.11**	**ug/L**
85-01-8	Phenanthrene	0.556U	0.139	0.556	1.11	ug/L
129-00-0	Pyrene	0.556U	0.278	0.556	1.11	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.56	3.21	ug/L	58	55 - 111
321-60-8	2-Fluorobiphenyl	5.56	3.95	ug/L	71	53 - 106
1718-51-0	Terphenyl-d14	5.56	4.87	ug/L	88	58 - 132

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/05/2015 00:11	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**735**	**11.2**	**40.0**	**100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	26.5	ug/L	88	49 - 136

Sample Results

B398GMW10-2Q15

Collect Date	04/22/2015 09:55	**GCAL ID**	21504234112
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 15:01	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**1900**	**44.9**	**80.0**	**125**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	50	35.4	ug/L	71	56 - 125

B398GMW11-2Q15

Collect Date	04/22/2015 10:05	**GCAL ID**	21504234113
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 15:20	CJR	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**1.85**	**0.200**	**0.500**	**1.00**	**ug/L**
100-41-4	**Ethylbenzene**	**0.733J**	**0.200**	**0.500**	**1.00**	**ug/L**
1634-04-4	**tert-Butyl methyl ether (MTBE)**	**5.65**	**0.200**	**0.500**	**1.00**	**ug/L**
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	51.1	ug/L	102	75 - 120
1868-53-7	Dibromofluoromethane	50	52.3	ug/L	105	85 - 115
2037-26-5	Toluene d8	50	53.2	ug/L	106	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	50.3	ug/L	101	70 - 120

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 16:08	TKH2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	**2-Methylnaphthalene**	**0.266**	**0.040**	**0.100**	**0.100**	**ug/L**
83-32-9	Acenaphthene	0.050U	0.013	0.050	0.100	ug/L
208-96-8	Acenaphthylene	0.100U	0.040	0.100	0.100	ug/L
120-12-7	Anthracene	0.100U	0.040	0.100	0.100	ug/L
56-55-3	Benzo(a)anthracene	0.050U	0.025	0.050	0.100	ug/L
50-32-8	Benzo(a)pyrene	0.050U	0.013	0.050	0.100	ug/L
205-99-2	Benzo(b)fluoranthene	0.050U	0.013	0.050	0.100	ug/L
191-24-2	Benzo(g,h,i)perylene	0.050U	0.013	0.050	0.100	ug/L
207-08-9	Benzo(k)fluoranthene	0.050U	0.025	0.050	0.100	ug/L
218-01-9	Chrysene	0.050U	0.025	0.050	0.100	ug/L
206-44-0	Fluoranthene	0.050U	0.013	0.050	0.100	ug/L
86-73-7	Fluorene	0.100U	0.040	0.100	0.100	ug/L

Sample Results

B398GMW11-2Q15	Collect Date	04/22/2015 10:05	GCAL ID	21504234113
	Receive Date	04/23/2015 10:30	Matrix	Water

EPA 8270D SIM (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 16:08	TKH2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
193-39-5	Indeno(1,2,3-cd)pyrene	0.050U	0.013	0.050	0.100	ug/L
91-20-3	**Naphthalene**	**2.54**	**0.013**	**0.050**	**0.100**	**ug/L**
85-01-8	**Phenanthrene**	**0.119**	**0.013**	**0.050**	**0.100**	**ug/L**
129-00-0	Pyrene	0.050U	0.025	0.050	0.100	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	3.8	ug/L	76	55 - 111
321-60-8	2-Fluorobiphenyl	5	3.44	ug/L	69	53 - 106
1718-51-0	Terphenyl-d14	5	4.46	ug/L	89	58 - 132

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/05/2015 00:25	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**76.3J**	**11.2**	**40.0**	**100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	23.1	ug/L	77	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 15:16	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**77.4J**	**45.8**	**81.6**	**128**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	51	33.1	ug/L	65	56 - 125

Sample Results

B398GMW12-2Q15	**Collect Date**	04/21/2015 15:12	**GCAL ID**	21504234114
	Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 15:44	CJR	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**124**	**0.200**	**0.500**	**1.00**	**ug/L**
100-41-4	**Ethylbenzene**	**52.8**	**0.200**	**0.500**	**1.00**	**ug/L**
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	**Toluene**	**23.5**	**0.200**	**0.500**	**1.00**	**ug/L**
1330-20-7	**Xylene (total)**	**60.6**	**0.400**	**1.00**	**3.00**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	56.3	ug/L	113	75 - 120
1868-53-7	Dibromofluoromethane	50	49.2	ug/L	98	85 - 115
2037-26-5	Toluene d8	50	52.6	ug/L	105	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	51.6	ug/L	103	70 - 120

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	10	05/02/2015 01:18	TKH2	557622

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	**2-Methylnaphthalene**	**24.0**	**0.400**	**1.00**	**1.00**	**ug/L**
83-32-9	Acenaphthene	0.500U	0.125	0.500	1.00	ug/L
208-96-8	Acenaphthylene	1.00U	0.400	1.00	1.00	ug/L
120-12-7	Anthracene	1.00U	0.400	1.00	1.00	ug/L
56-55-3	Benzo(a)anthracene	0.500U	0.250	0.500	1.00	ug/L
50-32-8	Benzo(a)pyrene	0.500U	0.125	0.500	1.00	ug/L
205-99-2	Benzo(b)fluoranthene	0.500U	0.125	0.500	1.00	ug/L
191-24-2	Benzo(g,h,i)perylene	0.500U	0.125	0.500	1.00	ug/L
207-08-9	Benzo(k)fluoranthene	0.500U	0.250	0.500	1.00	ug/L
218-01-9	Chrysene	0.500U	0.250	0.500	1.00	ug/L
206-44-0	Fluoranthene	0.500U	0.125	0.500	1.00	ug/L
86-73-7	Fluorene	1.00U	0.400	1.00	1.00	ug/L
193-39-5	Indeno(1,2,3-cd)pyrene	0.500U	0.125	0.500	1.00	ug/L
91-20-3	**Naphthalene**	**69.9**	**0.125**	**0.500**	**1.00**	**ug/L**
85-01-8	Phenanthrene	0.500U	0.125	0.500	1.00	ug/L
129-00-0	Pyrene	0.500U	0.250	0.500	1.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	4.08	ug/L	82	55 - 111
321-60-8	2-Fluorobiphenyl	5	4.22	ug/L	84	53 - 106
1718-51-0	Terphenyl-d14	5	5.23	ug/L	105	58 - 132

Sample Results

B398GMW12-2Q15

Collect Date	04/21/2015 15:12	**GCAL ID**	21504234114
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5	05/05/2015 05:41	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**3360**	**56.0**	**200**	**500**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	150	101	ug/L	67	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 15:30	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**703**	**44.9**	**80.0**	**125**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	50	32.8	ug/L	66	56 - 125

B398HDW01-2Q15

Collect Date	04/22/2015 09:00	**GCAL ID**	21504234115
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 16:05	CJR	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**1.12**	**0.200**	**0.500**	**1.00**	**ug/L**
100-41-4	**Ethylbenzene**	**0.754J**	**0.200**	**0.500**	**1.00**	**ug/L**
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	50.9	ug/L	102	75 - 120
1868-53-7	Dibromofluoromethane	50	52.3	ug/L	105	85 - 115
2037-26-5	Toluene d8	50	51.3	ug/L	103	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	50.7	ug/L	101	70 - 120

Sample Results

B398HDW01-2Q15	**Collect Date**	04/22/2015 09:00	**GCAL ID**	21504234115
	Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 16:45	TKH2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	2-Methylnaphthalene	0.100U	0.040	0.100	0.100	ug/L
83-32-9	Acenaphthene	0.050U	0.013	0.050	0.100	ug/L
208-96-8	Acenaphthylene	0.100U	0.040	0.100	0.100	ug/L
120-12-7	**Anthracene**	**0.171**	**0.040**	**0.100**	**0.100**	**ug/L**
56-55-3	Benzo(a)anthracene	0.050U	0.025	0.050	0.100	ug/L
50-32-8	Benzo(a)pyrene	0.050U	0.013	0.050	0.100	ug/L
205-99-2	Benzo(b)fluoranthene	0.050U	0.013	0.050	0.100	ug/L
191-24-2	Benzo(g,h,i)perylene	0.050U	0.013	0.050	0.100	ug/L
207-08-9	Benzo(k)fluoranthene	0.050U	0.025	0.050	0.100	ug/L
218-01-9	Chrysene	0.050U	0.025	0.050	0.100	ug/L
206-44-0	**Fluoranthene**	**0.086J**	**0.013**	**0.050**	**0.100**	**ug/L**
86-73-7	**Fluorene**	**0.108**	**0.040**	**0.100**	**0.100**	**ug/L**
193-39-5	Indeno(1,2,3-cd)pyrene	0.050U	0.013	0.050	0.100	ug/L
91-20-3	**Naphthalene**	**0.106**	**0.013**	**0.050**	**0.100**	**ug/L**
85-01-8	**Phenanthrene**	**0.387**	**0.013**	**0.050**	**0.100**	**ug/L**
129-00-0	Pyrene	0.050U	0.025	0.050	0.100	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5	3.63	ug/L	73	55 - 111
321-60-8	2-Fluorobiphenyl	5	3.57	ug/L	71	53 - 106
1718-51-0	Terphenyl-d14	5	4.59	ug/L	92	58 - 132

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/05/2015 10:48	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	**Gasoline Range Organics**	**28.6J**	**11.2**	**40.0**	**100**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	22	ug/L	73	49 - 136

Sample Results

B398HDW01-2Q15

Collect Date	04/22/2015 09:00	**GCAL ID**	21504234115
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 15:59	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	**Diesel Range Organics**	**169**	**44.9**	**80.0**	**125**	**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	50	32.5	ug/L	65	56 - 125

EB042215

Collect Date	04/22/2015 11:15	**GCAL ID**	21504234116
Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 16:26	CJR	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	**Benzene**	**0.882J**	**0.200**	**0.500**	**1.00**	**ug/L**
100-41-4	Ethylbenzene	0.500U	0.200	0.500	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	49.7	ug/L	99	75 - 120
1868-53-7	Dibromofluoromethane	50	52.3	ug/L	105	85 - 115
2037-26-5	Toluene d8	50	52.6	ug/L	105	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	51.4	ug/L	103	70 - 120

EPA 8270D SIM

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 17:04	TKH2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
91-57-6	2-Methylnaphthalene	0.105U	0.042	0.105	0.105	ug/L
83-32-9	Acenaphthene	0.053U	0.013	0.053	0.105	ug/L
208-96-8	Acenaphthylene	0.105U	0.042	0.105	0.105	ug/L
120-12-7	Anthracene	0.105U	0.042	0.105	0.105	ug/L
56-55-3	Benzo(a)anthracene	0.053U	0.026	0.053	0.105	ug/L
50-32-8	Benzo(a)pyrene	0.053U	0.013	0.053	0.105	ug/L
205-99-2	Benzo(b)fluoranthene	0.053U	0.013	0.053	0.105	ug/L
191-24-2	Benzo(g,h,i)perylene	0.053U	0.013	0.053	0.105	ug/L
207-08-9	Benzo(k)fluoranthene	0.053U	0.026	0.053	0.105	ug/L
218-01-9	Chrysene	0.053U	0.026	0.053	0.105	ug/L
206-44-0	Fluoranthene	0.053U	0.013	0.053	0.105	ug/L
86-73-7	Fluorene	0.105U	0.042	0.105	0.105	ug/L

Sample Results

EB042215	**Collect Date**	04/22/2015 11:15	**GCAL ID**	21504234116
	Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8270D SIM (Continued)

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/25/2015 09:00	556921	EPA 3510C	1	04/29/2015 17:04	TKH2	557272

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
193-39-5	Indeno(1,2,3-cd)pyrene	0.053U	0.013	0.053	0.105	ug/L
91-20-3	Naphthalene	0.053U	0.013	0.053	0.105	ug/L
85-01-8	Phenanthrene	0.053U	0.013	0.053	0.105	ug/L
129-00-0	Pyrene	0.053U	0.026	0.053	0.105	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
4165-60-0	Nitrobenzene-d5	5.26	4.06	ug/L	77	55 - 111
321-60-8	2-Fluorobiphenyl	5.26	3.93	ug/L	75	53 - 106
1718-51-0	Terphenyl-d14	5.26	5.25	ug/L	100	58 - 132

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/05/2015 01:04	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	Gasoline Range Organics	40.0U	11.2	40.0	100	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	21	ug/L	70	49 - 136

EPA 8015C

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
04/24/2015 18:45	556925	EPA 3510C	1	04/27/2015 16:12	SDD	557127

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
GCSV-00-4	Diesel Range Organics	81.6U	45.8	81.6	128	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	51	32.5	ug/L	64	56 - 125

Sample Results

TB042215	**Collect Date**	04/22/2015 11:00	**GCAL ID**	21504234117
	Receive Date	04/23/2015 10:30	**Matrix**	Water

EPA 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	04/28/2015 16:47	CJR	557142

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
71-43-2	Benzene	0.500U	0.200	0.500	1.00	ug/L
100-41-4	Ethylbenzene	0.500U	0.200	0.500	1.00	ug/L
1634-04-4	tert-Butyl methyl ether (MTBE)	0.500U	0.200	0.500	1.00	ug/L
108-88-3	Toluene	0.500U	0.200	0.500	1.00	ug/L
1330-20-7	Xylene (total)	1.00U	0.400	1.00	3.00	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	50	48.7	ug/L	97	75 - 120
1868-53-7	Dibromofluoromethane	50	52.9	ug/L	106	85 - 115
2037-26-5	Toluene d8	50	52.5	ug/L	105	85 - 120
17060-07-0	1,2-Dichloroethane-d4	50	52.1	ug/L	104	70 - 120

EPA 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	05/05/2015 01:13	JAR	557589

CAS#	Parameter	Result	MDL	LOD	LOQ	Units
8006-61-9	Gasoline Range Organics	40.0U	11.2	40.0	100	ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	30	21.7	ug/L	72	49 - 136

GC/MS Volatiles QC Summary

Analytical Batch 557021	Client ID	MB557021		LCS557021				LCSD557021				
	GCAL ID	1438313		1438314				1438315				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/25/2015 13:33		04/25/2015 12:07				04/25/2015 12:28				
	Matrix	Water		Water				Water				
EPA 8260B		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1-Dichloroethene	75-35-4	0.500U	0.500	50.0	45.6	91	70 - 130	50.0	44.1	88	3	30
Benzene	71-43-2	0.500U	0.500	50.0	51.2	102	80 - 120	50.0	50.2	100	2	30
Chlorobenzene	108-90-7	0.500U	0.500	50.0	50.1	100	80 - 120	50.0	49.3	99	2	30
Ethylbenzene	100-41-4	0.500U	0.500	50.0	52.6	105	75 - 125	50.0	51.5	103	2	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.500U	0.500	50.0	52.4	105	65 - 125	50.0	53.5	107	2	30
Toluene	108-88-3	0.500U	0.500	50.0	49.1	98	75 - 120	50.0	48.0	96	2	30
Trichloroethene	79-01-6	0.500U	0.500	50.0	50.0	100	70 - 125	50.0	48.5	97	3	30
Xylene (total)	1330-20-7	1.00U	1.00	150	154	103	75 - 130	150	150	100	3	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	49.8	100	50	49.4	99	70 - 120	50	49	98	1	NA
4-Bromofluorobenzene	460-00-4	50.3	101	50	50.8	102	75 - 120	50	50.5	101	1	NA
Dibromofluoromethane	1868-53-7	49.5	99	50	49.9	100	85 - 115	50	48.9	98	2	NA
Toluene d8	2037-26-5	51.6	103	50	50.7	101	85 - 120	50	50.1	100	1	NA

Analytical Batch 557021	Client ID	B398GMW01-2Q15		B398GMW01-2Q15 MS				B398GMW01-2Q15 MSD				
	GCAL ID	21504234102		21504234103				21504234104				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/25/2015 16:11		04/25/2015 18:06				04/25/2015 18:27				
	Matrix	Water		Water				Water				
EPA 8260B		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Benzene	71-43-2	681	5.00	500	1160	96	80 - 120	500	1110	86	4	30
Ethylbenzene	100-41-4	77.6	5.00	500	619	108	75 - 125	500	593	103	4	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.00	5.00	500	532	106	65 - 125	500	533	107	0	30
Toluene	108-88-3	0.00	5.00	500	497	99	75 - 120	500	475	95	5	30
Xylene (total)	1330-20-7	124	10.0	1500	1710	106	75 - 130	1500	1630	100	5	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	492	98	500	478	96	70 - 120	500	479	96	0	NA
4-Bromofluorobenzene	460-00-4	545	109	500	510	102	75 - 120	500	513	103	1	NA
Dibromofluoromethane	1868-53-7	479	96	500	482	96	85 - 115	500	480	96	0	NA
Toluene d8	2037-26-5	515	103	500	511	102	85 - 120	500	507	101	1	NA

Analytical Batch 557142	Client ID	MB557142		LCS557142				LCSD557142				
	GCAL ID	1438974		1438975				1438976				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	04/28/2015 11:04		04/28/2015 09:16				04/28/2015 09:39				
	Matrix	Water		Water				Water				
EPA 8260B		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
1,1-Dichloroethene	75-35-4	0.500U	0.500	50.0	54.9	110	70 - 130	50.0	54.2	108	1	30
Benzene	71-43-2	0.500U	0.500	50.0	52.8	106	80 - 120	50.0	52.5	105	1	30
Chlorobenzene	108-90-7	0.500U	0.500	50.0	53.8	108	80 - 120	50.0	53.6	107	0	30
Ethylbenzene	100-41-4	0.500U	0.500	50.0	58.3	117	75 - 125	50.0	58.4	117	0	30
tert-Butyl methyl ether (MTBE)	1634-04-4	0.500U	0.500	50.0	53.7	107	65 - 125	50.0	52.5	105	2	30
Toluene	108-88-3	0.500U	0.500	50.0	53.9	108	75 - 120	50.0	53.3	107	1	30
Trichloroethene	79-01-6	0.500U	0.500	50.0	53.7	107	70 - 125	50.0	53.6	107	0	30
Xylene (total)	1330-20-7	1.00U	1.00	150	160	107	75 - 130	150	159	106	1	30
Surrogate												
1,2-Dichloroethane-d4	17060-07-0	51.4	103	50	48.9	98	70 - 120	50	49.3	99	1	NA
4-Bromofluorobenzene	460-00-4	49.2	98	50	50.2	100	75 - 120	50	50.5	101	1	NA
Dibromofluoromethane	1868-53-7	52.1	104	50	50.6	101	85 - 115	50	50.8	102	0	NA
Toluene d8	2037-26-5	52.8	106	50	48.3	97	85 - 120	50	48.8	98	1	NA

GC/MS Semi-Volatiles QC Summary

Analytical Batch	Client ID	MB556921		LCS556921				LCSD556921				
557272	GCAL ID	1437539		1437540				1437541				
Prep Batch	Sample Type	MB		LCS				LCSD				
556921	Prep Date	04/25/2015 09:00		04/25/2015 09:00				04/25/2015 09:00				
Prep Method	Analysis Date	04/29/2015 11:30		04/29/2015 11:48				04/29/2015 12:07				
EPA 3510C	Matrix	Water		Water				Water				
EPA 8270D SIM		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
2-Methylnaphthalene	91-57-6	0.100U	0.100	5.00	4.30	86	39 - 114	5.00	4.53	91	5	30
Acenaphthene	83-32-9	0.050U	0.050	5.00	3.96	79	48 - 114	5.00	4.11	82	4	30
Acenaphthylene	208-96-8	0.100U	0.100	5.00	4.39	88	35 - 121	5.00	4.56	91	4	30
Anthracene	120-12-7	0.100U	0.100	5.00	4.60	92	53 - 119	5.00	4.84	97	5	30
Benzo(a)anthracene	56-55-3	0.050U	0.050	5.00	4.53	91	59 - 120	5.00	4.76	95	5	30
Benzo(a)pyrene	50-32-8	0.050U	0.050	5.00	5.34	107	53 - 120	5.00	5.63	113	5	30
Benzo(b)fluoranthene	205-99-2	0.050U	0.050	5.00	5.46	109	53 - 126	5.00	5.75	115	5	30
Benzo(g,h,i)perylene	191-24-2	0.050U	0.050	5.00	4.95	99	44 - 128	5.00	5.20	104	5	30
Benzo(k)fluoranthene	207-08-9	0.050U	0.050	5.00	5.49	110	54 - 125	5.00	5.31	106	3	30
Chrysene	218-01-9	0.050U	0.050	5.00	4.85	97	57 - 120	5.00	5.10	102	5	30
Fluoranthene	206-44-0	0.050U	0.050	5.00	4.99	100	58 - 120	5.00	5.25	105	5	30
Fluorene	86-73-7	0.100U	0.100	5.00	2.98	60	50 - 118	5.00	3.12	62	5	30
Indeno(1,2,3-cd)pyrene	193-39-5	0.050U	0.050	5.00	5.01	100	48 - 130	5.00	5.27	105	5	30
Naphthalene	91-20-3	0.050U	0.050	5.00	3.98	80	43 - 114	5.00	4.13	83	4	30
Phenanthrene	85-01-8	0.050U	0.050	5.00	4.27	85	53 - 115	5.00	4.48	90	5	30
Pyrene	129-00-0	0.050U	0.050	5.00	4.68	94	53 - 121	5.00	4.87	97	4	30
Surrogate												
2-Fluorobiphenyl	321-60-8	3.36	67	5	3.78	76	53 - 106	5	3.91	78	3	NA
Nitrobenzene-d5	4165-60-0	3.69	74	5	3.83	77	55 - 111	5	3.79	76	1	NA
Terphenyl-d14	1718-51-0	5.12	102	5	5.03	101	58 - 132	5	5.22	104	4	NA

Analytical Batch	Client ID	B398GMW01-2Q15		B398GMW01-2Q15 MS				B398GMW01-2Q15 MSD				
557475	GCAL ID	21504234102		21504234103				21504234104				
Prep Batch	Sample Type	SAMPLE		MS				MSD				
556921	Prep Date	04/25/2015 09:00		04/25/2015 09:00				04/25/2015 09:00				
Prep Method	Analysis Date	04/30/2015 21:04		04/30/2015 21:23				04/30/2015 21:41				
EPA 3510C	Matrix	Water		Water				Water				
EPA 8270D SIM		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
2-Methylnaphthalene	91-57-6	21.8	2.00	5.00	27.9	**122***	39 - 114	5.26	37.1	**291***	28	30
Acenaphthene	83-32-9	0.00	1.00	5.00	4.62	92	48 - 114	5.26	5.26	100	13	30
Acenaphthylene	208-96-8	0.00	2.00	5.00	4.77	95	35 - 121	5.26	5.49	104	14	30
Anthracene	120-12-7	0.00	2.00	5.00	5.46	109	53 - 119	5.26	5.63	107	3	30
Benzo(a)anthracene	56-55-3	0.00	1.00	5.00	4.37	87	59 - 120	5.26	4.66	89	6	30
Benzo(a)pyrene	50-32-8	0.00	1.00	5.00	3.41	68	53 - 120	5.26	2.76	**52***	21	30
Benzo(b)fluoranthene	205-99-2	0.00	1.00	5.00	4.58	92	53 - 126	5.26	4.66	89	2	30
Benzo(g,h,i)perylene	191-24-2	0.00	1.00	5.00	2.40	48	44 - 128	5.26	1.96	**37***	20	30
Benzo(k)fluoranthene	207-08-9	0.00	1.00	5.00	4.76	95	54 - 125	5.26	4.66	89	2	30
Chrysene	218-01-9	0.00	1.00	5.00	5.32	106	57 - 120	5.26	5.59	106	5	30
Fluoranthene	206-44-0	0.00	1.00	5.00	5.54	111	58 - 120	5.26	5.91	112	6	30
Fluorene	86-73-7	0.00	2.00	5.00	3.52	70	50 - 118	5.26	3.96	75	12	30
Indeno(1,2,3-cd)pyrene	193-39-5	0.00	1.00	5.00	1.80	**36***	48 - 130	5.26	1.36	**26***	28	30
Naphthalene	91-20-3	86.4	1.00	5.00	92.5	**122***	43 - 114	5.26	112	**486***	19	30
Phenanthrene	85-01-8	0.00	1.00	5.00	4.98	100	53 - 115	5.26	5.37	102	8	30
Pyrene	129-00-0	0.00	1.00	5.00	5.21	104	53 - 121	5.26	5.55	105	6	30
Surrogate												
2-Fluorobiphenyl	321-60-8	4.16	83	5	4.23	85	53 - 106	5.26	4.89	93	14	NA
Nitrobenzene-d5	4165-60-0	4.04	81	5	3.86	77	55 - 111	5.26	4.55	86	16	NA
Terphenyl-d14	1718-51-0	5.02	100	5	5.13	103	58 - 132	5.26	5.55	105	8	NA

GC Volatiles QC Summary

Analytical Batch 557589	Client ID	MB557589		LCS557589			
	GCAL ID	1441358		1441359			
	Sample Type	MB		LCS			
	Prep Date	NA		NA			
	Analysis Date	05/04/2015 19:42		05/04/2015 19:29			
	Matrix	Water		Water			
EPA 8015C GRO		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R
Gasoline Range Organics	8006-61-9	40.0U	40.0	500	442	88	70 - 128
Surrogate							
Bromochlorobenzene	106-39-8	22.2	74	30	26.3	88	49 - 136

Analytical Batch 557589	Client ID	B398GMW01-2Q15		B398GMW01-2Q15 MS				B398GMW01-2Q15 MSD				
	GCAL ID	21504234102		21504234103				21504234104				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	05/04/2015 21:05		05/04/2015 21:56				05/04/2015 22:13				
	Matrix	Water		Water				Water				
EPA 8015C GRO		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Gasoline Range Organics	8006-61-9	3070	400	5000	7060	80	70 - 128	5000	6820	75	3	40
Surrogate												
Bromochlorobenzene	106-39-8	206	69	300	234	78	49 - 136	300	273	91	15	NA

GC Semi-Volatiles QC Summary

Analytical Batch	Client ID	MB556925		LCS556925				LCSD556925				
557127	GCAL ID	1437552		1437553				1437554				
Prep Batch	Sample Type	MB		LCS				LCSD				
556925	Prep Date	04/24/2015 18:45		04/24/2015 18:45				04/24/2015 18:45				
Prep Method	Analysis Date	04/27/2015 08:28		04/27/2015 08:43				04/27/2015 08:57				
EPA 3510C	Matrix	Water		Water				Water				
EPA 8015C		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Diesel Range Organics	GCSV-00-4	80.0U	80.0	1000	637	64	36 - 132	1000	670	67	5	40
Surrogate												
o-Terphenyl	84-15-1	30.1	60	50	33.2	66	56 - 125	50	35.6	71	7	NA

Analytical Batch	Client ID	B398GMW01-2Q15		B398GMW01-2Q15 MS				B398GMW01-2Q15 MSD				
557127	GCAL ID	21504234102		21504234103				21504234104				
Prep Batch	Sample Type	SAMPLE		MS				MSD				
556925	Prep Date	04/24/2015 18:45		04/24/2015 18:45				04/24/2015 18:45				
Prep Method	Analysis Date	04/27/2015 11:32		04/27/2015 13:20				04/27/2015 13:32				
EPA 3510C	Matrix	Water		Water				Water				
EPA 8015C		Units Result	ug/L LOD	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Diesel Range Organics	GCSV-00-4	973	80.0	1000	1700	73	36 - 132	1000	1630	65	5	40
Surrogate												
o-Terphenyl	84-15-1	30.9	62	50	34	68	56 - 125	50	31.6	63	7	NA

Client ID: 4841 - Resolution Consultants
SDG: 215042341
Due Date: 05/05/15

RESOLUTION CONSULTANTS

CHAIN OF CUSTODY AND ANALYTICAL

Page 1 of 2

Project Name: Building 398 | Project No. 0888812902 | Phase FI TS

Site Location: NCBC Gulfport, MS

CTO No. JM35 | RC Project Manager: Dave Felter

Sampler/Site Phone# Kim L. Gierstäger / (601) 519-2420

Lab Name: GCAL, Baton Rouge, LA | Turnaround Time(specify): Routine

sted (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	TPH-DRO (8015B)	TPH-GRO (8015B)	PAH (8270D)	BTEX & MTBE (8260B)							Extra Volume for MS/MSD	HOLD
								(3)→		HA		HA								
	B398GDW01-2Q15		4-22-15	0900	WG	N	N	9	X	X	X	X								-01
	B398GMW01-2Q15		4-21-15	1505	WG	N	N	27	X	X	X	X							X	-02,03,
	B398GMW02-2Q15		4-21-15	1755	WG	N	N	9	X	X	X	X								-05 04
	B398GMW03-2Q15		4-22-15	1055	WG	N	N	9	X	X	X	X								-06
	B398GMW04-2Q15		4-21-15	1900	WG	N	N	9	X	X	X	X								-07
	~~B398GMW05-2Q15~~		—	—	~~WG~~	~~N~~	~~N~~	~~9~~	~~X~~	~~X~~	~~X~~	~~X~~								
	B398GMW06-2Q15		4-21-15	1740	WG	N	N	9	X	X	X	X								-08
	B398GMW07-2Q15		4-21-15	1900	WG	N	N	9	X	X	X	X								-09
	B398GMW08-2Q15		4-21-15	1700	WG	N	N	9	X	X	X	X								-10
	B398GMW09-2Q15		4-22-15	0855	WG	N	N	9	X	X	X	X								-11
	B398GMW10-2Q15		4-22-15	0955	WG	N	N	9	X	X	X	X								-12
	B398GMW11-2Q15		4-22-15	1005	WG	N	N	9	X	X	X	X								-13

***Field* Comments:**

***Lab* Comments:** 244458,2 E24
4.4, 4.0, 4.3, 2.9, 4.8, 2.2, 6.0, 5.5, 5.8

Sample Shipment and Delivery Details
Number of coolers in shipment:

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1 [signature]	4-22-15	1600	1		
2 FedEx	4/23/15	10:30	2 [signature]	4/23/15	10:30
3			3		

Samples Iced?(check) Yes X No
Method of Shipment: FedEx
Airbill No: 807782302213
Date Shipped: 4-22-15

(1) **AA**=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water
(2) **Sample Type: AB**=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk
(3) **Preservative added: HA**=Hydrochloric Acid, **NI**=Nitric Acid, **SH**=Sodium Hydroxide, **SA**=Sulfuric Acid, **ME**=Methanol, **SB**=sodium bisulfate, **ST**=Sodium Thiosulfate. If **NO preservative** added leave blank **Rev 5/12**

RESOLUTION CONSULTANTS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No.

Page 2 of 2

Project Name: Building 398

PO No.

Project No. 0888812902 Phase FI TS

Site Location: NCBC Gulfport, MS

CTO No. JM35 RC Project Manager: Dave Felter

Sampler/Site Phone# Kirk L. Berringer / 601-519-2420

Lab Name: GCAL, Baton Rouge, LA Turnaround Time(specify): Routine

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	TPH-DRO (3015B)	TPH-GRO (3015B)	PAH (8270D)	BTEX & MTBE (8260B)							Extra Volume for MS/MSD	HOLD
	(3)→									HA		HA								
	B398GMW12-2Q15		4-21-15	1512	WG	N	N	9	X	X	X	X							-14	
	B398HDW01-2Q15		4-22-15	0900	WG	FD	N	9	X	X	X	X							-15	
	~~B398HMW05-2Q15~~				~~WG~~	~~FD~~	~~N~~	~~9~~	~~X~~	~~X~~	~~X~~	~~X~~							~~-16~~	
	EB042215 ~~EB041515~~		4-22-15	11:15	WQ	EB	N	9	X	X	X	X							-16	
	TB042215 ~~TB041515-1~~		4-22-15	1100	WQ	TB	N	3		X		X							-17	
	~~TB041515-2~~				~~WQ~~	~~TB~~	~~N~~	~~3~~		~~X~~		~~X~~								
	~~TB041515-3~~				~~WQ~~	~~TB~~	~~N~~	~~3~~		~~X~~		~~X~~								

Client ID: 4841 - Resolution Consultants

SDG: 215042341

Due Date: 05/05/15

***Field* Comments:**

***Lab* Comments:** E24

4.4, 4.6, 4.3, 2.9, 4.8, 2.2, 6.0, 5.5, 5.8

Sample Shipment and Delivery Details

Number of coolers in shipment:

Samples Iced?(check) Yes X No

Method of Shipment: FedEx

Airbill No: 8077 8230 2213

Date Shipped: 4-22-15

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1 [signature]	4-22-15	1600	1		
2 FedEx	4/23/15	1030	2 [signature]	4/23/15	10:30
3			3		

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: HA=Hydrochloric Acid, **NI**=Nitric Acid, **SH**=Sodium Hydroxide, **SA**=Sulfuric Acid, **ME**=Methanol, **SB**=sodium bisulfate, **ST**=Sodium Thiosulfate, If **NO preservative** added leave blank

Rev 5/12

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

^215042341^

SAMPLE DELIVERY GROUP 215042341

Client 4841 - Resolution Consultants	**Transport Method** FEDEX
Profile Number 244458	**Received By** Naquin, Allison
Line Item(s) 2 - Water	**Receive Date(s)** 04/23/15

CHECKLIST	YES	NO	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☑	☐	☐
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☐	☑	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☐	☑	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☐	☑	☐

COOLERS

Airbill	Thermometer ID: E24	Temp(°C)
8077 8230 2213		4.4
		4.6
		4.3
		2.9
		4.8
		2.2
		6.0
		5.5
		5.8

DISCREPANCIES

Broken Container (Container 2 - Unassigned):
21504234113 - B398GMW11-2Q15
Broken Container (Container 9 - Unassigned):
21504234101 - B398GDW01-2Q15
21504234113 - B398GMW11-2Q15
21504234115 - B398HDW01-2Q15
Sample Discrepancy:
21504234110 - B398GMW08-2Q15
21504234114 - B398GMW12-2Q15

LAB PRESERVATIONS

None

NOTES SAMPLE TIME DISCREPANCY SAMPLES 21504234110 AND 21504234114; SAMPLE ID DISCREPANCY 21504234114

Revision 1.4

Page 1 of 1

Appendix E
Aerostar 2009 Groundwater Summary Table

TABLE 4
GROUNDWATER ANALYTICAL SUMMARY
6/16 & 7/1 /2009

Sample ID			MW-1	MW-2	MW-3	MW-4	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	DW-1
FIELD DATA														
Date Well Sampled			7/1/2009	7/1/2009	7/1/2009	6/16/2009	6/16/2009	6/16/2009	6/16/2009	6/16/2009	6/16/2009	6/16/2009	6/16/2009	6/16/2009
LABORATORY ANALYSES	Units	MDEQ TIER 1 TRG												
Volatile Organic Aromatics (Method 8260B)														
Total BTEX	mg/L	NA	0.0785	BDL	0.228	0.00202	0.12318	0.00267	2.87	4.13	0.46785	0.08172	1.22621	10.924
Benzene	mg/L	0.005	0.044	<0.0000747	0.217	0.00101 J	0.00818	0.00145 J	1.52	2.82	0.053	0.00772	1.05	0.359 J
Toluene	mg/L	1.0	<0.000082	<0.000082	<0.000082	<0.0000820	0.048	<0.0000820	0.021 J	<0.00410	0.00865 J	<0.000820	0.00321 J	0.824
Ethylbenzene	mg/L	0.70	0.03	<0.0000522	<0.0000522	0.00101 J	0.013	0.00122 J	0.089 J	1.31	0.270	0.049	0.13	1.31
Total Xylenes	mg/L	10.0	0.00450 J	<0.000334	0.011	<0.000334	0.056	<0.000334	1.04	<0.017	0.093	0.025	0.043 J	8.36
Methyl T-Butyl Ether	mg/L	0.04	0.00184 J	<0.0000972	0.00603	<0.0000972	<0.0000972	0.000262 J	<0.00194	<0.00486	0.00649	0.00512	<0.000972	<0.00972
Polynuclear Aromatic Hydrocarbons (Method 8270C)														
Total PAHs	mg/L	NA	0.0103	0.00636	0.008413	0.001874	0.015274	0.002408	0.296968	0.098	0.01443	0.006411	0.04075	0.244271
Acenaphthene	mg/L	0.365	<0.000168	0.00198 J	<0.00017	0.000378 J	0.00366 J	<0.000168	0.000906 J	<0.000168	<0.000168	<0.000168	<0.000168	0.000776 J
Acenaphthylene	mg/L	2.190	<0.000126	<0.000126	<0.000128	<0.000126	<0.000126	<0.000126	<0.000126	<0.000126	<0.000126	<0.000126	<0.000126	<0.000126
Anthracene	mg/L	0.0434	<0.000122	<0.000122	<0.000124	<0.000122	0.000499 J	<0.000122	<0.000122	<0.000122	<0.000122	<0.000122	<0.000122	<0.000122
Benzo(a)anthracene	mg/L	0.0000917	<0.0000781	<0.0000781	<0.0000789	<0.0000781	<0.0000781	<0.0000781	<0.0000781	<0.0000781	<0.0000781	<0.0000781	<0.0000781	<0.0000781
Benzo(a)pyrene	mg/L	0.0002	<0.0000885	<0.0000885	<0.0000894	<0.0000885	<0.0000885	<0.0000885	<0.0000885	<0.0000885	<0.0000885	<0.0000885	<0.0000885	<0.0000885
Benzo(b)fluoranthene	mg/L	0.0000917	<0.0000794	<0.0000794	<0.0000802	<0.0000794	<0.0000794	<0.0000794	<0.0000794	<0.0000794	<0.0000794	<0.0000794	<0.0000794	<0.0000794
Benzo(g,h,i)perylene	mg/L	1.1	<0.0000873	<0.0000873	<0.0000882	<0.0000873	<0.0000873	<0.0000873	<0.0000873	<0.0000873	<0.0000873	<0.0000873	<0.0000873	<0.0000873
Benzo(k)fluoranthene	mg/L	0.000917	<0.0000823	<0.0000823	<0.0000831	<0.0000823	<0.0000823	<0.0000823	<0.0000823	<0.0000823	<0.0000823	<0.0000823	<0.0000823	<0.0000823
Chrysene	mg/L	0.00917	<0.00021	<0.00021	<0.000213	<0.000210	<0.000210	<0.000210	<0.000210	<0.000210	<0.000210	<0.000210	<0.000210	<0.000210
Dibenzo(a,h)anthracene	mg/L	0.00000917	<0.000155	<0.000155	<0.000157	<0.000155	<0.000155	<0.000155	<0.000155	<0.000155	<0.000155	<0.000155	<0.000155	<0.000155
Fluoranthene	mg/L	1.46	<0.0000829	<0.0000829	<0.0000837	<0.0000829	0.000313 J	<0.0000829	<0.0000829	<0.0000829	<0.0000829	<0.0000829	<0.0000829	<0.0000829
Fluorene	mg/L	0.243	<0.000146	0.0011 J	<0.000148	<0.000146	0.00227 J	<0.000146	0.000822 J	<0.000146	<0.000146	<0.000146	<0.000146	0.000495 J
Indeno(1,2,3-cd)pyrene	mg/L	0.0000917	<0.000163	<0.000163	<0.000165	<0.000163	<0.000163	<0.000163	<0.000163	<0.000163	<0.000163	<0.000163	<0.000163	<0.000163
Naphthalene	mg/L	0.0062	0.00589 J	<0.00023	0.00811 J	0.000597 J	0.00125 J	0.00219 J	0.141	0.071	0.011	0.00574 J	0.002	0.136
Phenanthrene	mg/L	1.1	<0.0000875	0.000664 J	<0.0000884	<0.0000875	0.00134 J	<0.0000875	0.000240 J	<0.0000875	<0.0000875	<0.0000875	<0.0000875	0.000158 J
Pyrene	mg/L	0.183	<0.0000915	<0.0000915	<0.0000924	<0.0000915	0.000202 J	<0.0000915	<0.0000915	<0.0000915	<0.0000915	<0.0000915	<0.0000915	<0.0000915
1-Methylnaphthalene	mg/L	NA	0.00148 J	0.002 J	<0.000377	0.000463 J	0.00382 J	0.000110 J	0.068	0.011	0.00189 J	0.000438 J	0.00402 J	0.051
2-Methylnaphthalene	mg/L	0.122	0.000293 J	0.000616 J	0.000303 J	0.000436 J	0.00192 J	0.000108 J	0.086	0.016	0.00154 J	0.000233 J	0.00473 J	0.066
Petroleum Range Organics (Method 8015M)														
Gasoline Range Organics	mg/L	0.350	0.468	0.188	0.217	0.046 J	0.225	0.047 J	4.15	7.20	0.847	0.260	1.01	18.4
Diesel Range Organics	mg/L	0.650	0.771	0.579	0.276	0.096 J	0.650	0.209	3.38	1.76	0.322	0.254	0.218	4.83

Notes:

All results in milligrams per kilogram (mg/kg)

NA = Not Analyzed / Applicable

TRG = Target Remediation Goals

MDEQ = Mississippi Department of Environmental Quality

Exceedances above the remediation goals are in red

J = Estimated value between the RDL and MDL

BDL = Below Detection Limits

Appendix F
ORC Material Safety Data Sheet

Oxygen Release Compound – Advanced (ORC *Advanced*™)
MATERIAL SAFETY DATA SHEET (MSDS)

Last Revised: October 30, 2013

Section 1 - Material Identification

Supplier:

REGENESIS

1011 Calle Sombra
San Clemente, CA 92673

Phone:	**949.366.8000**
Fax:	**949.366.8090**
E-mail:	**info@regenesis.com**

Chemical Description:	A mixture of Calcium OxyHydroxide [$CaO(OH)_2$] and Calcium Hydroxide [$Ca(OH)_2$].
Chemical Family:	Inorganic Chemical
Trade Name:	Advanced Formula Oxygen Release Compound (ORC *Advanced*™)
Chemical Synonyms	Calcium Hydroxide Oxide; Calcium Oxide Peroxide; Calcium Oxy-Hydroxide; Calcium Oxyhydroxide
Product Use:	Used to remediate contaminated soil and groundwater (environmental applications)

Section 2 – Composition

CAS No.	Chemical
682334-66-3	**Calcium Hydroxide Oxide [$CaO(OH)_2$]**
1305-62-0	**Calcium Hydroxide [$Ca(OH)_2$]**
7758-11-4	**Dipotassium Phosphate (HK_2O_4P)**
7778-77-0	**Monopotassium Phosphate (H_2KO_4P)**

Section 3 – Physical Data	
Form:	Powder
Color:	White to Pale Yellow
Odor:	Odorless
Melting Point:	527 °F (275 °C) – Decomposes
Boiling Point:	Not Applicable (NA)
Flammability/Flash Point:	NA
Auto- Flammability:	NA
Vapor Pressure:	NA
Self-Ignition Temperature:	NA
Thermal Decomposition:	527 °F (275 °C) – Decomposes
Bulk Density:	0.5 – 0.65 g/ml (Loose Method)
Solubility:	1.65 g/L @ 68° F (20° C) for calcium hydroxide.
Viscosity:	NA
pH:	11-13 (saturated solution)
Explosion Limits % by Volume:	Non-explosive
Hazardous Decomposition Products:	Oxygen, Hydrogen Peroxide, Steam, and Heat
Hazardous Reactions:	None

Section 4 – Reactivity Data

Stability:	Stable under certain conditions (see below).
Conditions to Avoid:	Heat and moisture.
Incompatibility:	Acids, bases, salts of heavy metals, reducing agents, and flammable substances.
Hazardous Polymerization:	Does not occur.

Section 5 – Regulations

TSCA Inventory List:	Listed

CERCLA Hazardous Substance (40 CFR Part 302)

Listed Substance:	No
Unlisted Substance:	Yes
Reportable Quantity (RQ):	100 pounds
Characteristic(s):	Ignitibility
RCRA Waste Number:	D001

SARA, Title III, Sections 302/303 (40 CFR Part 355 – Emergency Planning and Notification)

Extremely Hazardous Substance:	No

SARA, Title III, Sections 311/312 (40 CFR Part 370 – Hazardous Chemical Reporting: Community Right-To-Know

Hazard Category:	Immediate Health Hazard Fire Hazard
Threshold Planning Quantity:	10,000 pounds

Section 5 – Regulations (cont)

SARA, Title III, Section 313 (40 CFR Part 372 – Toxic Chemical Release Reporting: Community Right-To-Know

Extremely Hazardous Substance:	No	
WHMIS Classification:	C	Oxidizing Material Poisonous and Infectious Material
	D	Material Causing Other Toxic Effects – Eye and Skin Irritant
Canadian Domestic Substance List:	Not Listed	

Section 6 – Protective Measures, Storage and Handling

Technical Protective Measures

Storage:	Keep in tightly closed container. Store in dry area, protected from heat sources and direct sunlight.
Handling:	Clean and dry processing pipes and equipment before operation. Never return unused product to the storage container. Keep away from incompatible products. Containers and equipment used to handle this product should be used exclusively for this material. Avoid contact with water or humidity.

Section 6 – Protective Measures, Storage and Handling (cont)

Personal Protective Equipment (PPE)

Engineering Controls:	Calcium Hydroxide ACGIH® TLV® (2000) 5 mg/m^3 TWA OSHA PEL Total dust–15 mg/m^3 TWA Respirable fraction– 5 mg/m^3 TWA NIOSH REL (1994) 5 mg/m^3
Respiratory Protection:	For many conditions, no respiratory protection may be needed; however, in dusty or unknown atmospheres use a NIOSH approved dust respirator.
Hand Protection:	Impervious protective gloves made of nitrile, natural rubbber or neoprene.
Eye Protection:	Use chemical safety goggles (dust proof).
Skin Protection:	For brief contact, few precautions other than clean clothing are needed. Full body clothing impervious to this material should be used during prolonged exposure.
Other:	Safety shower and eyewash stations should be present. Consultation with an industrial hygienist or safety manager for the selection of PPE suitable for working conditions is suggested.
Industrial Hygiene:	Avoid contact with skin and eyes.
Protection Against Fire & Explosion:	NA

Section 7 – Hazards Identification

Emergency Overview:	Oxidizer – Contact with combustibles may cause a fire. This material decomposes and releases oxygen in a fire. The additional oxygen may intensify the fire.
Potential Health Effects:	Irritating to the mucous membrane and eyes. If the product splashes in ones face and eyes, treat the eyes first. Do not dry soiled clothing close to an open flame or heat source. Any

	clothing that has been contaminated with this product should be submerged in water prior to drying.
Inhalation:	High concentrations may cause slight nose and throat irritation with a cough. There is risk of sore throat and nose bleeds if one is exposed to this material for an extended period of time.
Eye Contact:	Severe eye irritation with watering and redness. There is also the risk of serious and/or permanent eye lesions.
Skin Contact:	Irritation may occur if one is exposed to this material for extended periods.
Ingestion:	Irritation of the mouth and throat with nausea and vomiting.

Section 8 – Measures in Case of Accidents and Fire

After Spillage/Leakage/Gas Leakage:	Collect in suitable containers. Wash remainder with copious quantities of water.
Extinguishing Media:	See next.
Suitable:	Large quantities of water or water spray. In case of fire in close proximity, all means of extinguishing are acceptable.
Further Information:	Self contained breathing apparatus or approved gas mask should be worn due to small particle size. Use extinguishing media appropriate for surrounding fire. Apply cooling water to sides of transport or storage vessels that are exposed to flames until the fire is extinguished. Do not approach hot vessels that contain this product.
First Aid:	After contact with skin, wash immediately with plenty of water and soap. In case of contact with eyes, rinse immediately with plenty of water and seek medical attention. Consult an opthalmologist in all cases.

Section 8 – Measures in Case of Accidents and Fire

Eye Contact:	Flush eyes with running water for 15 minutes, while keeping the eyelids wide open. Consult with an ophthalmologist in all cases.
Inhalation:	Remove subject from dusty environment. Consult with a physician in case of respiratory symptoms.

Ingestion:	If the victim is conscious, rinse mouth and admnister fresh water. DO NOT induce vomiting. Consult a physician in all cases.
Skin Contact:	Wash affected skin with running water. Remove and clean clothing. Consult with a physician in case of persistent pain or redness.
Special Precautions:	Evacuate all non-essential personnel. Intervention should only be done by capable personnel that are trained and aware of the hazards associated with this product. When it is safe, unaffected product should be moved to safe area.
Specific Hazards:	Oxidizing substance. Oxygen released on exothermic decomposition may support combustion. Confined spaces and/or containers may be subject to increased pressure. If product comes into contact with flammables, fire or explosion may occur.

Section 9 – Accidental Release Measures

Precautions:	Observe the protection methods cited in Section 3. Avoid materials and products that are incompatible with product. Immediately notify the appropriate authorities in case of reportable discharge (> 100 lbs).
Cleanup Methods:	Collect the product with a suitable means of avoiding dust formation. All receiving equipment should be clean, vented, dry, labeled and made of material that this product is compatible with. Because of the contamination risk, the collected material should be kept in a safe isolated place. Use large quantities of water to clean the impacted area. See Section 12 for disposal methods.

Section 10 – Information on Toxicology

Toxicity Data

Acute Toxicity:	Oral Route, LD_{50}, rat, > 2,000 mg/kg (powder 50%) Dermal Route, LD_{50}, rat, > 2,000 mg/kg (powder 50%) Inhalation, LD_{50}, rat, > 5,000 mg/m^3 (powder 35%)
Irritation:	Rabbit (eyes), severe irritant

Sensitization:	No data
Chronic Toxicity:	In vitro, no mutagenic effect (Powder 50%)
Target Organ Effects:	Eyes and respiratory passages.

Section 11 – Information on Ecology

Ecology Data	
	10 mg $Ca(OH)_2$/L: pH = 9.0 100 mg $Ca(OH)_2$/L: pH = 10.6
Acute Exotoxicity:	Fishes, Cyprinus carpio, LC_{50}, 48 hrs, 160 mg/L Crustaceans, Daphnia sp., EC_{50}, 24 hours, 25.6 mg/L (Powder 16%)
Mobility:	Low Solubility and Mobility
Abiotic Degradation:	Water – Slow Hydrolysis. Degradation Products: Calcium Hydroxide Water/soil – complexation/precipitation. Carbonates/sulfates present at environmental concentrations. Degradation products: carbonates/sulfates sparingly soluble
Biotic Degradation:	NA (inorganic compound)
Potential for Bioaccumulation:	NA (ionizable inorganic compound)

Section 11 – Information on Ecology (cont)

Comments:	Observed effects are related to alkaline properties of the product. Hazard for the environment is limited due to the product properties of: • No bioaccumulation • Weak solubility and precipitation as carbonate or sulfate in an aquatic environment. Diluted product is rapidly neutralized at environmental pH.
Further Information:	NA

Section 12 – Disposal Considerations

Waste Disposal Method:	Consult current federal, state and local regulations regarding the proper disposal of this material and its emptied containers.

Section 13 – Shipping/Transport Information

D.O.T Shipping Name:	Oxidizing Solid, N.O.S [A mixture of Calcium OxyHydroxide [$CaO(OH)_2$] and Calcium Hydroxide [$Ca(OH)_2$].
UN Number:	1479
Hazard Class:	5.1
Label(s):	5.1 (Oxidizer)
Packaging Group:	II
STCC Number:	4918717

Section 14 – Other Information

HMIS® Rating	Health – 2 Flammability – 0	Reactivity – 1 PPE - Required

HMIS® is a registered trademark of the National Painting and Coating Association.

NFPA® Rating	Health – 2 Flammability – 0	Reactivity – 1 OX

NFPA® is a registered trademark of the National Fire Protection Association.

Reason for Issue: Update toxicological and ecological data

Section 15 – Further Information

The information contained in this document is the best available to the supplier at the time of writing, but is provided without warranty of any kind. Some possible hazards have been determined by analogy to similar classes of material. The items in this document are subject to change and clarification as more information become available.