September 4, 2012

Mr. Forest Arnold
Maryland Department of the Environment
Oil Control Program
1800 Washington Blvd.
Baltimore, MD 21230

Re: Well Installation Report
Former Shell Service Station #137675
15541 New Hampshire Avenue, Silver Spring, MD
MDE Case #03-0695-MO1

Dear Mr. Arnold:

On behalf of Motiva Enterprises LLC (Motiva), URS Corporation (URS) is pleased to submit this Well Installation Report for the above referenced Site. This report summarizes the well installation activities initially proposed in the *Recovery Well Installation and Delineation Work Plan* submitted to Maryland Department of the Environment (MDE) on January 16, 2012, and approved by MDE on January 31, 2012.

Well Installation

Recovery Well RW-27

On March 5-7, 2012, offsite recovery well (RW-27) was installed using hollow stem auger drilling technology. Prior to drilling and soil sampling, subsurface utilities were located and marked by Line Locators Inc, of Leesburg, VA. The location was then cleared of utilities to a depth of 5 feet below ground surface (bgs) by SGS North America (SGS) of Baltimore, MD utilizing an airknife.

Recovery well RW-27 was constructed using a 6-inch inner diameter, 0.02 slot, schedule 40 polyvinyl chloride (PVC) screen. The recovery well was installed to a depth of 50 feet below ground surface (bgs), and screened from 10-50 feet bgs. The annular space between the recovery well and the boring wall was filled with sand to approximately 2 feet above the screen and sealed to a depth of approximately 1 foot bgs with bentonite pellets. The bentonite was hydrated to provide an effective seal against surface water infiltration. The remaining annular space above the well seal was filled with Portland cement grout that was tremied into the borehole. The recovery well was completed with a 2-feet by 2-feet by 2-feet vault. The vault has a single hinged aluminum door rated for H-20 loading. The door is lockable within a covered, recessed box. The vault bottom was constructed to have 6 inches of gravel covering the geomembrane sloped away from the well, and was installed flush with the existing surface. Upon the completion of the recovery well installation, the well was developed using a submersible pump. Groundwater was purged from the recovery well until the groundwater reached an acceptable turbidity as determined by the onsite URS field geologist.

In June 2012, trenching and piping was completed from an existing offsite remediation system hook-up located at recovery well RW-20 to recovery well RW-27. Subsequently, recovery well RW-27 began operation as part of the offsite groundwater pump and treat system in July 2012.

Monitoring Wells 721 BND and 721 BNS

On April 2, 2012, URS sent email correspondence to MDE indicating that the residents of 721 Bryants Nursery Road denied the proposed installation of the two downgradient sentinel wells in their yard. Additionally, attached to the email correspondence was a map depicting two new proposed locations for the sentinel wells in the public right of way directly in front of 721 Bryants Nursery Road. On April 3, 2012 MDE approved, through email correspondence, the new locations of

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12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Phone: 301.820.3000

the sentinel wells in front of the residence of 721 Bryants Nursery Road contingent upon obtaining right-of-way access. A right-of-way construction permit (**Appendix A**) was issued for the installation of the two sentinel groundwater monitoring wells by Montgomery County Department of Permitting Services on July 18, 2012.

From July 30 to August 2, 2012, two sentinel monitoring wells (721 BNS and 721 BND) were installed in the public right-of-way along Bryants Nursery Road in front of the residence at 721 Bryants Nursery Road (**Figure 1**). Prior to drilling and soil sampling, subsurface utilities were located and marked by Line Locators Inc, of Leesburg, VA. The proposed locations were then cleared of utilities to a depth 5 feet below ground surface (bgs) by Drill Tech (DTCI) of Jarrettsville, MD utilizing an airknife. DTCI was also contracted to install the two sentinel monitoring wells, 721 BNS and 721 BND, using hollow stem auger drilling technology.

Monitoring well 721 BNS was completed to 30 feet bgs and screened from 10-30 feet bgs, and monitoring well 721 BND was completed to 40 feet bgs and screened from 30-40 feet bgs. Monitoring well 721 BND was not completed to the proposed depth of 65 feet bgs, since bedrock, indicated by auger refusal, was encountered at 41 feet bgs. This modification to monitoring well 721 BND, which also included screen interval adjustment, was approved by MDE via a phone conversation on July 31, 2012. Both monitoring wells were constructed using a 4-inch inner diameter, 0.02 slot, schedule 40 PVC screen. The annular space between the monitoring well and the boring wall was filled with sand to approximately 2 feet above the screen and sealed to a depth of approximately 1 foot bgs with bentonite pellets. The bentonite was hydrated to provide an effective seal against surface water infiltration. The remaining annular space above the well seal was filled with Portland cement grout that was tremied into the borehole. The monitoring wells were completed with locking well caps and flush-to-grade, bolt-down metallic well covers with waterproof seals.

Upon the completion of the monitoring well installation, the wells were developed using a submersible pump. Groundwater was purged from the monitoring wells until the groundwater reached an acceptable turbidity as determined by the onsite URS field geologist.

Soil Sample Results

As part of the drilling operations, a URS geologist recorded descriptive logs of the encountered soils. The boring logs and well construction diagrams are included in **Appendix B**. The location of recovery well RW-27, and the two sentinel monitoring wells, 721 BNS and 721 BND, are illustrated on the Site Map (**Figure 1**).

Split spoon soil samples were collected continuously during drilling from five feet bgs to total depth in each location. Split spoon samples were collected at 2-feet intervals and then placed into sealable plastic bags. After approximately 15 minutes in ambient (outside) atmospheric conditions, the equilibrated headspace from each soil sample was screened for volatile organic compounds (VOCs) using a photoionization detector (PID). To screen the headspace, the PID detector inlet tip was inserted into each sealed bag through a small opening. The resulting PID readings were equivalent to parts per million by volume (ppmv). This procedure was repeated for each soil sample.

Soil samples were collected from soil boring RW-27 on March 5, 2012, soil boring 721 BNS on July 31, 2012, and soil boring 721 BND on August 1, 2012. From each boring location, one sample was collected from approximately 1 foot above the water table in the capillary fringe zone, and a second sample was collected from the interval above the capillary fringe zone with the highest PID reading for laboratory analysis. A second analytical sample was not collected from soil boring RW-27, since PID readings for screened VOCs were not detected. The soil samples were placed in appropriate glassware, stored on ice, and shipped under chain-of-custody to Accutest Laboratories of Dayton, NJ (Accutest). The soil samples were analyzed by Accutest for VOCs including oxygenates by EPA Method 8260B, and total petroleum hydrocarbons-gasoline range organics (TPH-GRO) and total petroleum hydrocarbons-diesel range organics (TPH-DRO) by EPA Method 8015C. A tabulated summary of the soil analytical data is provided in **Table 1**, and laboratory analytical reports are provided in **Appendix C**.

The maximum PID reading screened for VOCs was 81.6 ppmv detected in the 25-27 feet bgs interval at soil boring location 721 BND. All soil analytical detections were below laboratory reporting limits except TPH-DRO, which was detected in three soil samples. TPH-DRO was 36.2 mg/kg at boring location RW-27 in the 19-21 feet bgs interval, 21.4 mg/kg at boring location 721 BNS in the 13-15 feet bgs interval, and 12.9 mg/kg at boring location 721 BND in the 29-31 feet bgs interval. These concentrations are below the MDE Residential Cleanup Standard of 230 mg/kg for TPH-DRO.

Soil cuttings generated during the well installations and groundwater generated during well development were placed in 55-gallon steel drums. The drums were contracted to EQ Northeast, Incorporated for transport from the site to an MDE approved disposal facility.

If you have any questions regarding this proposal or require additional information, please do not hesitate to contact Mr. Doug Weimer, Motiva at 703.272.7097 or the undersigned at 301.820.3000.

Sincerely,
URS CORPORATION

Jenna Anthony
Site Manager

Adriane Rogers
Project Manager

Attachments

Figure 1 – Site Map
Table 1 –Soil Sample Analytical Results
Appendix A – Right-of-Way Construction Permit
Appendix B – Boring Logs and Well Construction Diagrams
Appendix C – Soil Analytical Laboratory Reports

cc: Doug Weimer – Motiva Enterprises LLC
Forest Arnold - MDE (2 additional copies w/CD)
George Rudy – owner
Philip Mitchell – Mitchell Companies
Reference Librarian – Fairland Regional Library

FIGURE

URS
12420 Milestone Center Drive
Germantown, MD 20876

G:\Projects\Shell\Station_137675\MXD\137675_Base.mxd
Date: 03/11/2011
Created: JK
Checked: JA
Senior:

Legend

- Monitoring Well
- Recovery Well
- Tank Field Well
- Station Building
- Canopy
- Above Ground Storage Tank
- Off-site Building/Structure
- Water Body
- Property Boundary
- Curb

0 40 80 160 Feet

1 inch = 80 feet

N

Figure 1
Site Map
Shell Station #137675
15541 New Hampshire Avenue
Silver Spring, MD

TABLE

Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
3/5/2012						
	137675-RW-27-19-21					
		m,p-Xylene	ND	U	0.0012	mg/kg
		o-Chlorotoluene	ND	U	0.0062	mg/kg
		o-Xylene	ND	U	0.0012	mg/kg
		Percent Solids	83.7			%
		Benzene	ND	U	0.0012	mg/kg
		Toluene	ND	U	0.0012	mg/kg
		Ethylbenzene	ND	U	0.0012	mg/kg
		Xylenes, total	ND	U	0.0012	mg/kg
		Total BTEX	ND		0.0048	mg/kg
		Methyl tert-Butyl Ether	ND	U	0.0012	mg/kg
		Naphthalene	ND	U	0.0062	mg/kg
		GRO as Gasoline	ND	U	13	mg/kg
		Diesel	36.2		11	mg/kg
		Tertiary Butyl Alcohol	ND	U	0.031	mg/kg
		Tert-Amyl Methyl Ether	ND	U	0.0062	mg/kg
		Diisopropyl Ether	ND	U	0.0062	mg/kg
		Ethyl tert-Butyl Ether	ND	U	0.0062	mg/kg
		1,1,1,2-Tetrachloroethane	ND	U	0.0062	mg/kg
		1,1,1-Trichloroethane	ND	U	0.0062	mg/kg
		1,1,2,2-Tetrachloroethane	ND	U	0.0062	mg/kg
		1,1,2-Trichloroethane	ND	U	0.0062	mg/kg
		1,1-Dichloroethane	ND	U	0.0062	mg/kg
		1,1-Dichloroethene	ND	U	0.0062	mg/kg
		1,1-Dichloropropene	ND	U	0.0062	mg/kg
		1,2,3-Trichlorobenzene	ND	U	0.0062	mg/kg
		1,2,3-Trichloropropane	ND	U	0.0062	mg/kg
		1,2,4-Trichlorobenzene	ND	U	0.0062	mg/kg
		1,2,4-Trimethylbenzene	ND	U	0.0062	mg/kg
		1,2-Dibromo-3-chloropropane	ND	U	0.012	mg/kg
		1,2-Dibromoethane (EDB)	ND	U	0.0012	mg/kg
		1,2-Dichlorobenzene	ND	U	0.0062	mg/kg
		1,2-Dichloroethane	ND	U	0.0012	mg/kg
		1,2-Dichloropropane	ND	U	0.0062	mg/kg

Notes:
ND-Not Detected
mg/kg-Milligrams per kilogram
ug/kg-Micrograms per kilogram

Lab Flags:
U-Not Detected at Reporting Limit
J-Estimated Value

Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
3/5/2012						
	137675-RW-27-19-21					
		1,3,5-Trimethylbenzene	ND	U	0.0062	mg/kg
		1,3-Dichlorobenzene	ND	U	0.0062	mg/kg
		1,3-Dichloropropane	ND	U	0.0062	mg/kg
		1,4-Dichlorobenzene	ND	U	0.0062	mg/kg
		2,2-Dichloropropane	ND	U	0.0062	mg/kg
		2-Butanone	ND	U	0.012	mg/kg
		4-Chlorotoluene	ND	U	0.0062	mg/kg
		4-Methyl-2-pentanone	ND	U	0.0062	mg/kg
		Acetone	ND	U	0.012	mg/kg
		Bromobenzene	ND	U	0.0062	mg/kg
		Bromochloromethane	ND	U	0.0062	mg/kg
		Bromodichloromethane	ND	U	0.0062	mg/kg
		Bromoform	ND	U	0.0062	mg/kg
		Bromomethane	ND	U	0.0062	mg/kg
		Carbon Tetrachloride	ND	U	0.0062	mg/kg
		Chlorobenzene	ND	U	0.0062	mg/kg
		Chlorodibromomethane	ND	U	0.0062	mg/kg
		Chloroethane	ND	U	0.0062	mg/kg
		Chloroform	ND	U	0.0062	mg/kg
		Chloromethane	ND	U	0.0062	mg/kg
		cis-1,2-Dichloroethene	ND	U	0.0062	mg/kg
		cis-1,3-Dichloropropene	ND	U	0.0062	mg/kg
		Dibromomethane	ND	U	0.0062	mg/kg
		Dichlorodifluoromethane	ND	U	0.0062	mg/kg
		Hexachlorobutadiene	ND	U	0.0062	mg/kg
		Isopropylbenzene	ND	U	0.0062	mg/kg
		Methylene Chloride	ND	U	0.0062	mg/kg
		n-Butylbenzene	ND	U	0.0062	mg/kg
		n-Propylbenzene	ND	U	0.0062	mg/kg
		p-Isopropyltoluene	ND	U	0.0062	mg/kg
		sec-Butylbenzene	ND	U	0.0062	mg/kg
		Styrene	ND	U	0.0062	mg/kg
		tert-Butylbenzene	ND	U	0.0062	mg/kg

Notes:
ND-Not Detected
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Lab Flags:
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J-Estimated Value

Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
3/5/2012						
	137675-RW-27-19-21					
		Tetrachloroethene	ND	U	0.0062	mg/kg
		trans-1,2-Dichloroethene	ND	U	0.0062	mg/kg
		trans-1,3-Dichloropropene	ND	U	0.0062	mg/kg
		Trichloroethene	ND	U	0.0062	mg/kg
		Trichlorofluoromethane	ND	U	0.0062	mg/kg
		Vinyl Chloride	ND	U	0.0062	mg/kg
7/31/2012						
	137675 - 721 BND - 29-31					
		m,p-Xylene	ND	U	0.0011	mg/kg
		o-Chlorotoluene	ND	U	0.0056	mg/kg
		o-Xylene	ND	U	0.0011	mg/kg
		Percent Solids	89.8			%
		Benzene	ND	U	0.0011	mg/kg
		Toluene	0.00061	J	0.0011	mg/kg
		Ethylbenzene	ND	U	0.0011	mg/kg
		Xylenes, total	ND	U	0.0011	mg/kg
		Total BTEX	0.00061		0.0044	mg/kg
		Methyl tert-Butyl Ether	ND	U	0.0011	mg/kg
		Naphthalene	ND	U	0.0056	mg/kg
		GRO as Gasoline	ND	U	12	mg/kg
		Diesel	12.9		11	mg/kg
		Tertiary Butyl Alcohol	ND	U	0.028	mg/kg
		Tert-Amyl Methyl Ether	ND	U	0.0056	mg/kg
		Diisopropyl Ether	ND	U	0.0056	mg/kg
		Ethyl tert-Butyl Ether	ND	U	0.0056	mg/kg
		1,1,1,2-Tetrachloroethane	ND	U	0.0056	mg/kg
		1,1,1-Trichloroethane	ND	U	0.0056	mg/kg
		1,1,2,2-Tetrachloroethane	ND	U	0.0056	mg/kg
		1,1,2-Trichloroethane	ND	U	0.0056	mg/kg
		1,1-Dichloroethane	ND	U	0.0056	mg/kg
		1,1-Dichloroethene	ND	U	0.0056	mg/kg
		1,1-Dichloropropene	ND	U	0.0056	mg/kg
		1,2,3-Trichlorobenzene	ND	U	0.0056	mg/kg

Notes:
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mg/kg-Milligrams per kilogram
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Lab Flags:
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Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
7/31/2012						
	137675 - 721 BND - 29-31					
		1,2,3-Trichloropropane	ND	U	0.0056	mg/kg
		1,2,4-Trichlorobenzene	ND	U	0.0056	mg/kg
		1,2,4-Trimethylbenzene	0.00036	J	0.0056	mg/kg
		1,2-Dibromo-3-chloropropane	ND	U	0.011	mg/kg
		1,2-Dibromoethane (EDB)	ND	U	0.0011	mg/kg
		1,2-Dichlorobenzene	ND	U	0.0056	mg/kg
		1,2-Dichloroethane	ND	U	0.0011	mg/kg
		1,2-Dichloropropane	ND	U	0.0056	mg/kg
		1,3,5-Trimethylbenzene	ND	U	0.0056	mg/kg
		1,3-Dichlorobenzene	ND	U	0.0056	mg/kg
		1,3-Dichloropropane	ND	U	0.0056	mg/kg
		1,4-Dichlorobenzene	ND	U	0.0056	mg/kg
		2,2-Dichloropropane	ND	U	0.0056	mg/kg
		2-Butanone	ND	U	0.011	mg/kg
		4-Chlorotoluene	ND	U	0.0056	mg/kg
		4-Methyl-2-pentanone	ND	U	0.0056	mg/kg
		Acetone	ND	U	0.011	mg/kg
		Bromobenzene	ND	U	0.0056	mg/kg
		Bromochloromethane	ND	U	0.0056	mg/kg
		Bromodichloromethane	ND	U	0.0056	mg/kg
		Bromoform	ND	U	0.0056	mg/kg
		Bromomethane	ND	U	0.0056	mg/kg
		Carbon Tetrachloride	ND	U	0.0056	mg/kg
		Chlorobenzene	ND	U	0.0056	mg/kg
		Chlorodibromomethane	ND	U	0.0056	mg/kg
		Chloroethane	ND	U	0.0056	mg/kg
		Chloroform	ND	U	0.0056	mg/kg
		Chloromethane	ND	U	0.0056	mg/kg
		cis-1,2-Dichloroethene	ND	U	0.0056	mg/kg
		cis-1,3-Dichloropropene	ND	U	0.0056	mg/kg
		Dibromomethane	ND	U	0.0056	mg/kg
		Dichlorodifluoromethane	ND	U	0.0056	mg/kg
		Hexachlorobutadiene	ND	U	0.0056	mg/kg

Notes:
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ug/kg-Micrograms per kilogram

Lab Flags:
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Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
7/31/2012						
	137675 - 721 BND - 29-31					
		Isopropylbenzene	ND	U	0.0056	mg/kg
		Methylene Chloride	ND	U	0.0056	mg/kg
		n-Butylbenzene	ND	U	0.0056	mg/kg
		n-Propylbenzene	ND	U	0.0056	mg/kg
		p-Isopropyltoluene	ND	U	0.0056	mg/kg
		sec-Butylbenzene	ND	U	0.0056	mg/kg
		Styrene	ND	U	0.0056	mg/kg
		tert-Butylbenzene	ND	U	0.0056	mg/kg
		Tetrachloroethene	ND	U	0.0056	mg/kg
		trans-1,2-Dichloroethene	ND	U	0.0056	mg/kg
		trans-1,3-Dichloropropene	ND	U	0.0056	mg/kg
		Trichloroethene	ND	U	0.0056	mg/kg
		Trichlorofluoromethane	ND	U	0.0056	mg/kg
		Vinyl Chloride	ND	U	0.0056	mg/kg
	137675 - 721 BND - 31-33					
		m,p-Xylene	ND	U	0.0015	mg/kg
		o-Chlorotoluene	ND	U	0.0077	mg/kg
		o-Xylene	ND	U	0.0015	mg/kg
		Percent Solids	70.4			%
		Benzene	ND	U	0.0015	mg/kg
		Toluene	ND	U	0.0015	mg/kg
		Ethylbenzene	ND	U	0.0015	mg/kg
		Xylenes, total	ND	U	0.0015	mg/kg
		Total BTEX	ND		0.006	mg/kg
		Methyl tert-Butyl Ether	ND	U	0.0015	mg/kg
		Naphthalene	ND	U	0.0077	mg/kg
		GRO as Gasoline	ND	U	17	mg/kg
		Diesel	ND	U	14	mg/kg
		Tertiary Butyl Alcohol	ND	U	0.039	mg/kg
		Tert-Amyl Methyl Ether	ND	U	0.0077	mg/kg
		Diisopropyl Ether	ND	U	0.0077	mg/kg
		Ethyl tert-Butyl Ether	ND	U	0.0077	mg/kg
		1,1,1,2-Tetrachloroethane	ND	U	0.0077	mg/kg

Notes:
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ug/kg-Micrograms per kilogram

Lab Flags:
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J-Estimated Value

Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
7/31/2012						
	137675 - 721 BND - 31-33					
		1,1,1-Trichloroethane	ND	U	0.0077	mg/kg
		1,1,2,2-Tetrachloroethane	ND	U	0.0077	mg/kg
		1,1,2-Trichloroethane	ND	U	0.0077	mg/kg
		1,1-Dichloroethane	ND	U	0.0077	mg/kg
		1,1-Dichloroethene	ND	U	0.0077	mg/kg
		1,1-Dichloropropene	ND	U	0.0077	mg/kg
		1,2,3-Trichlorobenzene	ND	U	0.0077	mg/kg
		1,2,3-Trichloropropane	ND	U	0.0077	mg/kg
		1,2,4-Trichlorobenzene	ND	U	0.0077	mg/kg
		1,2,4-Trimethylbenzene	ND	U	0.0077	mg/kg
		1,2-Dibromo-3-chloropropane	ND	U	0.015	mg/kg
		1,2-Dibromoethane (EDB)	ND	U	0.0015	mg/kg
		1,2-Dichlorobenzene	ND	U	0.0077	mg/kg
		1,2-Dichloroethane	ND	U	0.0015	mg/kg
		1,2-Dichloropropane	ND	U	0.0077	mg/kg
		1,3,5-Trimethylbenzene	ND	U	0.0077	mg/kg
		1,3-Dichlorobenzene	ND	U	0.0077	mg/kg
		1,3-Dichloropropane	ND	U	0.0077	mg/kg
		1,4-Dichlorobenzene	ND	U	0.0077	mg/kg
		2,2-Dichloropropane	ND	U	0.0077	mg/kg
		2-Butanone	ND	U	0.015	mg/kg
		4-Chlorotoluene	ND	U	0.0077	mg/kg
		4-Methyl-2-pentanone	ND	U	0.0077	mg/kg
		Acetone	0.013	J	0.015	mg/kg
		Bromobenzene	ND	U	0.0077	mg/kg
		Bromochloromethane	ND	U	0.0077	mg/kg
		Bromodichloromethane	ND	U	0.0077	mg/kg
		Bromoform	ND	U	0.0077	mg/kg
		Bromomethane	ND	U	0.0077	mg/kg
		Carbon Tetrachloride	ND	U	0.0077	mg/kg
		Chlorobenzene	ND	U	0.0077	mg/kg
		Chlorodibromomethane	ND	U	0.0077	mg/kg
		Chloroethane	ND	U	0.0077	mg/kg

Notes:
ND-Not Detected
mg/kg-Milligrams per kilogram
ug/kg-Micrograms per kilogram

Lab Flags:
U-Not Detected at Reporting Limit
J-Estimated Value

Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
7/31/2012						
	137675 - 721 BND - 31-33					
		Chloroform	ND	U	0.0077	mg/kg
		Chloromethane	ND	U	0.0077	mg/kg
		cis-1,2-Dichloroethene	ND	U	0.0077	mg/kg
		cis-1,3-Dichloropropene	ND	U	0.0077	mg/kg
		Dibromomethane	ND	U	0.0077	mg/kg
		Dichlorodifluoromethane	ND	U	0.0077	mg/kg
		Hexachlorobutadiene	ND	U	0.0077	mg/kg
		Isopropylbenzene	ND	U	0.0077	mg/kg
		Methylene Chloride	ND	U	0.0077	mg/kg
		n-Butylbenzene	ND	U	0.0077	mg/kg
		n-Propylbenzene	ND	U	0.0077	mg/kg
		p-Isopropyltoluene	ND	U	0.0077	mg/kg
		sec-Butylbenzene	ND	U	0.0077	mg/kg
		Styrene	ND	U	0.0077	mg/kg
		tert-Butylbenzene	ND	U	0.0077	mg/kg
		Tetrachloroethene	ND	U	0.0077	mg/kg
		trans-1,2-Dichloroethene	ND	U	0.0077	mg/kg
		trans-1,3-Dichloropropene	ND	U	0.0077	mg/kg
		Trichloroethene	ND	U	0.0077	mg/kg
		Trichlorofluoromethane	ND	U	0.0077	mg/kg
		Vinyl Chloride	ND	U	0.0077	mg/kg
8/1/2012						
	137675 - 721 BNS - 13-15					
		m,p-Xylene	ND	U	0.0012	mg/kg
		o-Chlorotoluene	ND	U	0.0059	mg/kg
		o-Xylene	ND	U	0.0012	mg/kg
		Percent Solids	86.4			%
		Benzene	0.0004	J	0.0012	mg/kg
		Toluene	0.00086	J	0.0012	mg/kg
		Ethylbenzene	ND	U	0.0012	mg/kg
		Xylenes, total	ND	U	0.0012	mg/kg
		Total BTEX	0.00126		0.0048	mg/kg
		Methyl tert-Butyl Ether	ND	U	0.0012	mg/kg

Notes:
ND-Not Detected
mg/kg-Milligrams per kilogram
ug/kg-Micrograms per kilogram

Lab Flags:
U-Not Detected at Reporting Limit
J-Estimated Value

Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
8/1/2012						
	137675 - 721 BNS - 13-15					
		Naphthalene	ND	U	0.0059	mg/kg
		GRO as Gasoline	ND	U	13	mg/kg
		Diesel	21.4		11	mg/kg
		Tertiary Butyl Alcohol	ND	U	0.03	mg/kg
		Tert-Amyl Methyl Ether	ND	U	0.0059	mg/kg
		Diisopropyl Ether	ND	U	0.0059	mg/kg
		Ethyl tert-Butyl Ether	ND	U	0.0059	mg/kg
		1,1,1,2-Tetrachloroethane	ND	U	0.0059	mg/kg
		1,1,1-Trichloroethane	ND	U	0.0059	mg/kg
		1,1,2,2-Tetrachloroethane	ND	U	0.0059	mg/kg
		1,1,2-Trichloroethane	ND	U	0.0059	mg/kg
		1,1-Dichloroethane	ND	U	0.0059	mg/kg
		1,1-Dichloroethene	ND	U	0.0059	mg/kg
		1,1-Dichloropropene	ND	U	0.0059	mg/kg
		1,2,3-Trichlorobenzene	ND	U	0.0059	mg/kg
		1,2,3-Trichloropropane	ND	U	0.0059	mg/kg
		1,2,4-Trichlorobenzene	ND	U	0.0059	mg/kg
		1,2,4-Trimethylbenzene	ND	U	0.0059	mg/kg
		1,2-Dibromo-3-chloropropane	ND	U	0.012	mg/kg
		1,2-Dibromoethane (EDB)	ND	U	0.0012	mg/kg
		1,2-Dichlorobenzene	ND	U	0.0059	mg/kg
		1,2-Dichloroethane	ND	U	0.0012	mg/kg
		1,2-Dichloropropane	ND	U	0.0059	mg/kg
		1,3,5-Trimethylbenzene	ND	U	0.0059	mg/kg
		1,3-Dichlorobenzene	ND	U	0.0059	mg/kg
		1,3-Dichloropropane	ND	U	0.0059	mg/kg
		1,4-Dichlorobenzene	ND	U	0.0059	mg/kg
		2,2-Dichloropropane	ND	U	0.0059	mg/kg
		2-Butanone	ND	U	0.012	mg/kg
		4-Chlorotoluene	ND	U	0.0059	mg/kg
		4-Methyl-2-pentanone	ND	U	0.0059	mg/kg
		Acetone	ND	U	0.012	mg/kg
		Bromobenzene	ND	U	0.0059	mg/kg

Notes:
ND-Not Detected
mg/kg-Milligrams per kilogram
ug/kg-Micrograms per kilogram

Lab Flags:
U-Not Detected at Reporting Limit
J-Estimated Value

Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
8/1/2012						
	137675 - 721 BNS - 13-15					
		Bromochloromethane	ND	U	0.0059	mg/kg
		Bromodichloromethane	ND	U	0.0059	mg/kg
		Bromoform	ND	U	0.0059	mg/kg
		Bromomethane	ND	U	0.0059	mg/kg
		Carbon Tetrachloride	ND	U	0.0059	mg/kg
		Chlorobenzene	ND	U	0.0059	mg/kg
		Chlorodibromomethane	ND	U	0.0059	mg/kg
		Chloroethane	ND	U	0.0059	mg/kg
		Chloroform	ND	U	0.0059	mg/kg
		Chloromethane	ND	U	0.0059	mg/kg
		cis-1,2-Dichloroethene	ND	U	0.0059	mg/kg
		cis-1,3-Dichloropropene	ND	U	0.0059	mg/kg
		Dibromomethane	ND	U	0.0059	mg/kg
		Dichlorodifluoromethane	ND	U	0.0059	mg/kg
		Hexachlorobutadiene	ND	U	0.0059	mg/kg
		Isopropylbenzene	ND	U	0.0059	mg/kg
		Methylene Chloride	ND	U	0.0059	mg/kg
		n-Butylbenzene	ND	U	0.0059	mg/kg
		n-Propylbenzene	ND	U	0.0059	mg/kg
		p-Isopropyltoluene	ND	U	0.0059	mg/kg
		sec-Butylbenzene	ND	U	0.0059	mg/kg
		Styrene	ND	U	0.0059	mg/kg
		tert-Butylbenzene	ND	U	0.0059	mg/kg
		Tetrachloroethene	ND	U	0.0059	mg/kg
		trans-1,2-Dichloroethene	ND	U	0.0059	mg/kg
		trans-1,3-Dichloropropene	ND	U	0.0059	mg/kg
		Trichloroethene	ND	U	0.0059	mg/kg
		Trichlorofluoromethane	ND	U	0.0059	mg/kg
		Vinyl Chloride	ND	U	0.0059	mg/kg
	137675 - 721 BNS - 25-27					
		m,p-Xylene	ND	U	0.0012	mg/kg
		o-Chlorotoluene	ND	U	0.006	mg/kg
		o-Xylene	ND	U	0.0012	mg/kg

Notes:
ND-Not Detected
mg/kg-Milligrams per kilogram
ug/kg-Micrograms per kilogram

Lab Flags:
U-Not Detected at Reporting Limit
J-Estimated Value

Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
8/1/2012						
	137675 - 721 BNS - 25-27					
		Percent Solids	90.6			%
		Benzene	0.0004	J	0.0012	mg/kg
		Toluene	0.00095	J	0.0012	mg/kg
		Ethylbenzene	ND	U	0.0012	mg/kg
		Xylenes, total	ND	U	0.0012	mg/kg
		Total BTEX	0.00135		0.0048	mg/kg
		Methyl tert-Butyl Ether	ND	U	0.0012	mg/kg
		Naphthalene	ND	U	0.006	mg/kg
		GRO as Gasoline	ND	U	11	mg/kg
		Diesel	ND	U	10	mg/kg
		Tertiary Butyl Alcohol	ND	U	0.03	mg/kg
		Tert-Amyl Methyl Ether	ND	U	0.006	mg/kg
		Diisopropyl Ether	ND	U	0.006	mg/kg
		Ethyl tert-Butyl Ether	ND	U	0.006	mg/kg
		1,1,1,2-Tetrachloroethane	ND	U	0.006	mg/kg
		1,1,1-Trichloroethane	ND	U	0.006	mg/kg
		1,1,2,2-Tetrachloroethane	ND	U	0.006	mg/kg
		1,1,2-Trichloroethane	ND	U	0.006	mg/kg
		1,1-Dichloroethane	ND	U	0.006	mg/kg
		1,1-Dichloroethene	ND	U	0.006	mg/kg
		1,1-Dichloropropene	ND	U	0.006	mg/kg
		1,2,3-Trichlorobenzene	ND	U	0.006	mg/kg
		1,2,3-Trichloropropane	ND	U	0.006	mg/kg
		1,2,4-Trichlorobenzene	ND	U	0.006	mg/kg
		1,2,4-Trimethylbenzene	ND	U	0.006	mg/kg
		1,2-Dibromo-3-chloropropane	ND	U	0.012	mg/kg
		1,2-Dibromoethane (EDB)	ND	U	0.0012	mg/kg
		1,2-Dichlorobenzene	ND	U	0.006	mg/kg
		1,2-Dichloroethane	ND	U	0.0012	mg/kg
		1,2-Dichloropropane	ND	U	0.006	mg/kg
		1,3,5-Trimethylbenzene	ND	U	0.006	mg/kg
		1,3-Dichlorobenzene	ND	U	0.006	mg/kg
		1,3-Dichloropropane	ND	U	0.006	mg/kg

Notes:
ND-Not Detected
mg/kg-Milligrams per kilogram
ug/kg-Micrograms per kilogram

Lab Flags:
U-Not Detected at Reporting Limit
J-Estimated Value

Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
8/1/2012						
	137675 - 721 BNS - 25-27					
		1,4-Dichlorobenzene	ND	U	0.006	mg/kg
		2,2-Dichloropropane	ND	U	0.006	mg/kg
		2-Butanone	ND	U	0.012	mg/kg
		4-Chlorotoluene	ND	U	0.006	mg/kg
		4-Methyl-2-pentanone	ND	U	0.006	mg/kg
		Acetone	ND	U	0.012	mg/kg
		Bromobenzene	ND	U	0.006	mg/kg
		Bromochloromethane	ND	U	0.006	mg/kg
		Bromodichloromethane	ND	U	0.006	mg/kg
		Bromoform	ND	U	0.006	mg/kg
		Bromomethane	ND	U	0.006	mg/kg
		Carbon Tetrachloride	ND	U	0.006	mg/kg
		Chlorobenzene	ND	U	0.006	mg/kg
		Chlorodibromomethane	ND	U	0.006	mg/kg
		Chloroethane	ND	U	0.006	mg/kg
		Chloroform	ND	U	0.006	mg/kg
		Chloromethane	ND	U	0.006	mg/kg
		cis-1,2-Dichloroethene	ND	U	0.006	mg/kg
		cis-1,3-Dichloropropene	ND	U	0.006	mg/kg
		Dibromomethane	ND	U	0.006	mg/kg
		Dichlorodifluoromethane	ND	U	0.006	mg/kg
		Hexachlorobutadiene	ND	U	0.006	mg/kg
		Isopropylbenzene	ND	U	0.006	mg/kg
		Methylene Chloride	ND	U	0.006	mg/kg
		n-Butylbenzene	ND	U	0.006	mg/kg
		n-Propylbenzene	ND	U	0.006	mg/kg
		p-Isopropyltoluene	ND	U	0.006	mg/kg
		sec-Butylbenzene	ND	U	0.006	mg/kg
		Styrene	ND	U	0.006	mg/kg
		tert-Butylbenzene	ND	U	0.006	mg/kg
		Tetrachloroethene	ND	U	0.006	mg/kg
		trans-1,2-Dichloroethene	ND	U	0.006	mg/kg
		trans-1,3-Dichloropropene	ND	U	0.006	mg/kg

Notes:
ND-Not Detected
mg/kg-Milligrams per kilogram
ug/kg-Micrograms per kilogram

Lab Flags:
U-Not Detected at Reporting Limit
J-Estimated Value

Table 1
Site Investigation Soil Sample Analytical Results
Former Shell Service Station #137675

Sample Date	Sample ID	Analyte Name	Result	Lab Flag	Reporting Limit	Units
8/1/2012						
	137675 - 721 BNS - 25-27					
		Trichloroethene	ND	U	0.006	mg/kg
		Trichlorofluoromethane	ND	U	0.006	mg/kg
		Vinyl Chloride	ND	U	0.006	mg/kg

Notes:
ND-Not Detected
mg/kg-Milligrams per kilogram
ug/kg-Micrograms per kilogram

Lab Flags:
U-Not Detected at Reporting Limit
J-Estimated Value

Appendix A

Right-of-Way Construction Permit

DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

Diane R Schwartz Jones
Director

RIGHT-OF-WAY CONSTRUCTION PERMIT

Issue Date: 07/18/2012

Permit No: 275262
Expires: 01/18/2014
ID: 1190120

THIS IS TO CERTIFY THAT: c/o URS corporation Motiva Enterprises llc
12420 milestone drive suite 150
GERMANTOWN, MD 20876

HAS PERMISSION TO: INSTALL PUBLIC UTILITY

SPECIAL NOTES:

Temporary installation of two monitoring wells on the southwest grassy shoulder of Bryants Nursery Rd approximately 845' feet east of New Hampshire Ave, and restoration of a right of way permit. Pre-Construction meeting required*contact MC.DPS inspectore Richard Boylan@301-674-7020*subject to the conditions noted.Complete repair & restoration of the right o way shall be made,"in-Kind",of any and all damages done to the existing improvement in the public right-of-way caused by construction operationon this site.all lane and sidewalk closures & other required traffic controls shall comply with the approved Traffic control plan and the directions of the MC.DPS right-of-way inspector. (RA#1220)

The proposed work must comply with the conditions of this permit and with the provisions of the Montgomery County Road Construction Code and the "Standards and Specifications"adopted by the County Council for Montgomery County.

Notify: RICHARD BOYLAN Field Inspector at (301)674-7020 48 hours before initial start of work, restart of work after 48 hours or more of work stoppage and upon completion of the work for final inspection and bond release.

Upon Permit expiration, payment of an extension fee and approval by the DPS inspector are required for permit extension.

PREMISE ADDRESS: 721 BRYANTS NURSERY RD
SILVER SPRING, MD 20905-3854

LOT - BLOCK:	3 - B	ZONE:		ELECTION DISTRICT:	13
BOND NO.:	PS13B49464	BOND TYPE:	CASH	PS NUMBER:	49464
PERMIT FEE:	$ 328.46	SUBDIVISION:	COLESVILLE OUTSIDE		

Diane R. Schwartz Jones

Director, Department of Permitting Services

DEPARTMENT OF PERMITTING SERVICES

Ike Leggett
County Executive

Diane R. Schwartz Jones
Director

CONDITIONS OF THE PERMIT

1. The permittee agrees to save harmless the County from all liability arising from the construction associated with this permit.
2. This permit is non-transferable.
3. Unless otherwise noted, this permit automatically expires 18 months from the date of its issuance unless extended in writing by the Director of the Department of Permitting Services. An extension is granted after a request is made in writing and the appropriate fees are paid prior to the expiration date of the permit.
4. All work done under this permit shall comply with written requirements or directions which may be issued by the Director of the Department of Permitting Services relating to the particular project. If the conditions of this permit are being violated, this permit is subject to revocation by the Director of the Department of Permitting Services.
5. The work, materials, plans and specifications shall be available at all times for inspection by duly authorized officials of Montgomery County.
6. Driveway apron(s) constructed under this permit are for the purpose of providing access to lots adjacent to the right of way. Maintenance will be the responsibility of the property owner.
7. No permit shall be issued for construction unless the right of way has been acquired by the County or has been dedicated to public use and such acquisition or dedication has been recorded among the land records of Montgomery County.
8. If the Director of the Department of Permitting Services finds that the original plans, standards and specifications under which this permit is issued are inadequate or inappropriate for the particular project, he may require different or additional plans, standards and specifications and they shall thereafter, or modification thereof, become a part and condition of this permit.
9. A permit from the State of Maryland Forest, Park and Wildlife Service is required for the removal, and/or planting of any trees on improved public rights of way. Contact (301) 854-6060.
10. The relocation and/or adjustment of any public or private utility shall be the responsibility of the permittee prior to any construction authorized by this permit.
11. Coordinate the relocation of any traffic control signs, parking meters or signalization devices with the Division of Traffic and Parking Services. Contract (240) 777-2190.
12. Construction materials and equipment must not be stored or parked on the public right of way, unless otherwise noted as a condition of this permit.
13. Prior to the release of this permit, complete repair (restoration of right of way) shall be made of any and all damages done to the existing improvements in the public right of way caused by construction operations on this site. All disturbed areas shall be fine graded and sodded.
14. Proper precautions must be taken to keep existing roadways free of mud, debris and other obstructions.
15. Notify "Miss Utility" at 1-800-257-7777 prior to any excavation in the public right-of way.

Right-of-Way Construction Permit Unit
Division of Land Development • Right-of-Way Permitting and Plan Review Section
255 Rockville Pike, Second Floor • Rockville, Maryland 20850-4166 • Main: 240.777.6298 • Fax: 240.777.6296

DEPARTMENT OF PERMITTING SERVICES

Ike Leggett
County Executive

Carla Reid
Director

TRAFFIC CONTROL REQUIREMENTS FOR ALL DRIVEWAY PERMITS, AND FOR WORK ACTIVITIES WITHIN PUBLIC RIGHT-OF-WAYS ALONG SECONDARY AND TERTIARY ROADWAYS

I. General Requirements:

All work activities within roadways classified as primary or higher shall be performed between the hours of 9:00 AM and 3:30 PM. Work activities within secondary or tertiary roadways will not normally be restricted to these hours unless specifically stipulated by the County Inspector.

No work shall be permitted on Saturday, Sunday, and legal holidays without written permission of the County Inspector.

The permittee shall contact occupants of all adjoining properties and inform them of the scope of the work and the timing of construction a minimum of twenty-four (24) hours prior to the commencement of any activity on the site.

Ingress and egress shall be maintained to all driveways.

No materials or equipment shall be stored on the roadway surface or sidewalk during non-work periods. All stored materials and equipment shall be set back at least six (6) feet behind the curb along a closed section roadway and at least twelve (12) feet from the edge of roadway on an open section roadway.

All excavation(s) within the paved section of roadway shall be back-filled and capped with cold mix or steel plated prior to the end of any day's work. "STEEL PLATES AHEAD" sings shall be placed two hundred fifty (250) feet in advance of any steel plates.

Excavations in unpaved sections within the public space shall be either back-filled to grade, completely covered with lumber/plywood, encircled with approved construction fencing at the end of the work day or shall comply with the following:

No traffic shall be permitted within ten (10) feet of any excavation that results in a vertical drop-off of over five (5) inches in the level of pavement during non-working hours unless protected by temporary concrete barriers or ramped with gravel at a three-to-one (3:1) or flatter slope from the edge of pavement. When ramping is utilized, traffic drums shall be positioned adjacent to the edge of the work area on the traffic side of the slope.

No traffic shall be permitted within two (2) feet of any excavation that results in a vertical drop-off of more than two (2) inches but no more than five (5) inches in the level of pavement during non-working hours unless protected by either ramped by gravel at a three-to-one (3:1) or flatter slope, provided an abutting wedge of bituminous material at a three-to-one (3:1) or flatter slope or protected by traffic drums.

In areas where the drop-off in the level of pavement is two (2) inches or less, traffic may be allowed to freely cross under the following conditions:

A. In areas where longitudinal paving joints of two (2) inches or less are exposed to traffic, warning signs shall be erected indicating "UNEVEN PAVEMENT" (W8-11 mod). These signs shall be placed two hundred fifty (250) feet in advance of the uneven joint and spaced at appropriate intervals throughout the area of the uneven joints.

B. In areas of exposed lateral joints of two (2) inches or less, the warning signs shall be "BUMP" (W8-1) with a supplemental distance plate mounted below it.

C. When milled pavement is left exposed to traffic a "ROUGH ROAD" (W8-8a) sign shall be placed two hundred fifty (250) feet in advance of the milled area.

All existing traffic control devices that must be removed shall be replaced in their proper location prior to the completion of the project. Cost for the replacement and/or repair of the devices damaged, as a result of the project shall be assessed to the permittee.

All traffic control devices shall conform to the MANUEL ON UNIFORM TRAFFIC CONTROL DEVICES.

The implementation date and continuance of this project may be altered at the discretion of the County Inspector in the event of conflicts with previously approved or emergency activities.

II. Specific Requirements:

A. Maintenance of Traffic

"ROAD WORK AHEAD" signs (MUTCD Standard W21-4) shall be posted approximately five hundred (500) feet in advance of the work site.

Simultaneous two-way traffic should be maintained whenever possible.

Whenever two-way traffic cannot be maintained, flaggers shall be used to control traffic around the work area on direction at a time with advance flagger signs (MUTCD Standard W20-7a) placed two hundred fifty (250) feet in advance of the flagger. Flaggers shall use STOP/SLOW paddles to direct traffic.

At least ten (10) feet of the roadway shall be available for traffic at all times.

Sidewalk closures shall be limited to occur only during the actual excavation and paving operations of the sidewalk. During excavation and paving operations sidewalks shall be barricaded to physically prevent pedestrian passage. During all other time's provisions for safe pedestrian access through the work area, by a temporary sidewalk shall be provided.

Reflectorized traffic drums shall be placed on the traffic side of any excavation and at the ends of trenches spaced a maximum of ten (10) feet. During daytime work periods twenty-eight (28) inch high traffic cones are acceptable.

Department of Permitting Services
255 Rockville Pike, 2nd Floor
Rockville, MD 20850-4166
Phone: 311 in Montgomery County or 240-777-0311
Fax (240)-777-6262
http://montgomerycountymd.gov/permittingservices/

DPS

Tree Protection in the Right of Way

Guidelines

The following guidelines have been provided by the Department of Transportation to save county street trees from construction related damage. Because street trees in the urban and suburban environment almost always grow in close proximity to residential and commercial structures and therefore, construction work activities, measures to successfully protect the trees are necessary. Usually the greatest impact to trees on construction sites is from soil compaction and root cutting. The following simple procedures can greatly reduce most of the construction damage to trees in the right of way:

Protective Plastic fencing

- Delineates where construction traffic and materials are permitted and where they are not permitted.
- Plastic construction fencing should be at least 4 feet in height, staked and taut throughout.
- Installation of fencing should precede any construction activity and remain in place throughout the entire construction process.
- Fencing should create a square or rectangle shape around the tree with one side as close as possible to the curb, another side as close as possible to the sidewalk (or edge of right-of-way), and the other two sides should be at least 5 feet from the base of the tree perpendicular to the other two sides. An example is shown below.

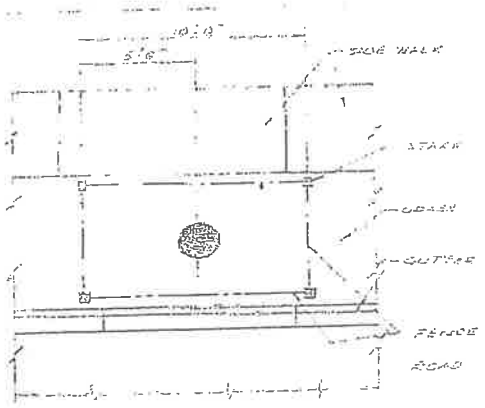


FIGURE 1

- If silt fences are shown for installation within the root zone, the Sediment Control Inspector should be contacted for a re-evaluation prior to installation.

Trenching/Excavating

- The root zone of a tree extends out even past the drip line (canopy) of the tree. Alternate methods should be explored before trenching or excavating are considered.
- If trenching or excavating are necessary, the disturbance should occur as far away from the base of the tree as possible.
- Prior to excavation or trenching, roots should be pruned at the point of disturbance. Any exposed roots should be cut cleanly at the edge of the trench.

Minimizing soil compaction

- Equipment, tools, or building materials are not allowed in the lawn panel or grass right of way area. In certain circumstance if staging areas are permitted by the Right of Way Inspector, sheets of ¾ inch plywood should be laid down beneath the materials to displace the weight and minimize soil compaction.
- Only a permitted temporary construction entrance or an existing driveway may be used for vehicular ingress and egress to a site. However, if temporary access across the right of way occurs, plywood should be used.
- Plywood must not obstruct the sidewalk or create a pedestrian hazard.
- Staging areas and ingress/egress areas should be thought out well before construction begins with consideration to minimize impact to the public trees.

If you have any questions, please call 311 in Montgomery County or 240-777-0311 outside of Montgomery County. For more information on tree care and planting go to the following link http://www.trees.maryland.gov/

Appendix B

Boring Logs and Well Construction Diagrams

DRILLING LOG (Hollow Stem Auger)

HOLE NUMBER: RW-27

PROJECT: Shell #137675 - 15541 New Hampshire Ave

LOGGED BY: Matt Costakis

SHEET: 1 OF 2 SHEETS

DRILLING COMPANY: SGS

DATE: 3/5/2012 - 3/6/2012

START TIME: 1115 3/5/2012

END TIME: 0930 3/6/2012

ELEV.	DEPTH (b)	DESCRIPTION OF MATERIALS	DTW	PID	DRIVEN/ RECOVERED	BLOW COUNT (Middle Two Intervals)	REMARKS
	0						
	2						
	4						0-5 FEET Cleared with air knife
	6	5-7 FEET; reddish tan micaceous silt		0.0	24/24	41/46	
	8	7-9 FEET; reddish tan micaceous silt some white and black micaceous veins trace mineral structure		0.0	24/24	103/70	
	10	9-11 FEET; tan-red foliated micaceous silt, trace mineral structure		0.0	24/24	55/80	
	12	11-13 FEET; red micaceous silt, some clay white and black foliations/mottling		0.0	24/24	48/49	
	14	13-15 FEET; red-brown foliated micaceous silt some mineral structure		0.0	24/24	31/47	
	16	15 - 17 FEET; red-brown foliated micaceous silt some mineral structure		0.0	24/24	38/50	
	18	17 - 19 FEET; red-brown foliated micaceous silt some mineral structure		0.0	24/24	45/48	
	20	19 - 21 FEET; brown-red silt, moist less prevalent mineral structure	▼	0.0	24/24	21/36	Sample Collected RW-27-19-21 Time: 1420 3/5/2012
	22	21 - 23 FEET; red foliated micaceous silt some mineral structure		0.0	24/24	40/70	
	24	23 - 25 FEET; brown-red-black foliated micaceous silt - saprolite prevalent mineral structure		0.0	24/12	64/193	
	26	25 - 27 FEET; brown-red-black foliated micaceous silt - saprolite prevalent mineral structure		0.0	24/24	59/92	
	28	27 - 29 FEET; brown-red-black foliated micaceous silt - saprolite prevalent mineral structure		0.0	24/24	47/59	
	30	29 - 31 FEET; dark brown-red micaceous saprolite		0.0	24/18	56/71	
	32	31 - 33 FEET; dark brown-red saporlite		0.0	24/12	76 - 100/4	Refusal
	34	Spoon Refusal @ 32.5 FEET Remainder of the Boring Logged from Cuttings					

DRILLING LOG (Hollow Stem Auger)

HOLE NUMBER: RW-27

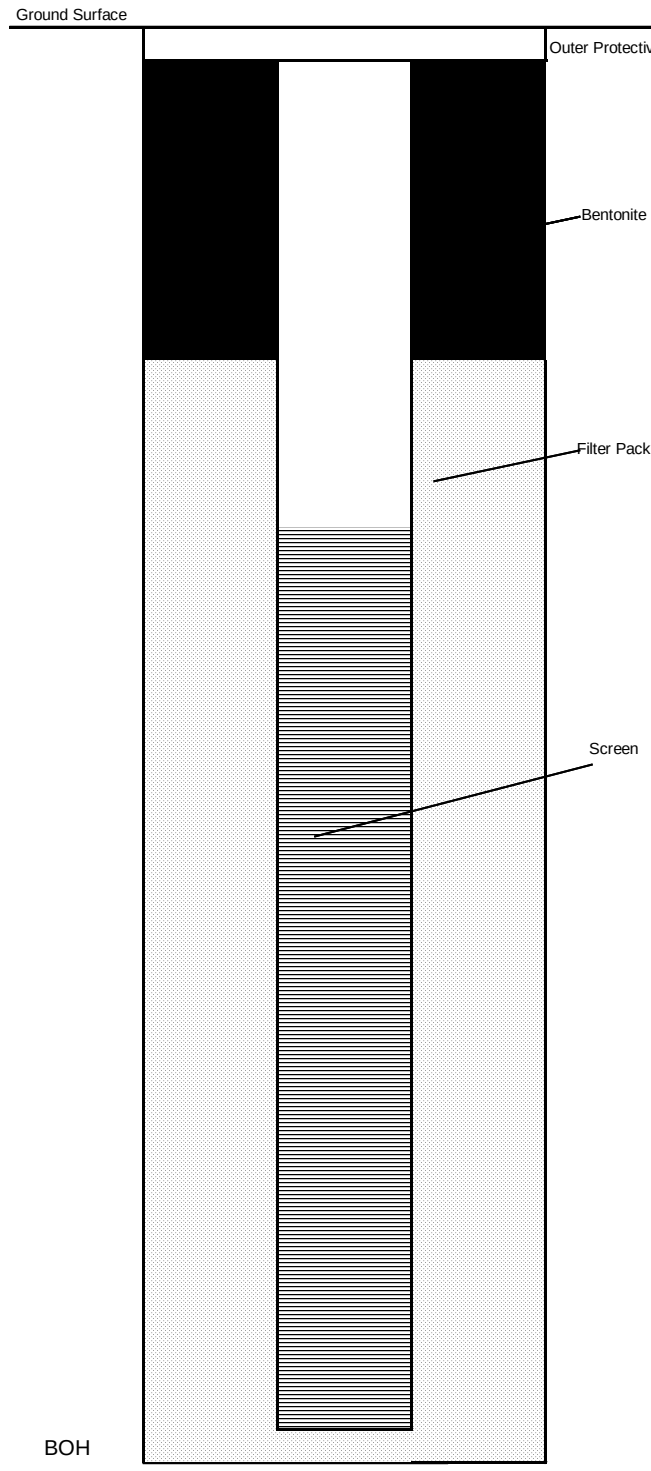
PROJECT	LOGGED BY	SHEET	SHEETS
Shell #137675 - 15541 New Hampshire Ave	Matt Costakis	2 OF 2	

DRILLING COMPANY:	DATE	START TIME	END TIME
SGS	3/5/2012 - 3/6/2012	1115 3/5/2012	0930 3/6/2012

ELEV.	DEPTH (b)	DESCRIPTION OF MATERIALS	DTW	PID	DRIVEN/ RECOVERED	BLOW COUNT (Middle Two Intervals)	REMARKS
	36	Cuttings show red-brown silt - saprolite from spoon refusal to a depth of approximately 45-46 FEET bgs					
	38						
	40						
	42						
	44						
	46	Weathered Bedrock encountered at approximately 45-46 FEET bgs suggest by rig chatter and slowed auger advancement					
	48						
	50	**Auger Refusal @ 51 FEET**					
	52						
	54						
	56						
	58						
	60						

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: RW-27	**LOCATION: Shell #137675**	**DRILLER: SGS**
PROJECT: Recovery Well Installation	**15541 New Hampshire Ave**	**DRILLING METHOD: Hollow Stem Auger**
DATE WELL COMPLETED: 3/7/12	**INSPECTOR: Matt Costakis**	**DEPTH TO GROUNDWATER: 21.5 feet**



TOP OF RISER PIPE TO GROUND SURFACE:	6.00	inches
TYPE OF SURFACE SEAL:	Concrete	
DEPTH OF SEAL:	1.00	feet
I.D. OF SURFACE CASING:	12.00	inches
TYPE OF SURFACE CASING:	Steel	
I.D.OF RISER PIPE:	6.00	inches
TYPE OF RISER PIPE:	PVC	
TYPE OF GROUT:	Bentonite Grout	
DEPTH TO TOP OF SEAL:	6.00	feet
TYPE OF SEAL:	Bentonite Pellet	
DEPTH TO TOP OF FILTER PACK:	8.00	feet
TYPE OF FILTER PACK:	#2 Filter Sand	
DEPTH TO TOP OF SCREEN:	10.00	feet
TYPE OF SCREEN:	PVC	
SLOT SIZE AND LENGTH:	0.02	
I.D. OF SCREEN:	6.00	inches
DEPTH TO BOTTOM OF SCREEN:	50.00	feet
BOREHOLE DIAMETER:	8.00	inches
BOTTOM OF HOLE:	51.00	feet

DRILLING LOG (Hollow Stem Auger)

HOLE NUMBER: 721-BNS

PROJECT: Shell #137675 - 15541 New Hampshire Ave

LOGGED BY: Lisa DeGrazia

SHEET: 1 OF 1 SHEETS

DRILLING COMPANY: DTCI

DATE: 8/1/2012

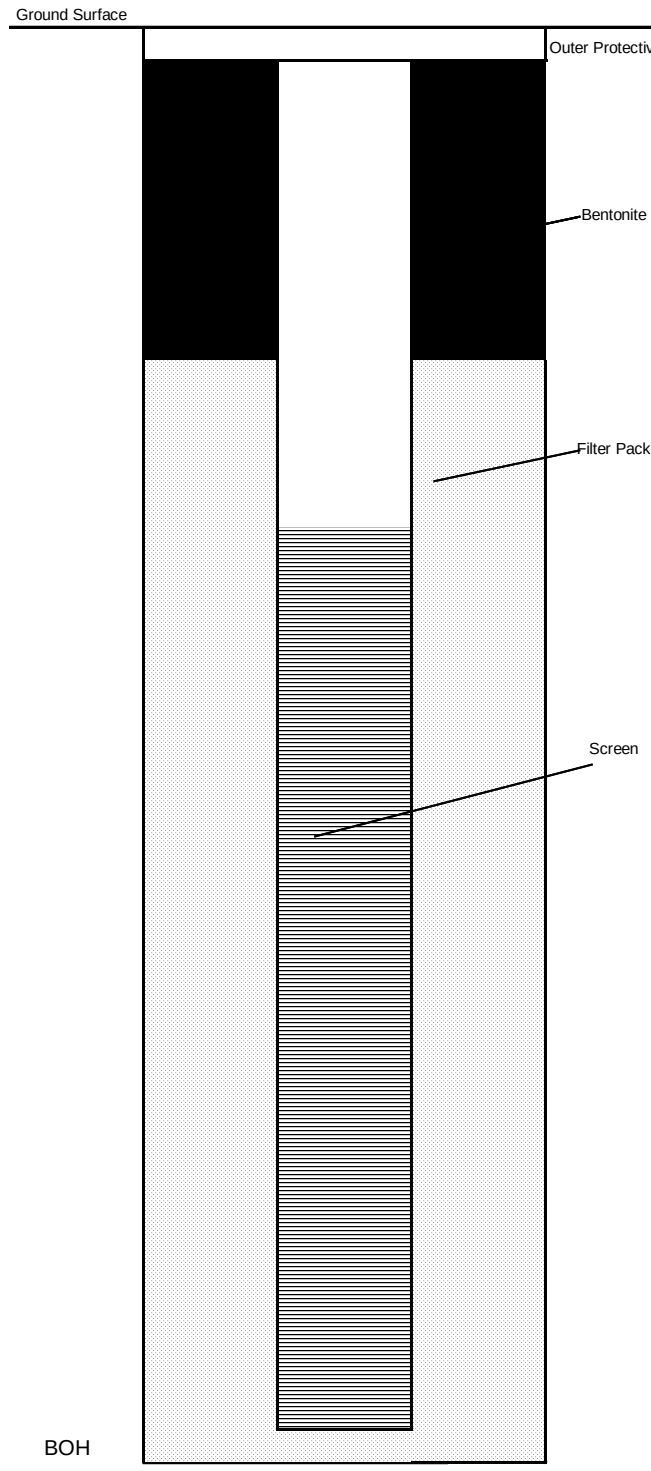
START TIME: 0930 8/1/2012

END TIME: 1100 8/1/2012

ELEV.	DEPTH (b)	DESCRIPTION OF MATERIALS	DTW	PID	DRIVEN/ RECOVERED	BLOW COUNT (Middle Two Intervals)	REMARKS
	0						
	2						0-5 FEET Cleared with air knife
	4						
	6	to semi consolidated sand. Mica present (5-10%). Spoon dry. No fuel odor		7.8	18/24	2/2	
	8	7-9 FEET: 7-7.5 feet is same as 5-7 FEET. Silt and mica (which is iridescent grayish white) becomes predominant fraction with depth. Silt grades from about 15-70%, mica about 15%, some fine sand (10-15%) and clay (<5%). Spoon dry. No fuel odor.		8.1	24/24	6/6	
	10	9-11 FEET; Same as 7.5-9 FEET, weathered mica pieces becoming more prevalent with depth. Spoon dry.		7.9	24/24	3/3	
	12	11-13 FEET: Tannish red with some light orage fine sandy (10-15%) micaceous silt. Spoon dry.		8.9	16/24	7/9	
	14	13-15 FEET: Same as 11-13 FEET. Large (about 1-1.25" in dia) weathered mica pieces (5-10%). Spoon is dry.		9.1	16/24	5/7	Sample Collected 137675-721BNS-13-15 Time: 1000 8/1/2012
	16	15 - 17 FEET: Same as 13-15 FEET. Spoon dry.		7.5	24/24	5/5	
	18	17 - 19 FEET: Saprolitic micaceous schist to a mica schist. Can see red, gray, and tannish orange banding. Spoon dry.		7.4	24/24	7/9	
	20	19 - 21 FEET: Same as 17-19 FEET. More silt present. Spoon dry.		6.7	20/24	7/9	
	22	21 - 23 FEET: Same as 19-21 FEET. Spoon is dry. No fuel odor.		7.8	22/24	10/15	
	24	23 - 25 FEET: Same as 19-21 FEET. Spoon is dry. No fuel odor.		7.9	12/24	6/9	
	26	25 - 27 FEET: Same as 19-21 FEET. Spoon is dry. No fuel odor.		5.3	24/24	17/17	
	28	27 - 29 FEET: Same as 25-27 FEET. Spoon is dry. No fuel odor.	▼	15.9	12/24	11/17	Sample Collected 137675-721BNS-25-27 Time: 1010 8/1/2012
	30						
	32						
	34						

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: 721 BNS	**LOCATION: Shell #137675**	**DRILLER: DTCI**
PROJECT: Sentinel Well Installation	**15541 New Hampshire Ave**	**DRILLING METHOD: Hollow Stem Auger**
DATE WELL COMPLETED: 08/01/12	**INSPECTOR: Lisa DeGrazia**	**DEPTH TO GROUNDWATER: 28.71 feet**



TOP OF RISER PIPE TO GROUND SURFACE:	6.00	inches
TYPE OF SURFACE SEAL:	Concrete	
DEPTH OF SEAL:	1.00	feet
I.D. OF SURFACE CASING:	12.00	inches
TYPE OF SURFACE CASING:	Steel	
I.D.OF RISER PIPE:	6.00	inches
TYPE OF RISER PIPE:	PVC	
TYPE OF GROUT:	Bentonite Grout	
DEPTH TO TOP OF SEAL:	6.50	feet
TYPE OF SEAL:	Bentonite Pellet	
DEPTH TO TOP OF FILTER PACK:	8.50	feet
TYPE OF FILTER PACK:	#2 Filter Sand	
DEPTH TO TOP OF SCREEN:	10.00	feet
TYPE OF SCREEN:	PVC	
SLOT SIZE AND LENGTH:	0.02	
I.D. OF SCREEN:	6.00	inches
DEPTH TO BOTTOM OF SCREEN:	30.00	feet
BOREHOLE DIAMETER:	8.00	inches
BOTTOM OF HOLE:	30.00	feet

WELL DATA COLLECTED ON

DEPTH TO WATER (TOC PVC):	28.71	feet
DEPTH TO WELL BOTTOM (TOC PVC):	30.10	feet
WATER COLUMN	1.39	feet

PROJECT: **Recovery Well Installation**	**HOLE NO.:** **721 BNS**

DRILLING LOG (Hollow Stem Auger)

HOLE NUMBER: 721 BND

PROJECT: Shell #137675 - 15541 New Hampshire Ave

LOGGED BY: Lisa DeGrazia

SHEET: 1 OF 2 SHEETS

DRILLING COMPANY: DTCI

DATE: 7/31/2012

START TIME: 0900 7/31/2012

END TIME: 1400 7/31/2012

ELEV.	DEPTH (b)	DESCRIPTION OF MATERIALS	DTW	PID	DRIVEN/ RECOVERED	BLOW COUNT (Middle Two Intervals)	REMARKS
	0						
	2						0-5 FEET Cleared with air knife
	4						
	6	5-7 FEET: Reddish brown micaceous silt with some (10-15%) med sand. Stray angular qtz stone (1"-1.5" in dia). Spoon is dry		2.5	24/24	4/3	
	8	7-9 FEET: same as 5-7 FEET. Spoon dry.		0.4	24/24	2/2	
	10	9-11 FEET; Reddish brown micaceous silt with some (10-15%) fine to med sand with some (5-10%) white soft clay dispersed throughout. Spoon is dry		0.8	24/24	2/2	
	12	11-13 FEET; Red silty micaceous loose med sand. Large pieces of mica present. Spoon dry.		0.5	12/24	3/4	
	14	13-15 FEET; Red micaceous silty (10-20%) loose medium sand. Not as large of pieces of mica as 11-13 FEET. Spoon is dry.		0.6	24/24	7/9	
	16	15 - 17 FEET; Light red micaceous silty (10%) sand (loose, medium) with large angular qtz (1" dia, 10%). Spoon dry.		0.7	12/24	8/7	
	18	(10%) fine to med sand. <1% sub angular 1/4" white qtz pebbles. Spoon dry.		0.5	24/24	9/9	
	20	19 - 21 FEET: Light red loose to semi consolidated micaceous silty fine sand. No qtz like 17-19 FEET. Spoon dry		0.1	24/24	8/10	
	22	21 - 23 FEET: Same as 19-12 FEET. Sand fraction decreasing with depth. Silt and mcia about 20%. Spoon dry.		0.7	16/24	11/13	
	24	23 - 25 FEET: Clayey (5%) fine sandy (15%) micaceous silt. Light red in color. Mica pieces (5-10%) tan to white. Spoon is dry		0.5	24/24	15/16	
	26	25 - 27 FEET: Weathered/saprolitic pieces of mica schist with a micaceous fine sandy (10-15%) silt. Tannish red in color. Spoon is dry		0.2	22/24	7/11	
	28	27 - 29 FEET: Same as 25-27 FEET. Spoon is dry. No fuel odor.	▼	15.9	12/24	5/10	Sample Collected 137675-721BND-29-31 Time: 1315 7/31/2012
	30	29 - 31 FEET: Same as 25-27 FEET. Spoon is dry. Fuel odor present.		81.6	24/18	56/71	Sample Collected 137675-721BND-31-33 Time: 1300 7/31/2012
	32	31 - 33 FEET: Same as 25-27 FEET. Note that mica fragments are creamy/tan white, iridescent. Spoon dry. Fuel odor.		45.3	24/12	28/37	
	34	33-35 FEET: Same as 31-33 FEET. Some moisture in bottom 6" of spoon		17.3	24/24	28/29	

DRILLING LOG (Hollow Stem Auger)

HOLE NUMBER: 721BN-D

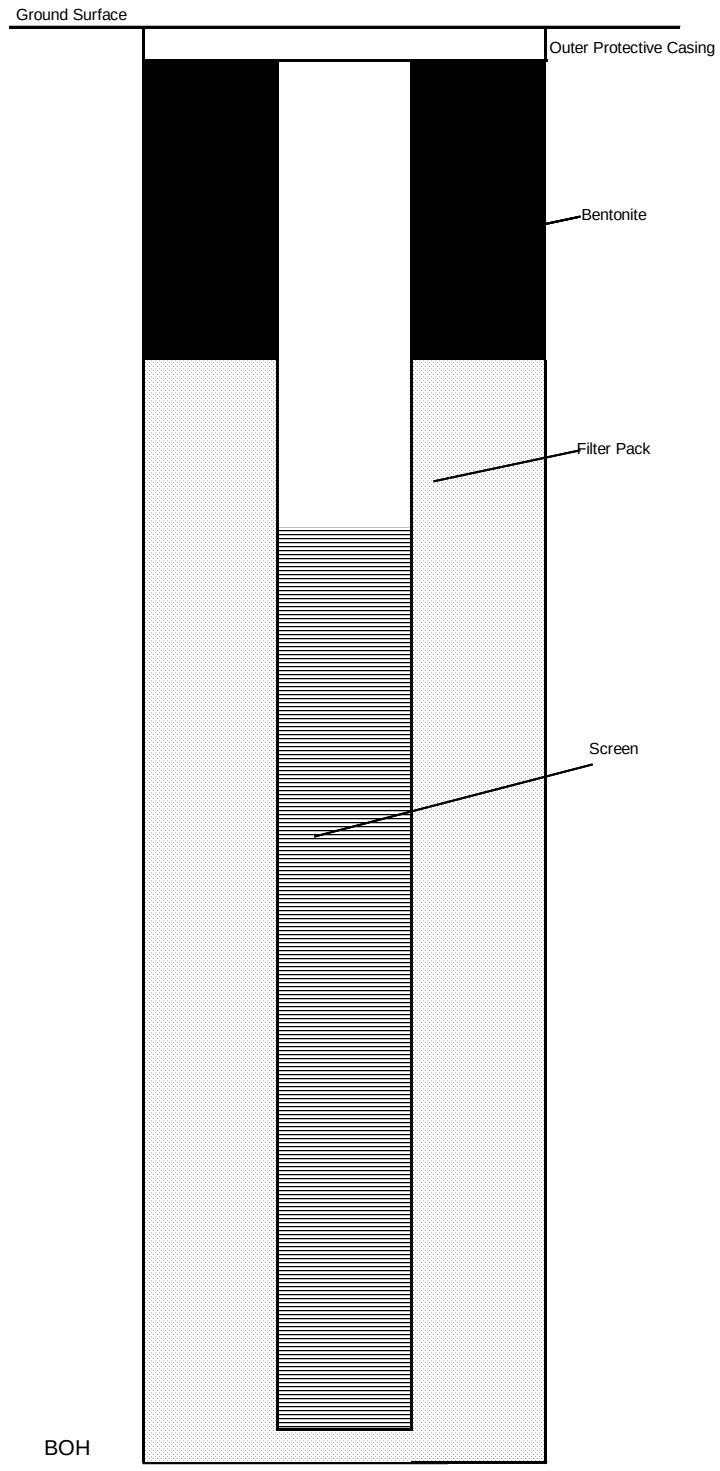
PROJECT	LOGGED BY	SHEET	SHEETS
Shell #137675 - 15541 New Hampshire Ave	Lisa DeGrazia	2 OF 2	

DRILLING COMPANY:	DATE	START TIME	END TIME
DTCI	7/31/2012	0900 7/31/2012	1400 7/31/2012

ELEV.	DEPTH (b)	DESCRIPTION OF MATERIALS	DTW	PID	DRIVEN/ RECOVERED	BLOW COUNT (Middle Two Intervals)	REMARKS
		No noticeable fuel odor.					
	36	35-37 FEET: Same as 31-33 FEET. Spoon has some moisture. No fuel odor.		0.7	22/24	12/15	
	38	37-39 FEET: Extremely weathered mica schist. No fuel odor. Some moisture on spoon.		1.2	24/24	25/25	
	40	39 - 41 FEET: Top half of spoon is weathered micaceous schist (shiny/iridescent grayish light red). Grades into barely weathered/not weathered mica schist.		0.2	20/24	29/40	
		Auger Refusal @ 41'					
	42						
	44						
	46						
	48						
	50						
	52						
	54						
	56						
	58						
	60						

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: 721 BND	**LOCATION: Shell #137675**	**DRILLER: DTCI**
PROJECT: Sentinel Well Installation	**15541 New Hampshire Ave**	**DRILLING METHOD: Hollow Stem Auger**
DATE WELL COMPLETED: 07/31/12	**INSPECTOR: Lisa DeGrazia**	**DEPTH TO GROUNDWATER: 28.73 feet**



TOP OF RISER PIPE TO GROUND SURFACE:	6.00	inches
TYPE OF SURFACE SEAL:	Concrete	
DEPTH OF SEAL:	1.00	feet
I.D. OF SURFACE CASING:	12.00	inches
TYPE OF SURFACE CASING:	Steel	
I.D.OF RISER PIPE:	6.00	inches
TYPE OF RISER PIPE:	PVC	
TYPE OF GROUT:	Bentonite Grout	
DEPTH TO TOP OF SEAL:	25.00	feet
TYPE OF SEAL:	Bentonite Pellet	
DEPTH TO TOP OF FILTER PACK:	28.00	feet
TYPE OF FILTER PACK:	#2 Filter Sand	
DEPTH TO TOP OF SCREEN:	30.00	feet
TYPE OF SCREEN:	PVC	
SLOT SIZE AND LENGTH:	0.02	
I.D. OF SCREEN:	6.00	inches
DEPTH TO BOTTOM OF SCREEN:	40.00	feet
BOREHOLE DIAMETER:	8.00	inches
BOTTOM OF HOLE:	41.00	feet

WELL DATA COLLECTED ON

DEPTH TO WATER (TOC PVC):	28.73	feet
DEPTH TO WELL BOTTOM (TOC PVC):	38.65	feet
WATER COLUMN	9.92	feet

PROJECT: **Recovery Well Installation**	**HOLE NO.:** **721 BND**

Appendix C

Soil Analytical Laboratory Reports

New Jersey ACCUTEST LABORATORIES

03/13/12

Technical Report for

Shell Oil Products US

URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

INC#97436977

Accutest Job Number: JB911

Sampling Date: 03/05/12

Report to:

URS Corporation
12420 Milestone Center Drive Suite 150
Germantown, MD 20876
jenna_anthony@urscorp.com; adriane_rogers@urscorp.com

ATTN: Jenna Anthony

Total number of pages in report: **38**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul Ioannidis
Lab Director

Client Service contact: Marty Vitanza 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, OH VAP (CL0056), PA, RI, SC, TN, VA, WV

Sections: 1 2 3 4 5 6 7

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Sample Summary

Shell Oil Products US

Job No: JB911

URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD
Project No: INC#97436977

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB911-1	03/05/12	14:20	MC	03/07/12	SO	Soil	137675-RW-27-19-21

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Shell Oil Products US	**Job No**	JB911
Site:	URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Sprin	**Report Date**	3/13/2012 12:51:07 P

On 03/07/2012, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 3 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB911 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** VV5387

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB1138-20MS, JB1138-20MSD were used as the QC samples indicated.
- RPD(s) for MSD for 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Trichloroethene are outside control limits for sample JB1138-20MSD. Outside control limits due to matrix interference.

Volatiles by GC By Method SW846 8015C

Matrix: SO **Batch ID:** GUV3808

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB828-2MS, JB828-2MSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8015C

Matrix: SO **Batch ID:** OP55407

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB955-1MS, JB955-1MSD were used as the QC samples indicated.
- Sample(s) OP55407-MSD have surrogates outside control limits. Outside control limits due to matrix interference.
- OP55407-MSD for 5a-Androstane: Outside control limits due to matrix interference.

Wet Chemistry By Method SM18 2540G

Matrix: SO **Batch ID:** GN62993

- The data for SM18 2540G meets quality control requirements.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

New Jersey ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 137675-RW-27-19-21
Lab Sample ID: JB911-1 **Date Sampled:** 03/05/12
Matrix: SO - Soil **Date Received:** 03/07/12
Method: SW846 8260B **Percent Solids:** 83.7
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V124959.D	1	03/09/12	CL	n/a	n/a	VV5387
Run #2							

	Initial Weight
Run #1	4.8 g
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	12	8.2	ug/kg	
71-43-2	Benzene	ND	1.2	0.17	ug/kg	
108-86-1	Bromobenzene	ND	6.2	0.24	ug/kg	
74-97-5	Bromochloromethane	ND	6.2	0.65	ug/kg	
75-27-4	Bromodichloromethane	ND	6.2	0.28	ug/kg	
75-25-2	Bromoform	ND	6.2	0.94	ug/kg	
74-83-9	Bromomethane	ND	6.2	0.49	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	5.4	ug/kg	
104-51-8	n-Butylbenzene	ND	6.2	0.29	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.2	0.20	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.2	0.17	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.2	0.43	ug/kg	
108-90-7	Chlorobenzene	ND	6.2	0.40	ug/kg	
75-00-3	Chloroethane	ND	6.2	0.51	ug/kg	
67-66-3	Chloroform	ND	6.2	0.60	ug/kg	
74-87-3	Chloromethane	ND	6.2	0.78	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.2	0.47	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.2	0.26	ug/kg	
108-20-3	Di-Isopropyl ether	ND	6.2	0.16	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	12	1.9	ug/kg	
124-48-1	Dibromochloromethane	ND	6.2	0.21	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.30	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	6.2	0.34	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	6.2	0.24	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	6.2	0.21	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.2	0.40	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.2	0.27	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.23	ug/kg	
75-35-4	1,1-Dichloroethene	ND	6.2	0.76	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	6.2	0.40	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	6.2	0.53	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.2	0.33	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675-RW-27-19-21
Lab Sample ID: JB911-1 **Date Sampled:** 03/05/12
Matrix: SO - Soil **Date Received:** 03/07/12
Method: SW846 8260B **Percent Solids:** 83.7
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	6.2	0.46	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.2	0.21	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.2	0.26	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.2	0.19	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.2	0.42	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	0.18	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.2	0.65	ug/kg	
98-82-8	Isopropylbenzene	ND	6.2	0.17	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.2	0.37	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.22	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	6.2	3.3	ug/kg	
74-95-3	Methylene bromide	ND	6.2	0.71	ug/kg	
75-09-2	Methylene chloride	ND	6.2	0.29	ug/kg	
91-20-3	Naphthalene	ND	6.2	1.3	ug/kg	
103-65-1	n-Propylbenzene	ND	6.2	0.43	ug/kg	
100-42-5	Styrene	ND	6.2	0.23	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	31	7.2	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	6.2	0.19	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	6.2	0.17	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.2	0.23	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.2	0.22	ug/kg	
127-18-4	Tetrachloroethene	ND	6.2	0.24	ug/kg	
108-88-3	Toluene	ND	1.2	0.47	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.2	0.55	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.2	0.42	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.2	0.30	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.2	0.54	ug/kg	
79-01-6	Trichloroethene	ND	6.2	0.31	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.2	0.60	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.2	1.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	6.2	1.4	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.2	0.16	ug/kg	
75-01-4	Vinyl chloride	ND	6.2	0.57	ug/kg	
	m,p-Xylene	ND	1.2	0.39	ug/kg	
95-47-6	o-Xylene	ND	1.2	0.23	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	0.23	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	120%		67-131%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	137675-RW-27-19-21		
Lab Sample ID:	JB911-1	**Date Sampled:**	03/05/12
Matrix:	SO - Soil	**Date Received:**	03/07/12
Method:	SW846 8260B	**Percent Solids:**	83.7
Project:	URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		66-130%
2037-26-5	Toluene-D8	114%		76-125%
460-00-4	4-Bromofluorobenzene	101%		53-142%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675-RW-27-19-21
Lab Sample ID: JB911-1 **Date Sampled:** 03/05/12
Matrix: SO - Soil **Date Received:** 03/07/12
Method: SW846 8015C **Percent Solids:** 83.7
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV96366.D	1	03/10/12	XPL	n/a	n/a	GUV3808
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	10.6 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	2.4	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	85%		66-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675-RW-27-19-21
Lab Sample ID: JB911-1 **Date Sampled:** 03/05/12
Matrix: SO - Soil **Date Received:** 03/07/12
Method: SW846 8015C SW846 3545A **Percent Solids:** 83.7
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y43471.D	1	03/09/12	MJ	03/08/12	OP55407	G2Y1798
Run #2							

	Initial Weight	Final Volume
Run #1	10.6 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	36.2	11	0.36	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		13-142%
16416-32-3	Tetracosane-d50	82%		12-141%
438-22-2	5a-Androstane	81%		13-142%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

New Jersey ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

50

Shell Oil Products Chain Of Custody Record

URS

LAB (LOCATION)
- [x] ACCUTEST (_____)
- [ ] CALSCIENCE (_____)
- [ ] TESTAMERICA (_____)
- [ ] Other (_____)

Lab Vendor # 1813640 (Accutest)

Please Check Appropriate Box:
- [x] ENV. SERVICES
- [ ] MOTIVA RETAIL
- [ ] SHELL RETAIL
- [ ] MOTIVA SD&CM
- [ ] CONSULTANT
- [ ] LUBES
- [ ] SHELL PIPELINE
- [ ] OTHER

Print Bill To Contact Name: Adriane Rogers

PO #:

INCIDENT # (ENV SERVICES): 9743596975

SAP #: 1376756

- [ ] CHECK IF NO INCIDENT # APPLIES

DATE: 3/6/12

Page 1 of 1

SAMPLING COMPANY: URS CORPORATION

LOG CODE:

ADDRESS: 12420 Milestone Center Drive Suite 150, Germantown, MD 20876

PROJECT CONTACT (Hardcopy or PDF Report to): Adriane Rogers

TELEPHONE: 301-820-3000

FAX: 301-820-3409

Bill To Contact E-MAIL: adriane.rogers@urs.com

SITE ADDRESS: Street and City: 15541 New Hampshire Avenue, Silver Spring

State: MD

GLOBAL ID NO.:

EDF DELIVERABLE TO (Name, Company, Office Location): Adriane Rogers

PHONE NO.: 301-820-3241

E-MAIL: adriane.rogers@urs.com

CONSULTANT PROJECT NO.: 137675

SAMPLER NAME(S) (Print): Matt Cobbkis

LAB USE ONLY: TB 911

TURNAROUND TIME (CALENDAR DAYS):
- [ ] STANDARD (14 DAY)
- [ ] 5 DAYS
- [x] 3 DAYS
- [ ] 2 DAYS
- [ ] 24 HOURS
- [ ] RESULTS NEEDED ON WEEKEND

- [ ] LA - RWQCB REPORT FORMAT
- [ ] UST AGENCY:

DELIVERABLES:
- [ ] LEVEL 1
- [x] LEVEL 2
- [ ] LEVEL 3
- [ ] LEVEL 4
- [ ] OTHER (SPECIFY)

TEMPERATURE ON RECEIPT C°: Cooler #1: 3.0 C B | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
- [x] SHELL CONTRACT RATE APPLIES
- [ ] STATE REIMBURSEMENT RATE APPLIES
- [ ] EDD NOT NEEDED
- [ ] RECEIPT VERIFICATION REQUESTED
- [ ] PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST: Full List VOCs + oxy 5 (8260)	UNIT COST: TPH-GRO (8015B)	UNIT COST: TPH-DRO (8015B)	NON-UNIT COST	FIELD NOTES: Container PID Readings or Laboratory Notes
1	137675-BW-27-19-21	3/5	1420	Soil						2	x	x	x		EX96, 198

FIELD NOTES:
TEMPERATURE ON RECEIPT C°

Relinquished by: (Signature) Matt Cobbkis	Received by: (Signature) Fed	Date: 3/6/12	Time: 1630
Relinquished by: (Signature) Fed	Received by: (Signature) [illegible]	Date: 3/7/12	Time: 0930
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

05/2/06 Revision

TRK #8740 8086 4026

1A

JB911: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB911 **Client:** **Project:**

Date / Time Received: 3/7/2012 **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3/3); 0

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Bar Therm		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

JB911: Chain of Custody
Page 2 of 2

New Jersey ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV5387-MB	V124953.D	1	03/09/12	CL	n/a	n/a	VV5387

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB911-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	6.6	ug/kg	
71-43-2	Benzene	ND	1.0	0.13	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.20	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.52	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	0.22	ug/kg	
75-25-2	Bromoform	ND	5.0	0.76	ug/kg	
74-83-9	Bromomethane	ND	5.0	0.39	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	4.3	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	0.24	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	0.16	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	0.14	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	0.35	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	0.32	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.41	ug/kg	
67-66-3	Chloroform	ND	5.0	0.48	ug/kg	
74-87-3	Chloromethane	ND	5.0	0.62	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	0.38	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	0.21	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	0.13	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	1.5	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	0.17	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.24	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	5.0	0.28	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	5.0	0.19	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	5.0	0.17	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.32	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	0.22	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/kg	
75-35-4	1,1-Dichloroethene	ND	5.0	0.61	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	0.32	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	0.42	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	0.27	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	0.37	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	0.17	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	0.21	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	0.15	ug/kg	

Method Blank Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV5387-MB	V124953.D	1	03/09/12	CL	n/a	n/a	VV5387

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB911-1

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	0.34	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.15	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.52	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.14	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	0.30	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.18	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	2.6	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.57	ug/kg	
75-09-2	Methylene chloride	ND	5.0	0.23	ug/kg	
91-20-3	Naphthalene	ND	5.0	1.1	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	0.35	ug/kg	
100-42-5	Styrene	ND	5.0	0.19	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	25	5.8	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	5.0	0.15	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	5.0	0.14	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.18	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	0.18	ug/kg	
127-18-4	Tetrachloroethene	ND	5.0	0.19	ug/kg	
108-88-3	Toluene	ND	1.0	0.38	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.44	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.34	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	0.24	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	0.43	ug/kg	
79-01-6	Trichloroethene	ND	5.0	0.25	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.48	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	1.1	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.1	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.13	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	0.46	ug/kg	
	m,p-Xylene	ND	1.0	0.31	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.18	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.18	ug/kg	

Method Blank Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV5387-MB	V124953.D	1	03/09/12	CL	n/a	n/a	VV5387

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB911-1

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	117%	67-131%
17060-07-0	1,2-Dichloroethane-D4	103%	66-130%
2037-26-5	Toluene-D8	113%	76-125%
460-00-4	4-Bromofluorobenzene	101%	53-142%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV5387-BS	V124954.D	1	03/09/12	CL	n/a	n/a	VV5387

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB911-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	35.5	71	48-154
71-43-2	Benzene	50	52.9	106	76-120
108-86-1	Bromobenzene	50	45.0	90	78-121
74-97-5	Bromochloromethane	50	53.4	107	80-130
75-27-4	Bromodichloromethane	50	50.8	102	80-139
75-25-2	Bromoform	50	45.6	91	71-144
74-83-9	Bromomethane	50	51.8	104	56-142
78-93-3	2-Butanone (MEK)	50	42.1	84	61-141
104-51-8	n-Butylbenzene	50	47.0	94	70-131
135-98-8	sec-Butylbenzene	50	47.5	95	71-126
98-06-6	tert-Butylbenzene	50	44.8	90	73-127
56-23-5	Carbon tetrachloride	50	51.6	103	64-156
108-90-7	Chlorobenzene	50	48.7	97	80-121
75-00-3	Chloroethane	50	52.7	105	57-138
67-66-3	Chloroform	50	54.9	110	77-130
74-87-3	Chloromethane	50	54.3	109	53-131
95-49-8	o-Chlorotoluene	50	46.3	93	75-125
106-43-4	p-Chlorotoluene	50	45.5	91	71-120
108-20-3	Di-Isopropyl ether	50	52.7	105	65-129
96-12-8	1,2-Dibromo-3-chloropropane	50	44.2	88	63-141
124-48-1	Dibromochloromethane	50	44.5	89	74-138
106-93-4	1,2-Dibromoethane	50	45.7	91	80-127
95-50-1	1,2-Dichlorobenzene	50	45.0	90	77-121
541-73-1	1,3-Dichlorobenzene	50	46.0	92	77-122
106-46-7	1,4-Dichlorobenzene	50	44.0	88	74-117
75-71-8	Dichlorodifluoromethane	50	51.4	103	36-149
75-34-3	1,1-Dichloroethane	50	58.4	117	75-129
107-06-2	1,2-Dichloroethane	50	51.4	103	70-145
75-35-4	1,1-Dichloroethene	50	49.3	99	70-128
156-59-2	cis-1,2-Dichloroethene	50	51.2	102	76-135
156-60-5	trans-1,2-Dichloroethene	50	51.1	102	68-124
78-87-5	1,2-Dichloropropane	50	56.1	112	79-122
142-28-9	1,3-Dichloropropane	50	47.0	94	79-124
594-20-7	2,2-Dichloropropane	50	51.6	103	54-148
563-58-6	1,1-Dichloropropene	50	53.9	108	74-131
10061-01-5	cis-1,3-Dichloropropene	50	51.0	102	80-127

Blank Spike Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV5387-BS	V124954.D	1	03/09/12	CL	n/a	n/a	VV5387

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB911-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	49.4	99	79-133
100-41-4	Ethylbenzene	50	47.6	95	75-125
87-68-3	Hexachlorobutadiene	50	45.9	92	63-139
98-82-8	Isopropylbenzene	50	47.8	96	67-126
99-87-6	p-Isopropyltoluene	50	48.4	97	73-131
1634-04-4	Methyl Tert Butyl Ether	100	94.8	95	72-126
108-10-1	4-Methyl-2-pentanone(MIBK)	50	51.7	103	69-135
74-95-3	Methylene bromide	50	53.0	106	82-131
75-09-2	Methylene chloride	50	50.1	100	71-124
91-20-3	Naphthalene	50	41.2	82	59-134
103-65-1	n-Propylbenzene	50	47.7	95	70-123
100-42-5	Styrene	50	46.0	92	77-128
75-65-0	Tert Butyl Alcohol	250	234	94	65-137
994-05-8	tert-Amyl Methyl Ether	50	48.2	96	69-125
637-92-3	tert-Butyl Ethyl Ether	50	52.2	104	69-128
630-20-6	1,1,1,2-Tetrachloroethane	50	48.9	98	79-134
79-34-5	1,1,2,2-Tetrachloroethane	50	46.2	92	71-122
127-18-4	Tetrachloroethene	50	47.8	96	70-137
108-88-3	Toluene	50	50.8	102	77-124
87-61-6	1,2,3-Trichlorobenzene	50	44.4	89	67-134
120-82-1	1,2,4-Trichlorobenzene	50	45.7	91	70-132
71-55-6	1,1,1-Trichloroethane	50	51.9	104	70-144
79-00-5	1,1,2-Trichloroethane	50	50.3	101	81-127
79-01-6	Trichloroethene	50	51.7	103	80-129
75-69-4	Trichlorofluoromethane	50	51.7	103	59-149
96-18-4	1,2,3-Trichloropropane	50	40.3	81	74-133
95-63-6	1,2,4-Trimethylbenzene	50	46.6	93	73-122
108-67-8	1,3,5-Trimethylbenzene	50	48.6	97	71-121
75-01-4	Vinyl chloride	50	56.0	112	59-134
	m,p-Xylene	100	96.1	96	77-124
95-47-6	o-Xylene	50	48.3	97	81-126
1330-20-7	Xylene (total)	150	144	96	78-124

Blank Spike Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV5387-BS	V124954.D	1	03/09/12	CL	n/a	n/a	VV5387

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB911-1

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	118%	67-131%
17060-07-0	1,2-Dichloroethane-D4	103%	66-130%
2037-26-5	Toluene-D8	115%	76-125%
460-00-4	4-Bromofluorobenzene	103%	53-142%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB1138-20MS	V124955.D	1	03/09/12	CL	n/a	n/a	VV5387
JB1138-20MSD	V124956.D	1	03/09/12	CL	n/a	n/a	VV5387
JB1138-20	V124958.D	1	03/09/12	CL	n/a	n/a	VV5387

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB911-1

CAS No.	Compound	JB1138-20 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		102	167	164	120	109	33	12-189/33
71-43-2	Benzene	ND		102	86.7	85	84.2	77	3	37-132/21
108-86-1	Bromobenzene	ND		102	77.7	76	80.7	74	4	17-144/25
74-97-5	Bromochloromethane	ND		102	96.4	95	97.9	89	2	43-136/20
75-27-4	Bromodichloromethane	ND		102	85.6	84	87.2	79	2	34-148/21
75-25-2	Bromoform	ND		102	86.3	85	95.3	87	10	23-153/23
74-83-9	Bromomethane	ND		102	113	111	113	103	0	10-150/27
78-93-3	2-Butanone (MEK)	ND		102	135	132	123	112	9	21-179/29
104-51-8	n-Butylbenzene	ND		102	71.9	71	75.8	69	5	10-156/33
135-98-8	sec-Butylbenzene	ND		102	77.0	76	79.1	72	3	10-152/30
98-06-6	tert-Butylbenzene	ND		102	74.3	73	75.1	68	1	10-151/28
56-23-5	Carbon tetrachloride	ND		102	81.4	80	77.5	71	5	25-156/24
108-90-7	Chlorobenzene	ND		102	78.6	77	79.5	72	1	25-140/24
75-00-3	Chloroethane	ND		102	125	123	118	108	6	15-143/26
67-66-3	Chloroform	ND		102	94.9	93	91.5	83	4	42-134/21
74-87-3	Chloromethane	ND		102	133	130	124	113	7	33-134/25
95-49-8	o-Chlorotoluene	ND		102	76.8	75	78.0	71	2	13-146/29
106-43-4	p-Chlorotoluene	ND		102	75.7	74	77.6	71	2	10-143/27
108-20-3	Di-Isopropyl ether	ND		102	102	100	103	94	1	39-133/20
96-12-8	1,2-Dibromo-3-chloropropane	ND		102	100	98	106	97	6	15-154/28
124-48-1	Dibromochloromethane	ND		102	80.1	79	85.2	78	6	28-150/22
106-93-4	1,2-Dibromoethane	ND		102	88.8	87	90.0	82	1	34-141/21
95-50-1	1,2-Dichlorobenzene	ND		102	75.7	74	81.4	74	7	10-147/28
541-73-1	1,3-Dichlorobenzene	ND		102	73.5	72	78.3	71	6	10-148/28
106-46-7	1,4-Dichlorobenzene	ND		102	72.3	71	77.8	71	7	10-144/28
75-71-8	Dichlorodifluoromethane	ND		102	131	129	115	105	13	18-162/26
75-34-3	1,1-Dichloroethane	ND		102	98.1	96	95.5	87	3	44-131/21
107-06-2	1,2-Dichloroethane	ND		102	94.0	92	94.3	86	0	39-144/20
75-35-4	1,1-Dichloroethene	ND		102	85.6	84	80.0	73	7	37-135/23
156-59-2	cis-1,2-Dichloroethene	ND		102	85.9	84	85.9	78	0	38-134/21
156-60-5	trans-1,2-Dichloroethene	ND		102	86.0	84	80.1	73	7	35-133/23
78-87-5	1,2-Dichloropropane	ND		102	94.3	93	92.9	85	1	41-132/20
142-28-9	1,3-Dichloropropane	ND		102	89.4	88	90.7	83	1	38-135/20
594-20-7	2,2-Dichloropropane	ND		102	86.7	85	83.0	76	4	29-141/23
563-58-6	1,1-Dichloropropene	ND		102	88.1	86	82.2	75	7	30-141/24
10061-01-5	cis-1,3-Dichloropropene	ND		102	85.4	84	88.5	81	4	31-141/23

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB1138-20MS	V124955.D	1	03/09/12	CL	n/a	n/a	VV5387
JB1138-20MSD	V124956.D	1	03/09/12	CL	n/a	n/a	VV5387
JB1138-20	V124958.D	1	03/09/12	CL	n/a	n/a	VV5387

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB911-1

CAS No.	Compound	JB1138-20 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		102	85.2	84	90.8	83	6	29-146/24
100-41-4	Ethylbenzene	ND		102	76.2	75	74.3	68	3	20-144/25
87-68-3	Hexachlorobutadiene	ND		102	69.2	68	76.6	70	10	10-176/36
98-82-8	Isopropylbenzene	ND		102	79.5	78	78.0	71	2	14-146/27
99-87-6	p-Isopropyltoluene	ND		102	74.9	73	77.1	70	3	10-154/30
1634-04-4	Methyl Tert Butyl Ether	ND		102	90.5	89	93.2	85	3	43-131/20
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		102	113	111	123	112	8	36-145/26
74-95-3	Methylene bromide	ND		102	95.0	93	96.6	88	2	42-138/21
75-09-2	Methylene chloride	ND		102	88.5	87	85.8	78	3	41-128/20
91-20-3	Naphthalene	ND		102	78.6	77	81.2	74	3	10-157/34
103-65-1	n-Propylbenzene	ND		102	77.5	76	77.4	71	0	10-147/29
100-42-5	Styrene	ND		102	74.2	73	75.1	68	1	13-154/25
75-65-0	Tert Butyl Alcohol	ND		510	516	101	421	77	20	41-146/26
994-05-8	tert-Amyl Methyl Ether	ND		102	95.0	93	95.9	87	1	41-131/20
637-92-3	tert-Butyl Ethyl Ether	ND		102	105	103	108	98	3	41-134/20
630-20-6	1,1,1,2-Tetrachloroethane	ND		102	80.8	79	84.6	77	5	28-148/22
79-34-5	1,1,2,2-Tetrachloroethane	ND		102	74.0	73	109	99	38* [a]	30-134/26
127-18-4	Tetrachloroethene	ND		102	129	127	76.2	69	51* [a]	18-163/26
108-88-3	Toluene	ND		102	80.3	79	79.9	73	0	29-138/23
87-61-6	1,2,3-Trichlorobenzene	ND		102	71.5	70	73.4	67	3	10-158/36
120-82-1	1,2,4-Trichlorobenzene	ND		102	69.8	68	73.2	67	5	10-163/35
71-55-6	1,1,1-Trichloroethane	ND		102	87.0	85	84.9	77	2	35-145/23
79-00-5	1,1,2-Trichloroethane	ND		102	91.9	90	99.3	90	8	37-140/22
79-01-6	Trichloroethene	ND		102	108	106	80.4	73	29* [a]	28-151/23
75-69-4	Trichlorofluoromethane	ND		102	126	124	115	105	9	29-154/25
96-18-4	1,2,3-Trichloropropane	ND		102	86.6	85	97.7	89	12	35-141/24
95-63-6	1,2,4-Trimethylbenzene	ND		102	75.3	74	77.2	70	2	10-151/31
108-67-8	1,3,5-Trimethylbenzene	ND		102	80.2	79	80.8	74	1	10-146/28
75-01-4	Vinyl chloride	ND		102	137	134	126	115	8	33-143/24
	m,p-Xylene	ND		204	153	75	149	68	3	17-145/25
95-47-6	o-Xylene	ND		102	78.1	77	77.3	70	1	20-146/25
1330-20-7	Xylene (total)	ND		306	231	76	227	69	2	18-145/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB1138-20MS	V124955.D	1	03/09/12	CL	n/a	n/a	VV5387
JB1138-20MSD	V124956.D	1	03/09/12	CL	n/a	n/a	VV5387
JB1138-20	V124958.D	1	03/09/12	CL	n/a	n/a	VV5387

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB911-1

CAS No.	Surrogate Recoveries	MS	MSD	JB1138-20	Limits
1868-53-7	Dibromofluoromethane	116%	127%	120%	67-131%
17060-07-0	1,2-Dichloroethane-D4	111%	116%	111%	66-130%
2037-26-5	Toluene-D8	113%	114%	114%	76-125%
460-00-4	4-Bromofluorobenzene	104%	104%	101%	53-142%

(a) Outside control limits due to matrix interference.

Instrument Performance Check (BFB)

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample: VV5363-BFB
Lab File ID: V124468.D
Instrument ID: GCMSV
Injection Date: 02/22/12
Injection Time: 08:45

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	6994	16.5		Pass
75	30.0 - 60.0% of mass 95	18973	44.9		Pass
95	Base peak, 100% relative abundance	42266	100.0		Pass
96	5.0 - 9.0% of mass 95	2785	6.59		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	39226	92.8		Pass
175	5.0 - 9.0% of mass 174	3226	7.63	(8.22) [a]	Pass
176	95.0 - 101.0% of mass 174	37904	89.7	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	2590	6.13	(6.83) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VV5363-IC5363	V124469.D	02/22/12	09:25	00:40	Initial cal 5
VV5363-IC5363	V124470.D	02/22/12	10:05	01:20	Initial cal 2
VV5363-IC5363	V124471.D	02/22/12	10:36	01:51	Initial cal 1
VV5363-IC5363	V124472.D	02/22/12	11:07	02:22	Initial cal 0.5
VV5363-IC5363	V124473.D	02/22/12	11:40	02:55	Initial cal 10
VV5363-IC5363	V124474.D	02/22/12	12:11	03:26	Initial cal 20
VV5363-ICC5363	V124475.D	02/22/12	12:41	03:56	Initial cal 50
VV5363-IC5363	V124479.D	02/22/12	15:08	06:23	Initial cal 100
VV5363-IC5363	V124480.D	02/22/12	15:39	06:54	Initial cal 200
VV5363-ICV5363	V124482A.D	02/22/12	17:57	09:12	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample: VV5387-BFB
Lab File ID: V124950.D
Instrument ID: GCMSV
Injection Date: 03/09/12
Injection Time: 10:30

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	9712	15.6		Pass
75	30.0 - 60.0% of mass 95	28117	45.2		Pass
95	Base peak, 100% relative abundance	62208	100.0		Pass
96	5.0 - 9.0% of mass 95	4166	6.70		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	56064	90.1		Pass
175	5.0 - 9.0% of mass 174	4212	6.77	(7.51) [a]	Pass
176	95.0 - 101.0% of mass 174	54954	88.3	(98.0) [a]	Pass
177	5.0 - 9.0% of mass 176	3575	5.75	(6.51) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VV5387-CC5363	V124951.D	03/09/12	11:01	00:31	Continuing cal 20
VV5387-MB	V124953.D	03/09/12	13:16	02:46	Method Blank
VV5387-BS	V124954.D	03/09/12	13:47	03:17	Blank Spike
JB1138-20MS	V124955.D	03/09/12	14:20	03:50	Matrix Spike
JB1138-20MSD	V124956.D	03/09/12	14:51	04:21	Matrix Spike Duplicate
JB1138-20	V124958.D	03/09/12	16:24	05:54	(used for QC only; not part of job JB911)
JB911-1	V124959.D	03/09/12	16:55	06:25	137675-RW-27-19-21
ZZZZZZ	V124960.D	03/09/12	17:26	06:56	(unrelated sample)
ZZZZZZ	V124961.D	03/09/12	17:56	07:26	(unrelated sample)

Volatile Surrogate Recovery Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JB911-1	V124959.D	120.0	105.0	114.0	101.0
JB1138-20MS	V124955.D	116.0	111.0	113.0	104.0
JB1138-20MSD	V124956.D	127.0	116.0	114.0	104.0
VV5387-BS	V124954.D	118.0	103.0	115.0	103.0
VV5387-MB	V124953.D	117.0	103.0	113.0	101.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	67-131%
S2 = 1,2-Dichloroethane-D4	66-130%
S3 = Toluene-D8	76-125%
S4 = 4-Bromofluorobenzene	53-142%

New Jersey ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV3808-MB3	UV96365.D	1	03/10/12	XPL	n/a	n/a	GUV3808

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB911-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	1.8	mg/kg	

CAS No.	Surrogate Recoveries		Limits
98-08-8	aaa-Trifluorotoluene	87%	66-119%

Method Blank Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV3808-MB1	UV96345.D	1	03/09/12	XPL	n/a	n/a	GUV3808

The QC reported here applies to the following samples: **Method:** SW846 8015C

GUV3808-BS, JB828-2MS, JB828-2MSD

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	1.8	mg/kg	

CAS No.	Surrogate Recoveries		Limits
98-08-8	aaa-Trifluorotoluene	86%	66-119%

Blank Spike Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV3808-BS	UV96346.D	1	03/09/12	XPL	n/a	n/a	GUV3808

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB911-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	400	420	105	70-120

CAS No.	Surrogate Recoveries	BSP	Limits
98-08-8	aaa-Trifluorotoluene	105%	66-119%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB828-2MS	UV96353.D	1	03/09/12	XPL	n/a	n/a	GUV3808
JB828-2MSD	UV96354.D	1	03/09/12	XPL	n/a	n/a	GUV3808
JB828-2	UV96348.D	1	03/09/12	XPL	n/a	n/a	GUV3808

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB911-1

CAS No.	Compound	JB828-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		563	575	102	566	101	2	61-128/14

CAS No.	Surrogate Recoveries	MS	MSD	JB828-2	Limits
98-08-8	aaa-Trifluorotoluene	99%	98%	85%	66-119%

Volatile Surrogate Recovery Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Method: SW846 8015C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JB911-1	UV96366.D	85.0
GUV3808-BS	UV96346.D	105.0
GUV3808-MB3	UV96365.D	87.0
JB828-2MS	UV96353.D	99.0
JB828-2MSD	UV96354.D	98.0
GUV3808-MB1	UV96345.D	86.0

Surrogate Compounds	Recovery Limits
S1 = aaa-Trifluorotoluene	66-119%

(a) Recovery from GC signal #1

New Jersey ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP55407-MB1	2Y43465.D	1	03/09/12	MJ	03/08/12	OP55407	G2Y1798

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB911-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	0.32	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	95%	13-142%
16416-32-3	Tetracosane-d50	86%	12-141%
438-22-2	5a-Androstane	97%	13-142%

Blank Spike Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP55407-BS1	2Y43466.D	1	03/09/12	MJ	03/08/12	OP55407	G2Y1798

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB911-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	100	96.3	96	46-125

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	95%	13-142%
16416-32-3	Tetracosane-d50	88%	12-141%
438-22-2	5a-Androstane	97%	13-142%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP55407-MS	2Y43469.D	1	03/09/12	MJ	03/08/12	OP55407	G2Y1798
OP55407-MSD	2Y43470.D	1	03/09/12	MJ	03/08/12	OP55407	G2Y1798
JB955-1	2Y43473.D	1	03/09/12	MJ	03/08/12	OP55407	G2Y1798

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB911-1

CAS No.	Compound	JB955-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	22400		1060	23300	85	23000	64	1	10-160/50

CAS No.	Surrogate Recoveries	MS	MSD	JB955-1	Limits
84-15-1	o-Terphenyl	102%	120%	136%	13-142%
16416-32-3	Tetracosane-d50	90%	93%	81%	12-141%
438-22-2	5a-Androstane	128%	149%* [a]	189%* [a]	13-142%

(a) Outside control limits due to matrix interference.

Semivolatile Surrogate Recovery Summary

Job Number: JB911
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Method: SW846 8015C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]	S3 [a]
JB911-1	2Y43471.D	82.0	82.0	81.0
OP55407-BS1	2Y43466.D	95.0	88.0	97.0
OP55407-MB1	2Y43465.D	95.0	86.0	97.0
OP55407-MS	2Y43469.D	102.0	90.0	128.0
OP55407-MSD	2Y43470.D	120.0	93.0	149.0* [b]

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	13-142%
S2 = Tetracosane-d50	12-141%
S3 = 5a-Androstane	13-142%

(a) Recovery from GC signal #1
(b) Outside control limits due to matrix interference.

New Jersey ACCUTEST LABORATORIES

08/13/12

Technical Report for

Shell Oil Products US

URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

INC#97436977

Accutest Job Number: JB12712

Sampling Dates: 07/31/12 - 08/01/12

Report to:

URS Corporation
12420 Milestone Center Drive Suite 150
Germantown, MD 20876
jenna_anthony@urscorp.com; adriane_rogers@urscorp.com;
cory.lavoie@urs.com
ATTN: Jenna Anthony

Total number of pages in report: **63**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul Ioannidis
Lab Director

Client Service contact: Marty Vitanza 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, OH VAP (CL0056), PA, RI, SC, TN, VA, WV

Sections: 1 2 3 4 5 6 7 8

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Sample Summary

Shell Oil Products US

Job No: JB12712

URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD
Project No: INC#97436977

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB12712-1	08/01/12	10:00	LD	08/02/12	SO	Soil	137675 - 721 BNS - 13-15
JB12712-2	08/01/12	10:10	LD	08/02/12	SO	Soil	137675 - 721 BNS - 25-27
JB12712-3	07/31/12	13:00	LD	08/02/12	SO	Soil	137675 - 721 BND - 31-33
JB12712-4	07/31/12	13:15	LD	08/02/12	SO	Soil	137675 - 721 BND - 29-31

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Shell Oil Products US	**Job No**	JB12712
Site:	URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Sprin	**Report Date**	8/13/2012 3:28:05 PM

On 08/02/2012, 4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 2 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB12712 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** VI7112

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB12773-2MS, JB12773-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for 1,1,2,2-Tetrachloroethane, Trichloroethene are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for 1,1,2,2-Tetrachloroethane, 1,1-Dichloroethene, Trichloroethene are outside control limits. Outside control limits due to matrix interference.
- Sample(s) JB12773-2MS, JB12773-2MSD have surrogates outside control limits. Outside control limits due to matrix interference.
- JB12773-2MS for Dibromofluoromethane: Outside control limits due to matrix interference.
- JB12773-2MSD for Dibromofluoromethane: Outside control limits due to matrix interference.

Matrix: SO **Batch ID:** VI7115

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB12678-14MS, JB12678-14MSD were used as the QC samples indicated.
- Sample(s) JB12773-2MS, JB12773-2MSD have surrogates outside control limits. Outside control limits due to matrix interference.

Volatiles by GC By Method SW846 8015C

Matrix: SO **Batch ID:** GPF2815

- All samples were analyzed within the recommended method holding time.
- Sample(s) JB12712-1MS, JB12712-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846 8015C

Matrix:	SO	Batch ID:	OP58751

- All samples were extracted within the recommended method holding time.
- Sample(s) JB12610-2MS, JB12610-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for TPH-DRO (C10-C28) are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Sample(s) OP58751-MS, OP58751-MSD have surrogates outside control limits. Outside control limits due to matrix interference.
- OP58751-MS for Tetracosane-d50: Outside control limits due to matrix interference.
- OP58751-MSD for Tetracosane-d50: Outside control limits due to matrix interference.

Wet Chemistry By Method SM18 2540G

Matrix:	SO	Batch ID:	GN70184

- The data for SM18 2540G meets quality control requirements.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: JB12712
Account: Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD
Collected: 07/31/12 thru 08/01/12

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB12712-1	**137675 - 721 BNS - 13-15**					
Benzene		0.40 J	1.2	0.14	ug/kg	SW846 8260B
Toluene		0.86 J	1.2	0.12	ug/kg	SW846 8260B
TPH-DRO (C10-C28)		21.4	11	0.36	mg/kg	SW846 8015C
JB12712-2	**137675 - 721 BNS - 25-27**					
Benzene		0.40 J	1.2	0.14	ug/kg	SW846 8260B
Toluene		0.95 J	1.2	0.13	ug/kg	SW846 8260B
JB12712-3	**137675 - 721 BND - 31-33**					
Acetone		13.0 J	15	2.6	ug/kg	SW846 8260B
JB12712-4	**137675 - 721 BND - 29-31**					
Toluene		0.61 J	1.1	0.12	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene		0.36 J	5.6	0.23	ug/kg	SW846 8260B
TPH-DRO (C10-C28)		12.9	11	0.34	mg/kg	SW846 8015C

New Jersey ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 137675 - 721 BNS - 13-15
Lab Sample ID: JB12712-1 **Date Sampled:** 08/01/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8260B **Percent Solids:** 86.4
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I176082.D	1	08/03/12	SJM	n/a	n/a	VI7112
Run #2							

	Initial Weight
Run #1	4.9 g
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	12	2.0	ug/kg	
71-43-2	Benzene	0.40	1.2	0.14	ug/kg	J
108-86-1	Bromobenzene	ND	5.9	0.18	ug/kg	
74-97-5	Bromochloromethane	ND	5.9	0.31	ug/kg	
75-27-4	Bromodichloromethane	ND	5.9	0.12	ug/kg	
75-25-2	Bromoform	ND	5.9	0.18	ug/kg	
74-83-9	Bromomethane	ND	5.9	0.32	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	2.8	ug/kg	
104-51-8	n-Butylbenzene	ND	5.9	0.13	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.9	0.13	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.9	0.35	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.9	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	5.9	0.13	ug/kg	
75-00-3	Chloroethane	ND	5.9	0.27	ug/kg	
67-66-3	Chloroform	ND	5.9	0.098	ug/kg	
74-87-3	Chloromethane	ND	5.9	0.22	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.9	0.15	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.9	0.16	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.9	0.21	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	12	1.1	ug/kg	
124-48-1	Dibromochloromethane	ND	5.9	0.19	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.15	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	5.9	0.22	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	5.9	0.22	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	5.9	0.21	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.9	0.27	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.9	0.16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	5.9	0.30	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	5.9	0.22	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	5.9	0.28	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.9	0.18	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BNS - 13-15
Lab Sample ID: JB12712-1 **Date Sampled:** 08/01/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8260B **Percent Solids:** 86.4
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.9	0.18	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.9	0.23	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.9	0.24	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.9	0.16	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.9	0.18	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	0.31	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.9	0.23	ug/kg	
98-82-8	Isopropylbenzene	ND	5.9	0.088	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.9	0.12	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.28	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.9	0.89	ug/kg	
74-95-3	Methylene bromide	ND	5.9	0.16	ug/kg	
75-09-2	Methylene chloride	ND	5.9	1.5	ug/kg	
91-20-3	Naphthalene	ND	5.9	0.14	ug/kg	
103-65-1	n-Propylbenzene	ND	5.9	0.14	ug/kg	
100-42-5	Styrene	ND	5.9	0.11	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	30	5.1	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	5.9	0.69	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	5.9	0.097	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.9	0.16	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.9	0.16	ug/kg	
127-18-4	Tetrachloroethene	ND	5.9	0.20	ug/kg	
108-88-3	Toluene	0.86	1.2	0.12	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.9	0.19	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.9	0.16	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.9	0.13	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.9	0.21	ug/kg	
79-01-6	Trichloroethene	ND	5.9	0.21	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.9	0.35	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.9	0.48	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.9	0.25	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.9	0.19	ug/kg	
75-01-4	Vinyl chloride	ND	5.9	0.17	ug/kg	
	m,p-Xylene	ND	1.2	0.21	ug/kg	
95-47-6	o-Xylene	ND	1.2	0.16	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	0.16	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		70-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	137675 - 721 BNS - 13-15		
Lab Sample ID:	JB12712-1	**Date Sampled:**	08/01/12
Matrix:	SO - Soil	**Date Received:**	08/02/12
Method:	SW846 8260B	**Percent Solids:**	86.4
Project:	URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		70-122%
2037-26-5	Toluene-D8	108%		81-127%
460-00-4	4-Bromofluorobenzene	102%		66-132%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BNS - 13-15
Lab Sample ID: JB12712-1 **Date Sampled:** 08/01/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8015C **Percent Solids:** 86.4
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF99494.D	1	08/06/12	XPL	n/a	n/a	GPF2815
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	9.8 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	13	1.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	93%		66-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BNS - 13-15
Lab Sample ID: JB12712-1 **Date Sampled:** 08/01/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8015C SW846 3545A **Percent Solids:** 86.4
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5Y4105.D	1	08/06/12	CS	08/03/12	OP58751	G5Y147
Run #2							

	Initial Weight	Final Volume
Run #1	10.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	21.4	11	0.36	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	74%		13-142%
16416-32-3	Tetracosane-d50	86%		12-141%
438-22-2	5a-Androstane	82%		13-142%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BNS - 25-27
Lab Sample ID: JB12712-2 **Date Sampled:** 08/01/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8260B **Percent Solids:** 90.6
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I176083.D	1	08/03/12	SJM	n/a	n/a	VI7112
Run #2							

	Initial Weight
Run #1	4.6 g
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	12	2.0	ug/kg	
71-43-2	Benzene	0.40	1.2	0.14	ug/kg	J
108-86-1	Bromobenzene	ND	6.0	0.18	ug/kg	
74-97-5	Bromochloromethane	ND	6.0	0.32	ug/kg	
75-27-4	Bromodichloromethane	ND	6.0	0.13	ug/kg	
75-25-2	Bromoform	ND	6.0	0.18	ug/kg	
74-83-9	Bromomethane	ND	6.0	0.33	ug/kg	
78-93-3	2-Butanone (MEK)	ND	12	2.9	ug/kg	
104-51-8	n-Butylbenzene	ND	6.0	0.14	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.0	0.14	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.0	0.35	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.0	0.16	ug/kg	
108-90-7	Chlorobenzene	ND	6.0	0.13	ug/kg	
75-00-3	Chloroethane	ND	6.0	0.27	ug/kg	
67-66-3	Chloroform	ND	6.0	0.099	ug/kg	
74-87-3	Chloromethane	ND	6.0	0.22	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.0	0.15	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.0	0.16	ug/kg	
108-20-3	Di-Isopropyl ether	ND	6.0	0.21	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	12	1.1	ug/kg	
124-48-1	Dibromochloromethane	ND	6.0	0.20	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.2	0.15	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	6.0	0.23	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	6.0	0.22	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	6.0	0.21	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.0	0.27	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.0	0.16	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.2	0.16	ug/kg	
75-35-4	1,1-Dichloroethene	ND	6.0	0.31	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	6.0	0.22	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	6.0	0.29	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.0	0.18	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BNS - 25-27
Lab Sample ID: JB12712-2 **Date Sampled:** 08/01/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8260B **Percent Solids:** 90.6
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	6.0	0.18	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.0	0.23	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.0	0.25	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.0	0.17	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.0	0.19	ug/kg	
100-41-4	Ethylbenzene	ND	1.2	0.32	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.0	0.24	ug/kg	
98-82-8	Isopropylbenzene	ND	6.0	0.089	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.0	0.12	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.2	0.28	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	6.0	0.90	ug/kg	
74-95-3	Methylene bromide	ND	6.0	0.16	ug/kg	
75-09-2	Methylene chloride	ND	6.0	1.5	ug/kg	
91-20-3	Naphthalene	ND	6.0	0.15	ug/kg	
103-65-1	n-Propylbenzene	ND	6.0	0.14	ug/kg	
100-42-5	Styrene	ND	6.0	0.11	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	30	5.2	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	6.0	0.70	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	6.0	0.098	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.0	0.16	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.0	0.16	ug/kg	
127-18-4	Tetrachloroethene	ND	6.0	0.21	ug/kg	
108-88-3	Toluene	0.95	1.2	0.13	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	6.0	0.20	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.0	0.17	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.0	0.13	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.0	0.21	ug/kg	
79-01-6	Trichloroethene	ND	6.0	0.21	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.0	0.36	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.0	0.48	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	6.0	0.25	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.0	0.19	ug/kg	
75-01-4	Vinyl chloride	ND	6.0	0.17	ug/kg	
	m,p-Xylene	ND	1.2	0.21	ug/kg	
95-47-6	o-Xylene	ND	1.2	0.17	ug/kg	
1330-20-7	Xylene (total)	ND	1.2	0.17	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	137675 - 721 BNS - 25-27		
Lab Sample ID:	JB12712-2	**Date Sampled:**	08/01/12
Matrix:	SO - Soil	**Date Received:**	08/02/12
Method:	SW846 8260B	**Percent Solids:**	90.6
Project:	URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		70-122%
2037-26-5	Toluene-D8	108%		81-127%
460-00-4	4-Bromofluorobenzene	103%		66-132%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BNS - 25-27
Lab Sample ID: JB12712-2 **Date Sampled:** 08/01/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8015C **Percent Solids:** 90.6
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF99495.D	1	08/06/12	XPL	n/a	n/a	GPF2815
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	11.2 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	1.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	97%		66-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BNS - 25-27
Lab Sample ID: JB12712-2 **Date Sampled:** 08/01/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8015C SW846 3545A **Percent Solids:** 90.6
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5Y4100.D	1	08/06/12	CS	08/03/12	OP58751	G5Y147
Run #2							

	Initial Weight	Final Volume
Run #1	10.8 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	0.33	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	80%		13-142%
16416-32-3	Tetracosane-d50	95%		12-141%
438-22-2	5a-Androstane	86%		13-142%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BND - 31-33
Lab Sample ID: JB12712-3 **Date Sampled:** 07/31/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8260B **Percent Solids:** 70.4
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I176084.D	1	08/03/12	SJM	n/a	n/a	VI7112
Run #2							

	Initial Weight
Run #1	4.6 g
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	13.0	15	2.6	ug/kg	J
71-43-2	Benzene	ND	1.5	0.18	ug/kg	
108-86-1	Bromobenzene	ND	7.7	0.24	ug/kg	
74-97-5	Bromochloromethane	ND	7.7	0.41	ug/kg	
75-27-4	Bromodichloromethane	ND	7.7	0.16	ug/kg	
75-25-2	Bromoform	ND	7.7	0.23	ug/kg	
74-83-9	Bromomethane	ND	7.7	0.42	ug/kg	
78-93-3	2-Butanone (MEK)	ND	15	3.7	ug/kg	
104-51-8	n-Butylbenzene	ND	7.7	0.17	ug/kg	
135-98-8	sec-Butylbenzene	ND	7.7	0.18	ug/kg	
98-06-6	tert-Butylbenzene	ND	7.7	0.45	ug/kg	
56-23-5	Carbon tetrachloride	ND	7.7	0.21	ug/kg	
108-90-7	Chlorobenzene	ND	7.7	0.17	ug/kg	
75-00-3	Chloroethane	ND	7.7	0.35	ug/kg	
67-66-3	Chloroform	ND	7.7	0.13	ug/kg	
74-87-3	Chloromethane	ND	7.7	0.29	ug/kg	
95-49-8	o-Chlorotoluene	ND	7.7	0.19	ug/kg	
106-43-4	p-Chlorotoluene	ND	7.7	0.21	ug/kg	
108-20-3	Di-Isopropyl ether	ND	7.7	0.27	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	15	1.4	ug/kg	
124-48-1	Dibromochloromethane	ND	7.7	0.25	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.5	0.20	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	7.7	0.29	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	7.7	0.29	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	7.7	0.27	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	7.7	0.35	ug/kg	
75-34-3	1,1-Dichloroethane	ND	7.7	0.21	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.5	0.21	ug/kg	
75-35-4	1,1-Dichloroethene	ND	7.7	0.40	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	7.7	0.28	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	7.7	0.37	ug/kg	
78-87-5	1,2-Dichloropropane	ND	7.7	0.24	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BND - 31-33
Lab Sample ID: JB12712-3 **Date Sampled:** 07/31/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8260B **Percent Solids:** 70.4
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	7.7	0.23	ug/kg	
594-20-7	2,2-Dichloropropane	ND	7.7	0.30	ug/kg	
563-58-6	1,1-Dichloropropene	ND	7.7	0.32	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	7.7	0.21	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	7.7	0.24	ug/kg	
100-41-4	Ethylbenzene	ND	1.5	0.41	ug/kg	
87-68-3	Hexachlorobutadiene	ND	7.7	0.30	ug/kg	
98-82-8	Isopropylbenzene	ND	7.7	0.11	ug/kg	
99-87-6	p-Isopropyltoluene	ND	7.7	0.16	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.5	0.36	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	7.7	1.2	ug/kg	
74-95-3	Methylene bromide	ND	7.7	0.21	ug/kg	
75-09-2	Methylene chloride	ND	7.7	2.0	ug/kg	
91-20-3	Naphthalene	ND	7.7	0.19	ug/kg	
103-65-1	n-Propylbenzene	ND	7.7	0.18	ug/kg	
100-42-5	Styrene	ND	7.7	0.14	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	39	6.7	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	7.7	0.90	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	7.7	0.13	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	7.7	0.21	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	7.7	0.20	ug/kg	
127-18-4	Tetrachloroethene	ND	7.7	0.27	ug/kg	
108-88-3	Toluene	ND	1.5	0.16	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.7	0.25	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.7	0.21	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	7.7	0.16	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	7.7	0.27	ug/kg	
79-01-6	Trichloroethene	ND	7.7	0.27	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.7	0.46	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	7.7	0.62	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	7.7	0.32	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	7.7	0.25	ug/kg	
75-01-4	Vinyl chloride	ND	7.7	0.22	ug/kg	
	m,p-Xylene	ND	1.5	0.27	ug/kg	
95-47-6	o-Xylene	ND	1.5	0.21	ug/kg	
1330-20-7	Xylene (total)	ND	1.5	0.21	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	137675 - 721 BND - 31-33		
Lab Sample ID:	JB12712-3	**Date Sampled:**	07/31/12
Matrix:	SO - Soil	**Date Received:**	08/02/12
Method:	SW846 8260B	**Percent Solids:**	70.4
Project:	URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		70-122%
2037-26-5	Toluene-D8	108%		81-127%
460-00-4	4-Bromofluorobenzene	103%		66-132%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BND - 31-33
Lab Sample ID: JB12712-3 **Date Sampled:** 07/31/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8015C **Percent Solids:** 70.4
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF99496.D	1	08/06/12	XPL	n/a	n/a	GPF2815
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	11.4 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	17	1.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	94%		66-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BND - 31-33
Lab Sample ID: JB12712-3 **Date Sampled:** 07/31/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8015C SW846 3545A **Percent Solids:** 70.4
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5Y4101.D	1	08/06/12	CS	08/03/12	OP58751	G5Y147
Run #2							

	Initial Weight	Final Volume
Run #1	10.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	14	0.45	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		13-142%
16416-32-3	Tetracosane-d50	93%		12-141%
438-22-2	5a-Androstane	76%		13-142%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BND - 29-31
Lab Sample ID: JB12712-4 **Date Sampled:** 07/31/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8260B **Percent Solids:** 89.8
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I176156.D	1	08/06/12	SJM	n/a	n/a	VI7115
Run #2							

	Initial Weight
Run #1	5.0 g
Run #2	

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	11	1.9	ug/kg	
71-43-2	Benzene	ND	1.1	0.13	ug/kg	
108-86-1	Bromobenzene	ND	5.6	0.17	ug/kg	
74-97-5	Bromochloromethane	ND	5.6	0.30	ug/kg	
75-27-4	Bromodichloromethane	ND	5.6	0.12	ug/kg	
75-25-2	Bromoform	ND	5.6	0.17	ug/kg	
74-83-9	Bromomethane	ND	5.6	0.30	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	2.7	ug/kg	
104-51-8	n-Butylbenzene	ND	5.6	0.13	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.6	0.13	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.6	0.33	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.6	0.15	ug/kg	
108-90-7	Chlorobenzene	ND	5.6	0.12	ug/kg	
75-00-3	Chloroethane	ND	5.6	0.25	ug/kg	
67-66-3	Chloroform	ND	5.6	0.092	ug/kg	
74-87-3	Chloromethane	ND	5.6	0.21	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.6	0.14	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.6	0.15	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.6	0.20	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	11	0.99	ug/kg	
124-48-1	Dibromochloromethane	ND	5.6	0.18	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.1	0.14	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	5.6	0.21	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	5.6	0.21	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	5.6	0.20	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.6	0.25	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.6	0.15	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.1	0.15	ug/kg	
75-35-4	1,1-Dichloroethene	ND	5.6	0.29	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	5.6	0.20	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	5.6	0.27	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.6	0.17	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BND - 29-31
Lab Sample ID: JB12712-4 **Date Sampled:** 07/31/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8260B **Percent Solids:** 89.8
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

VOA Full List + Oxygenates

CAS No.	Compound	Result	RL	MDL	Units	Q
142-28-9	1,3-Dichloropropane	ND	5.6	0.17	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.6	0.22	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.6	0.23	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.6	0.15	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.6	0.17	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.29	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.6	0.22	ug/kg	
98-82-8	Isopropylbenzene	ND	5.6	0.083	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.6	0.12	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.1	0.26	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.6	0.84	ug/kg	
74-95-3	Methylene bromide	ND	5.6	0.15	ug/kg	
75-09-2	Methylene chloride	ND	5.6	1.4	ug/kg	
91-20-3	Naphthalene	ND	5.6	0.14	ug/kg	
103-65-1	n-Propylbenzene	ND	5.6	0.13	ug/kg	
100-42-5	Styrene	ND	5.6	0.10	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	28	4.9	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	5.6	0.65	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	5.6	0.091	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.6	0.15	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.6	0.15	ug/kg	
127-18-4	Tetrachloroethene	ND	5.6	0.19	ug/kg	
108-88-3	Toluene	0.61	1.1	0.12	ug/kg	J
87-61-6	1,2,3-Trichlorobenzene	ND	5.6	0.18	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.6	0.15	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.6	0.12	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.6	0.19	ug/kg	
79-01-6	Trichloroethene	ND	5.6	0.19	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.6	0.33	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.6	0.45	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	0.36	5.6	0.23	ug/kg	J
108-67-8	1,3,5-Trimethylbenzene	ND	5.6	0.18	ug/kg	
75-01-4	Vinyl chloride	ND	5.6	0.16	ug/kg	
	m,p-Xylene	ND	1.1	0.19	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.15	ug/kg	
1330-20-7	Xylene (total)	ND	1.1	0.15	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		70-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	137675 - 721 BND - 29-31		
Lab Sample ID:	JB12712-4	**Date Sampled:**	07/31/12
Matrix:	SO - Soil	**Date Received:**	08/02/12
Method:	SW846 8260B	**Percent Solids:**	89.8
Project:	URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD		

VOA Full List + Oxygenates

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	101%		70-122%
2037-26-5	Toluene-D8	108%		81-127%
460-00-4	4-Bromofluorobenzene	105%		66-132%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 137675 - 721 BND - 29-31
Lab Sample ID: JB12712-4 **Date Sampled:** 07/31/12
Matrix: SO - Soil **Date Received:** 08/02/12
Method: SW846 8015C **Percent Solids:** 89.8
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	PF99497.D	1	08/06/12	XPL	n/a	n/a	GPF2815
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	10.7 g	10.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	12	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	93%		66-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	137675 - 721 BND - 29-31		
Lab Sample ID:	JB12712-4	**Date Sampled:**	07/31/12
Matrix:	SO - Soil	**Date Received:**	08/02/12
Method:	SW846 8015C SW846 3545A	**Percent Solids:**	89.8
Project:	URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5Y4102.D	1	08/06/12	CS	08/03/12	OP58751	G5Y147
Run #2							

	Initial Weight	Final Volume
Run #1	10.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	12.9	11	0.34	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	80%		13-142%
16416-32-3	Tetracosane-d50	93%		12-141%
438-22-2	5a-Androstane	86%		13-142%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

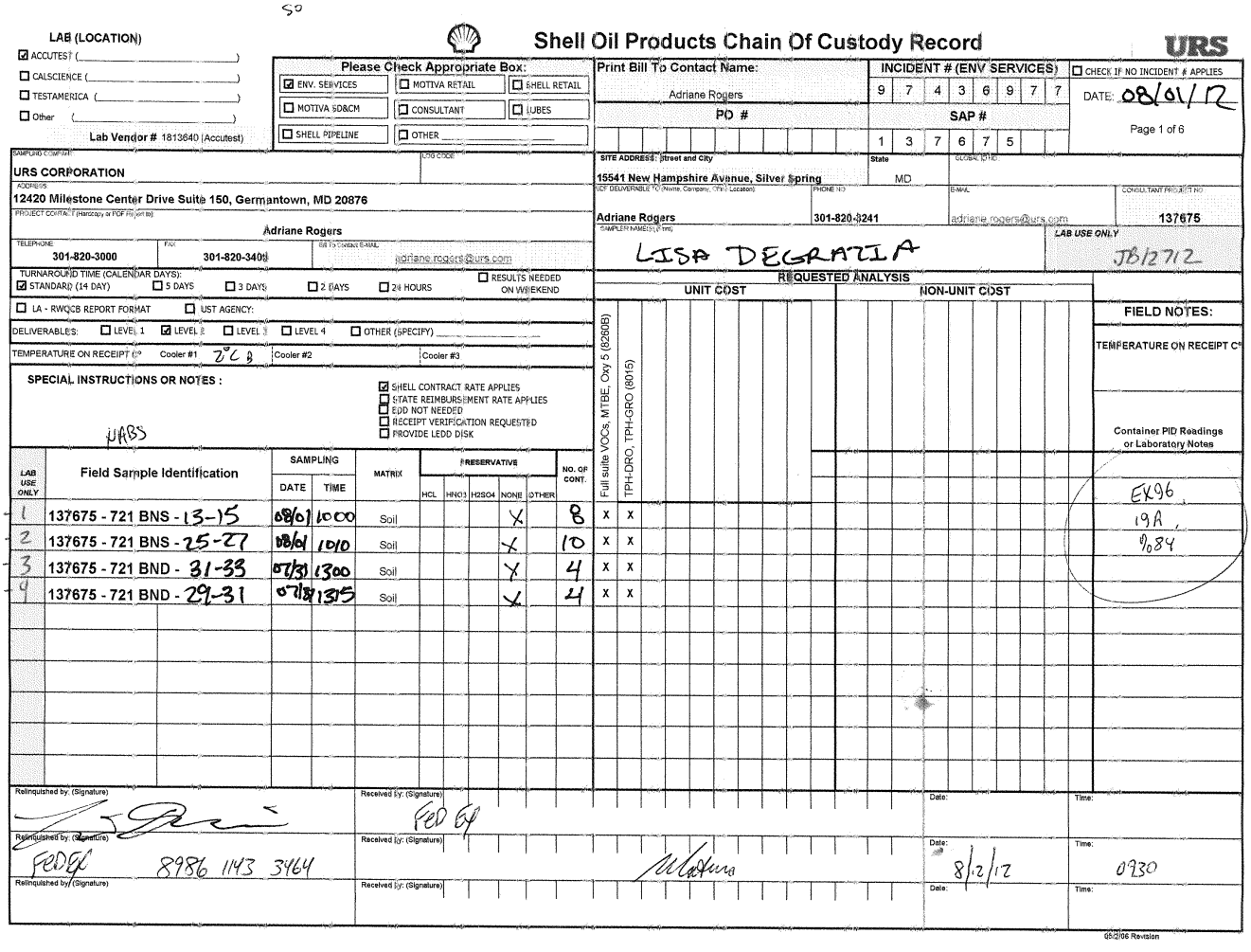
New Jersey ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



LAB (LOCATION)
☑ ACCUTEST (_____)
☐ CALSCIENCE (_____)
☐ TESTAMERICA (_____)
☐ Other (_____)
Lab Vendor # 1813640 (Accutest)

Shell Oil Products Chain Of Custody Record

URS

Please Check Appropriate Box:
☑ ENV. SERVICES | ☐ MOTIVA RETAIL | ☐ SHELL RETAIL
☐ MOTIVA SD&CM | ☐ CONSULTANT | ☐ LUBES
☐ SHELL PIPELINE | ☐ OTHER

Print Bill To Contact Name: Adriane Rogers
PO #
INCIDENT # (ENV SERVICES): 9 7 4 3 6 9 7 7
☐ CHECK IF NO INCIDENT # APPLIES
DATE: 08/01/12
SAP #: 1 3 7 6 7 5
Page 1 of 6

SAMPLING COMPANY: URS CORPORATION
LOG CODE:
ADDRESS: 12420 Milestone Center Drive Suite 150, Germantown, MD 20876
PROJECT CONTACT (Hardcopy or PDF Report to): Adriane Rogers
TELEPHONE: 301-820-3000 | FAX: 301-820-3408 | Bill To Contact E-MAIL: adriane.rogers@urs.com

SITE ADDRESS (Street and City): 15541 New Hampshire Avenue, Silver Spring | State: MD | GLOBAL ID NO.:
EDF DELIVERABLE TO (Name, Company, City) Location: Adriane Rogers | PHONE NO: 301-820-3241 | E-MAIL: adriane.rogers@urs.com | CONSULTANT PROJECT NO: 137675
SAMPLER NAME(S) (Print): LISA DEGRAZIA
LAB USE ONLY: JB12712

TURNAROUND TIME (CALENDAR DAYS):
☑ STANDARD (14 DAY) ☐ 5 DAYS ☐ 3 DAYS ☐ 2 DAYS ☐ 24 HOURS ☐ RESULTS NEEDED ON WEEKEND
☐ LA - RWQCB REPORT FORMAT ☐ UST AGENCY:
DELIVERABLES: ☐ LEVEL 1 ☑ LEVEL 2 ☐ LEVEL 3 ☐ LEVEL 4 ☐ OTHER (SPECIFY)
TEMPERATURE ON RECEIPT C°: Cooler #1 2°C | Cooler #2 | Cooler #3

SPECIAL INSTRUCTIONS OR NOTES :
URS
☑ SHELL CONTRACT RATE APPLIES
☐ STATE REIMBURSEMENT RATE APPLIES
☐ EDD NOT NEEDED
☐ RECEIPT VERIFICATION REQUESTED
☐ PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	UNIT COST: Full suite VOCs, MTBE, Oxy 5 (8260B)	UNIT COST: TPH-DRO, TPH-GRO (8015)	NON-UNIT COST	FIELD NOTES: Container PID Readings or Laboratory Notes
1	137675 - 721 BNS - 13-15	08/01	1000	Soil				X		8	X	X		EX96, 19A, 0.84
2	137675 - 721 BNS - 25-27	08/01	1010	Soil				X		10	X	X		
3	137675 - 721 BND - 31-33	07/31	1300	Soil				X		4	X	X		
4	137675 - 721 BND - 29-31	07/31	1315	Soil				X		4	X	X		

TEMPERATURE ON RECEIPT C°

	Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
1		FED EX		
2	FedEx 8986 1143 3464		8/2/12	0930
3				

05-2/06 Revision

JB12712: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB12712 **Client:** **Project:**

Date / Time Received: 8/2/2012 **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2/2); 0

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Bar Therm		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

New Jersey ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7112-MB1	I176068.D	1	08/03/12	SJM	n/a	n/a	VI7112

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-1, JB12712-2, JB12712-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	1.7	ug/kg	
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.15	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.27	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	0.11	ug/kg	
75-25-2	Bromoform	ND	5.0	0.15	ug/kg	
74-83-9	Bromomethane	ND	5.0	0.27	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	2.4	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	0.11	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	0.11	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	0.29	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	0.13	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	0.11	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.23	ug/kg	
67-66-3	Chloroform	ND	5.0	0.083	ug/kg	
74-87-3	Chloromethane	ND	5.0	0.19	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	0.13	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	0.14	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	0.18	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	0.89	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	0.16	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	5.0	0.19	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	5.0	0.19	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	5.0	0.18	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.23	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	0.14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
75-35-4	1,1-Dichloroethene	ND	5.0	0.26	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	0.18	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	0.24	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	0.15	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	0.15	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	0.20	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	0.21	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	0.14	ug/kg	

Method Blank Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7112-MB1	I176068.D	1	08/03/12	SJM	n/a	n/a	VI7112

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-1, JB12712-2, JB12712-3

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	0.16	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.20	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	0.10	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	0.75	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.13	ug/kg	
75-09-2	Methylene chloride	ND	5.0	1.3	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	0.12	ug/kg	
100-42-5	Styrene	ND	5.0	0.092	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	25	4.4	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	5.0	0.59	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	5.0	0.082	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	0.13	ug/kg	
127-18-4	Tetrachloroethene	ND	5.0	0.17	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.16	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.14	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	0.11	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	0.17	ug/kg	
79-01-6	Trichloroethene	ND	5.0	0.17	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.30	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.40	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	0.14	ug/kg	
	m,p-Xylene	ND	1.0	0.17	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.14	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	

Method Blank Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7112-MB1	I176068.D	1	08/03/12	SJM	n/a	n/a	VI7112

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-1, JB12712-2, JB12712-3

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	110%	70-130%
17060-07-0	1,2-Dichloroethane-D4	96%	70-122%
2037-26-5	Toluene-D8	110%	81-127%
460-00-4	4-Bromofluorobenzene	105%	66-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Method Blank Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7115-MB1	I176140.D	1	08/06/12	SJM	n/a	n/a	VI7115

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	1.7	ug/kg	
71-43-2	Benzene	ND	1.0	0.12	ug/kg	
108-86-1	Bromobenzene	ND	5.0	0.15	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.27	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	0.11	ug/kg	
75-25-2	Bromoform	ND	5.0	0.15	ug/kg	
74-83-9	Bromomethane	ND	5.0	0.27	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	2.4	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	0.11	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	0.11	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	0.29	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	0.13	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	0.11	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.23	ug/kg	
67-66-3	Chloroform	ND	5.0	0.083	ug/kg	
74-87-3	Chloromethane	ND	5.0	0.19	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	0.13	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	0.14	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.0	0.18	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	0.89	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	0.16	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.13	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	5.0	0.19	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	5.0	0.19	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	5.0	0.18	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.23	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	0.14	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.14	ug/kg	
75-35-4	1,1-Dichloroethene	ND	5.0	0.26	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	0.18	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	0.24	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	0.15	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	0.15	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	0.20	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	0.21	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	0.14	ug/kg	

Method Blank Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7115-MB1	I176140.D	1	08/06/12	SJM	n/a	n/a	VI7115

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	0.16	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.26	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	0.20	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.074	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	0.10	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.24	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	0.75	ug/kg	
74-95-3	Methylene bromide	ND	5.0	0.13	ug/kg	
75-09-2	Methylene chloride	ND	5.0	1.3	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.12	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	0.12	ug/kg	
100-42-5	Styrene	ND	5.0	0.092	ug/kg	
75-65-0	Tert Butyl Alcohol	ND	25	4.4	ug/kg	
994-05-8	tert-Amyl Methyl Ether	ND	5.0	0.59	ug/kg	
637-92-3	tert-Butyl Ethyl Ether	ND	5.0	0.082	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	0.13	ug/kg	
127-18-4	Tetrachloroethene	ND	5.0	0.17	ug/kg	
108-88-3	Toluene	ND	1.0	0.11	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.16	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.14	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	0.11	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	0.17	ug/kg	
79-01-6	Trichloroethene	ND	5.0	0.17	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.30	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.40	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.21	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.16	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	0.14	ug/kg	
	m,p-Xylene	ND	1.0	0.17	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.14	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.14	ug/kg	

Method Blank Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7115-MB1	I176140.D	1	08/06/12	SJM	n/a	n/a	VI7115

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-4

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	110%	70-130%
17060-07-0	1,2-Dichloroethane-D4	109%	70-122%
2037-26-5	Toluene-D8	106%	81-127%
460-00-4	4-Bromofluorobenzene	104%	66-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7112-BS	I176069.D	1	08/03/12	SJM	n/a	n/a	VI7112

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-1, JB12712-2, JB12712-3

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	48.4	97	31-168
71-43-2	Benzene	50	49.5	99	76-117
108-86-1	Bromobenzene	50	47.3	95	76-118
74-97-5	Bromochloromethane	50	51.2	102	79-128
75-27-4	Bromodichloromethane	50	49.5	99	78-128
75-25-2	Bromoform	50	48.5	97	71-138
74-83-9	Bromomethane	50	49.9	100	55-145
78-93-3	2-Butanone (MEK)	50	54.0	108	55-149
104-51-8	n-Butylbenzene	50	49.5	99	63-124
135-98-8	sec-Butylbenzene	50	49.5	99	70-120
98-06-6	tert-Butylbenzene	50	48.5	97	70-121
56-23-5	Carbon tetrachloride	50	50.4	101	70-140
108-90-7	Chlorobenzene	50	47.8	96	78-120
75-00-3	Chloroethane	50	51.9	104	62-139
67-66-3	Chloroform	50	51.9	104	78-124
74-87-3	Chloromethane	50	50.3	101	50-132
95-49-8	o-Chlorotoluene	50	48.2	96	71-119
106-43-4	p-Chlorotoluene	50	47.7	95	67-117
108-20-3	Di-Isopropyl ether	50	55.4	111	58-129
96-12-8	1,2-Dibromo-3-chloropropane	50	47.1	94	61-132
124-48-1	Dibromochloromethane	50	48.4	97	75-128
106-93-4	1,2-Dibromoethane	50	49.9	100	77-122
95-50-1	1,2-Dichlorobenzene	50	47.2	94	76-119
541-73-1	1,3-Dichlorobenzene	50	46.9	94	75-120
106-46-7	1,4-Dichlorobenzene	50	46.3	93	72-113
75-71-8	Dichlorodifluoromethane	50	45.7	91	41-138
75-34-3	1,1-Dichloroethane	50	56.2	112	75-127
107-06-2	1,2-Dichloroethane	50	51.1	102	68-134
75-35-4	1,1-Dichloroethene	50	55.2	110	73-127
156-59-2	cis-1,2-Dichloroethene	50	49.5	99	77-121
156-60-5	trans-1,2-Dichloroethene	50	51.3	103	76-123
78-87-5	1,2-Dichloropropane	50	52.5	105	75-121
142-28-9	1,3-Dichloropropane	50	50.8	102	75-120
594-20-7	2,2-Dichloropropane	50	53.6	107	58-133
563-58-6	1,1-Dichloropropene	50	50.4	101	75-124
10061-01-5	cis-1,3-Dichloropropene	50	47.0	94	76-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7112-BS	I176069.D	1	08/03/12	SJM	n/a	n/a	VI7112

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-1, JB12712-2, JB12712-3

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	49.3	99	75-126
100-41-4	Ethylbenzene	50	48.9	98	74-119
87-68-3	Hexachlorobutadiene	50	47.0	94	64-129
98-82-8	Isopropylbenzene	50	49.0	98	71-119
99-87-6	p-Isopropyltoluene	50	49.5	99	73-125
1634-04-4	Methyl Tert Butyl Ether	100	110	110	72-124
108-10-1	4-Methyl-2-pentanone(MIBK)	50	53.3	107	68-134
74-95-3	Methylene bromide	50	52.1	104	80-129
75-09-2	Methylene chloride	50	48.4	97	72-120
91-20-3	Naphthalene	50	48.6	97	60-127
103-65-1	n-Propylbenzene	50	50.6	101	69-121
100-42-5	Styrene	50	48.1	96	77-121
75-65-0	Tert Butyl Alcohol	250	215	86	68-133
994-05-8	tert-Amyl Methyl Ether	50	50.9	102	75-135
637-92-3	tert-Butyl Ethyl Ether	50	55.4	111	69-131
630-20-6	1,1,1,2-Tetrachloroethane	50	49.3	99	79-124
79-34-5	1,1,2,2-Tetrachloroethane	50	48.2	96	67-117
127-18-4	Tetrachloroethene	50	46.3	93	63-146
108-88-3	Toluene	50	47.3	95	77-121
87-61-6	1,2,3-Trichlorobenzene	50	49.7	99	64-131
120-82-1	1,2,4-Trichlorobenzene	50	49.8	100	65-132
71-55-6	1,1,1-Trichloroethane	50	53.8	108	74-133
79-00-5	1,1,2-Trichloroethane	50	49.2	98	76-124
79-01-6	Trichloroethene	50	48.9	98	79-124
75-69-4	Trichlorofluoromethane	50	52.9	106	61-147
96-18-4	1,2,3-Trichloropropane	50	49.1	98	70-123
95-63-6	1,2,4-Trimethylbenzene	50	49.7	99	72-118
108-67-8	1,3,5-Trimethylbenzene	50	49.2	98	69-118
75-01-4	Vinyl chloride	50	51.8	104	57-138
	m,p-Xylene	100	98.4	98	75-119
95-47-6	o-Xylene	50	48.2	96	77-121
1330-20-7	Xylene (total)	150	147	98	76-119

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7112-BS	I176069.D	1	08/03/12	SJM	n/a	n/a	VI7112

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-1, JB12712-2, JB12712-3

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	70-130%
17060-07-0	1,2-Dichloroethane-D4	101%	70-122%
2037-26-5	Toluene-D8	109%	81-127%
460-00-4	4-Bromofluorobenzene	102%	66-132%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7115-BS	I176141.D	1	08/06/12	SJM	n/a	n/a	VI7115

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	53.9	108	31-168
71-43-2	Benzene	50	48.3	97	76-117
108-86-1	Bromobenzene	50	46.2	92	76-118
74-97-5	Bromochloromethane	50	51.3	103	79-128
75-27-4	Bromodichloromethane	50	49.1	98	78-128
75-25-2	Bromoform	50	46.0	92	71-138
74-83-9	Bromomethane	50	50.6	101	55-145
78-93-3	2-Butanone (MEK)	50	54.3	109	55-149
104-51-8	n-Butylbenzene	50	47.7	95	63-124
135-98-8	sec-Butylbenzene	50	48.3	97	70-120
98-06-6	tert-Butylbenzene	50	47.5	95	70-121
56-23-5	Carbon tetrachloride	50	47.9	96	70-140
108-90-7	Chlorobenzene	50	46.2	92	78-120
75-00-3	Chloroethane	50	51.4	103	62-139
67-66-3	Chloroform	50	51.8	104	78-124
74-87-3	Chloromethane	50	49.7	99	50-132
95-49-8	o-Chlorotoluene	50	47.4	95	71-119
106-43-4	p-Chlorotoluene	50	47.1	94	67-117
108-20-3	Di-Isopropyl ether	50	57.4	115	58-129
96-12-8	1,2-Dibromo-3-chloropropane	50	45.3	91	61-132
124-48-1	Dibromochloromethane	50	47.6	95	75-128
106-93-4	1,2-Dibromoethane	50	46.9	94	77-122
95-50-1	1,2-Dichlorobenzene	50	46.4	93	76-119
541-73-1	1,3-Dichlorobenzene	50	46.2	92	75-120
106-46-7	1,4-Dichlorobenzene	50	45.7	91	72-113
75-71-8	Dichlorodifluoromethane	50	48.0	96	41-138
75-34-3	1,1-Dichloroethane	50	56.3	113	75-127
107-06-2	1,2-Dichloroethane	50	48.9	98	68-134
75-35-4	1,1-Dichloroethene	50	54.8	110	73-127
156-59-2	cis-1,2-Dichloroethene	50	50.2	100	77-121
156-60-5	trans-1,2-Dichloroethene	50	51.5	103	76-123
78-87-5	1,2-Dichloropropane	50	50.6	101	75-121
142-28-9	1,3-Dichloropropane	50	47.7	95	75-120
594-20-7	2,2-Dichloropropane	50	54.4	109	58-133
563-58-6	1,1-Dichloropropene	50	48.4	97	75-124
10061-01-5	cis-1,3-Dichloropropene	50	48.4	97	76-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7115-BS	I176141.D	1	08/06/12	SJM	n/a	n/a	VI7115

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	47.2	94	75-126
100-41-4	Ethylbenzene	50	47.0	94	74-119
87-68-3	Hexachlorobutadiene	50	46.0	92	64-129
98-82-8	Isopropylbenzene	50	48.3	97	71-119
99-87-6	p-Isopropyltoluene	50	46.7	93	73-125
1634-04-4	Methyl Tert Butyl Ether	100	107	107	72-124
108-10-1	4-Methyl-2-pentanone(MIBK)	50	48.3	97	68-134
74-95-3	Methylene bromide	50	48.9	98	80-129
75-09-2	Methylene chloride	50	49.2	98	72-120
91-20-3	Naphthalene	50	45.1	90	60-127
103-65-1	n-Propylbenzene	50	48.4	97	69-121
100-42-5	Styrene	50	46.7	93	77-121
75-65-0	Tert Butyl Alcohol	250	205	82	68-133
994-05-8	tert-Amyl Methyl Ether	50	49.2	98	75-135
637-92-3	tert-Butyl Ethyl Ether	50	56.0	112	69-131
630-20-6	1,1,1,2-Tetrachloroethane	50	48.4	97	79-124
79-34-5	1,1,2,2-Tetrachloroethane	50	47.5	95	67-117
127-18-4	Tetrachloroethene	50	44.3	89	63-146
108-88-3	Toluene	50	46.4	93	77-121
87-61-6	1,2,3-Trichlorobenzene	50	46.9	94	64-131
120-82-1	1,2,4-Trichlorobenzene	50	46.3	93	65-132
71-55-6	1,1,1-Trichloroethane	50	54.0	108	74-133
79-00-5	1,1,2-Trichloroethane	50	46.6	93	76-124
79-01-6	Trichloroethene	50	47.3	95	79-124
75-69-4	Trichlorofluoromethane	50	49.4	99	61-147
96-18-4	1,2,3-Trichloropropane	50	47.1	94	70-123
95-63-6	1,2,4-Trimethylbenzene	50	48.6	97	72-118
108-67-8	1,3,5-Trimethylbenzene	50	48.8	98	69-118
75-01-4	Vinyl chloride	50	49.7	99	57-138
	m,p-Xylene	100	94.4	94	75-119
95-47-6	o-Xylene	50	46.6	93	77-121
1330-20-7	Xylene (total)	150	141	94	76-119

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI7115-BS	I176141.D	1	08/06/12	SJM	n/a	n/a	VI7115

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-4

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	110%	70-130%
17060-07-0	1,2-Dichloroethane-D4	98%	70-122%
2037-26-5	Toluene-D8	109%	81-127%
460-00-4	4-Bromofluorobenzene	104%	66-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB12773-2MS	I176075.D	1	08/03/12	SJM	n/a	n/a	VI7112
JB12773-2MSD	I176076.D	1	08/03/12	SJM	n/a	n/a	VI7112
JB12773-2	I176074.D	1	08/03/12	SJM	n/a	n/a	VI7112

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-1, JB12712-2, JB12712-3

CAS No.	Compound	JB12773-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	20.1		56.8	83.4	111	76.2	99	9	10-198/35
71-43-2	Benzene	ND		56.8	47.6	84	51.5	91	8	44-130/21
108-86-1	Bromobenzene	ND		56.8	44.8	79	48.7	86	8	32-138/23
74-97-5	Bromochloromethane	ND		56.8	56.7	100	57.0	100	1	52-136/19
75-27-4	Bromodichloromethane	ND		56.8	44.4	78	46.4	82	4	43-141/20
75-25-2	Bromoform	ND		56.8	50.9	90	52.0	91	2	34-149/22
74-83-9	Bromomethane	ND		56.8	44.2	78	46.3	81	5	10-159/28
78-93-3	2-Butanone (MEK)	ND		56.8	65.6	115	59.3	104	10	27-174/31
104-51-8	n-Butylbenzene	ND		56.8	35.9	63	39.3	69	9	10-147/32
135-98-8	sec-Butylbenzene	ND		56.8	38.8	68	41.8	74	7	17-144/28
98-06-6	tert-Butylbenzene	ND		56.8	40.1	71	42.9	75	7	23-143/26
56-23-5	Carbon tetrachloride	ND		56.8	44.7	79	47.0	83	5	33-153/22
108-90-7	Chlorobenzene	ND		56.8	45.1	79	48.8	86	8	35-137/23
75-00-3	Chloroethane	ND		56.8	46.1	81	48.0	84	4	29-146/27
67-66-3	Chloroform	ND		56.8	53.1	93	54.9	97	3	49-133/21
74-87-3	Chloromethane	ND		56.8	48.6	85	50.5	89	4	36-140/23
95-49-8	o-Chlorotoluene	ND		56.8	42.9	75	46.0	81	7	26-139/28
106-43-4	p-Chlorotoluene	ND		56.8	41.7	73	45.5	80	9	23-136/27
108-20-3	Di-Isopropyl ether	ND		56.8	61.5	108	64.3	113	4	41-133/20
96-12-8	1,2-Dibromo-3-chloropropane	ND		56.8	27.9	49	24.6	43	13	24-149/26
124-48-1	Dibromochloromethane	ND		56.8	47.6	84	49.0	86	3	40-142/21
106-93-4	1,2-Dibromoethane	ND		56.8	54.4	96	55.9	98	3	41-139/21
95-50-1	1,2-Dichlorobenzene	ND		56.8	42.8	75	47.0	83	9	23-141/27
541-73-1	1,3-Dichlorobenzene	ND		56.8	40.3	71	44.2	78	9	22-141/27
106-46-7	1,4-Dichlorobenzene	ND		56.8	40.5	71	44.4	78	9	21-136/26
75-71-8	Dichlorodifluoromethane	ND		56.8	47.0	83	47.1	83	0	24-162/25
75-34-3	1,1-Dichloroethane	ND		56.8	55.3	97	57.6	101	4	48-132/20
107-06-2	1,2-Dichloroethane	ND		56.8	54.7	96	57.6	101	5	43-139/19
75-35-4	1,1-Dichloroethene	ND		56.8	75.1	132	79.7	140* [a]	6	42-139/23
156-59-2	cis-1,2-Dichloroethene	ND		56.8	50.0	88	52.0	91	4	46-132/21
156-60-5	trans-1,2-Dichloroethene	ND		56.8	48.1	85	50.4	89	5	44-135/22
78-87-5	1,2-Dichloropropane	ND		56.8	52.6	93	56.1	99	6	45-130/20
142-28-9	1,3-Dichloropropane	ND		56.8	54.3	96	57.2	101	5	44-130/20
594-20-7	2,2-Dichloropropane	ND		56.8	47.2	83	48.4	85	3	37-136/22
563-58-6	1,1-Dichloropropene	ND		56.8	45.9	81	48.0	84	4	38-139/22
10061-01-5	cis-1,3-Dichloropropene	ND		56.8	48.9	86	52.8	93	8	43-133/23

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB12773-2MS	I176075.D	1	08/03/12	SJM	n/a	n/a	VI7112
JB12773-2MSD	I176076.D	1	08/03/12	SJM	n/a	n/a	VI7112
JB12773-2	I176074.D	1	08/03/12	SJM	n/a	n/a	VI7112

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-1, JB12712-2, JB12712-3

CAS No.	Compound	JB12773-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		56.8	50.3	88	53.3	94	6	41-138/23
100-41-4	Ethylbenzene	0.46	J	56.8	44.0	77	47.6	83	8	29-137/25
87-68-3	Hexachlorobutadiene	ND		56.8	26.5	47	28.0	49	6	10-164/35
98-82-8	Isopropylbenzene	ND		56.8	42.1	74	45.1	79	7	27-138/26
99-87-6	p-Isopropyltoluene	ND		56.8	37.0	65	40.3	71	9	17-147/28
1634-04-4	Methyl Tert Butyl Ether	2.0		56.8	65.8	112	65.6	112	0	51-128/20
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		56.8	64.3	113	62.9	111	2	39-143/22
74-95-3	Methylene bromide	ND		56.8	55.7	98	58.1	102	4	48-136/20
75-09-2	Methylene chloride	ND		56.8	51.3	90	52.3	92	2	50-125/20
91-20-3	Naphthalene	18.4		56.8	73.9	98	80.4	109	8	10-152/31
103-65-1	n-Propylbenzene	0.40	J	56.8	40.8	71	44.2	77	8	18-142/27
100-42-5	Styrene	ND		56.8	45.9	81	50.4	89	9	27-146/25
75-65-0	Tert Butyl Alcohol	ND		284	295	104	375	132	24	46-145/28
994-05-8	tert-Amyl Methyl Ether	ND		56.8	55.6	98	58.3	103	5	48-126/20
637-92-3	tert-Butyl Ethyl Ether	ND		56.8	62.8	110	65.1	115	4	48-130/21
630-20-6	1,1,1,2-Tetrachloroethane	ND		56.8	45.6	80	48.4	85	6	41-140/22
79-34-5	1,1,2,2-Tetrachloroethane	ND		56.8	1.4	2* [a]	1.4	2* [a]	0	36-130/27
127-18-4	Tetrachloroethene	ND		56.8	76.2	134	80.3	141	5	20-173/26
108-88-3	Toluene	1.1		56.8	46.2	79	50.3	87	8	40-135/22
87-61-6	1,2,3-Trichlorobenzene	ND		56.8	39.2	69	41.6	73	6	10-155/34
120-82-1	1,2,4-Trichlorobenzene	ND		56.8	36.0	63	39.2	69	9	10-152/34
71-55-6	1,1,1-Trichloroethane	ND		56.8	50.5	89	51.6	91	2	41-145/22
79-00-5	1,1,2-Trichloroethane	ND		56.8	28.8	51	26.4	46	9	45-137/21
79-01-6	Trichloroethene	ND		56.8	90.5	159* [a]	96.9	170* [a]	7	35-149/23
75-69-4	Trichlorofluoromethane	ND		56.8	46.9	82	47.3	83	1	26-164/25
96-18-4	1,2,3-Trichloropropane	ND		56.8	54.5	96	53.8	95	1	40-139/23
95-63-6	1,2,4-Trimethylbenzene	5.5	J	56.8	47.8	74	51.9	82	8	17-142/28
108-67-8	1,3,5-Trimethylbenzene	1.1	J	56.8	42.8	73	46.2	79	8	20-140/27
75-01-4	Vinyl chloride	ND		56.8	48.0	84	49.5	87	3	36-150/23
	m,p-Xylene	1.8		114	89.5	77	97.9	85	9	28-139/26
95-47-6	o-Xylene	1.1		56.8	46.0	79	49.8	86	8	31-139/24
1330-20-7	Xylene (total)	2.8		171	135	78	148	85	9	28-139/25

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB12773-2MS	I176075.D	1	08/03/12	SJM	n/a	n/a	VI7112
JB12773-2MSD	I176076.D	1	08/03/12	SJM	n/a	n/a	VI7112
JB12773-2	I176074.D	1	08/03/12	SJM	n/a	n/a	VI7112

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-1, JB12712-2, JB12712-3

CAS No.	Surrogate Recoveries	MS	MSD	JB12773-2	Limits
1868-53-7	Dibromofluoromethane	18%* [a]	21%* [a]	24%* [b]	70-130%
17060-07-0	1,2-Dichloroethane-D4	106%	102%	98%	70-122%
2037-26-5	Toluene-D8	108%	108%	109%	81-127%
460-00-4	4-Bromofluorobenzene	104%	103%	104%	66-132%

(a) Outside control limits due to matrix interference.
(b) Outside control limits due to matrix interference. Confirmed by MS/MSD.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB12678-14MS	I176144.D	1	08/06/12	SJM	n/a	n/a	VI7115
JB12678-14MSD	I176145.D	1	08/06/12	SJM	n/a	n/a	VI7115
JB12678-14	I176143.D	1	08/06/12	SJM	n/a	n/a	VI7115

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-4

CAS No.	Compound	JB12678-14 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		52	54.3	104	53.4	103	2	10-198/35
71-43-2	Benzene	ND		52	50.7	97	49.6	95	2	44-130/21
108-86-1	Bromobenzene	ND		52	50.2	96	49.2	95	2	32-138/23
74-97-5	Bromochloromethane	ND		52	57.7	111	55.9	107	3	52-136/19
75-27-4	Bromodichloromethane	ND		52	55.0	106	53.4	103	3	43-141/20
75-25-2	Bromoform	ND		52	53.0	102	49.0	94	8	34-149/22
74-83-9	Bromomethane	ND		52	53.8	103	52.4	101	3	10-159/28
78-93-3	2-Butanone (MEK)	ND		52	59.0	113	52.6	101	11	27-174/31
104-51-8	n-Butylbenzene	ND		52	43.2	83	43.1	83	0	10-147/32
135-98-8	sec-Butylbenzene	ND		52	44.1	85	44.3	85	0	17-144/28
98-06-6	tert-Butylbenzene	ND		52	45.3	87	45.1	87	0	23-143/26
56-23-5	Carbon tetrachloride	ND		52	42.9	82	42.5	82	1	33-153/22
108-90-7	Chlorobenzene	ND		52	49.7	96	49.1	94	1	35-137/23
75-00-3	Chloroethane	ND		52	50.2	96	51.2	98	2	29-146/27
67-66-3	Chloroform	ND		52	56.5	109	54.7	105	3	49-133/21
74-87-3	Chloromethane	ND		52	50.1	96	49.1	94	2	36-140/23
95-49-8	o-Chlorotoluene	ND		52	49.2	95	48.8	94	1	26-139/28
106-43-4	p-Chlorotoluene	ND		52	48.4	93	47.9	92	1	23-136/27
108-20-3	Di-Isopropyl ether	ND		52	63.5	122	61.6	118	3	41-133/20
96-12-8	1,2-Dibromo-3-chloropropane	ND		52	51.4	99	46.7	90	10	24-149/26
124-48-1	Dibromochloromethane	ND		52	55.1	106	52.3	101	5	40-142/21
106-93-4	1,2-Dibromoethane	ND		52	54.1	104	52.2	100	4	41-139/21
95-50-1	1,2-Dichlorobenzene	ND		52	50.4	97	49.0	94	3	23-141/27
541-73-1	1,3-Dichlorobenzene	ND		52	48.2	93	47.7	92	1	22-141/27
106-46-7	1,4-Dichlorobenzene	ND		52	48.3	93	47.2	91	2	21-136/26
75-71-8	Dichlorodifluoromethane	ND		52	40.6	78	39.2	75	4	24-162/25
75-34-3	1,1-Dichloroethane	ND		52	58.1	112	56.8	109	2	48-132/20
107-06-2	1,2-Dichloroethane	ND		52	55.5	107	53.0	102	5	43-139/19
75-35-4	1,1-Dichloroethene	ND		52	49.1	94	47.4	91	4	42-139/23
156-59-2	cis-1,2-Dichloroethene	ND		52	53.1	102	51.3	99	3	46-132/21
156-60-5	trans-1,2-Dichloroethene	ND		52	50.3	97	49.2	95	2	44-135/22
78-87-5	1,2-Dichloropropane	ND		52	56.5	109	54.5	105	4	45-130/20
142-28-9	1,3-Dichloropropane	ND		52	55.3	106	52.8	101	5	44-130/20
594-20-7	2,2-Dichloropropane	ND		52	47.9	92	46.4	89	3	37-136/22
563-58-6	1,1-Dichloropropene	ND		52	44.4	85	43.3	83	3	38-139/22
10061-01-5	cis-1,3-Dichloropropene	ND		52	53.4	103	52.3	101	2	43-133/23

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB12678-14MS	I176144.D	1	08/06/12	SJM	n/a	n/a	VI7115
JB12678-14MSD	I176145.D	1	08/06/12	SJM	n/a	n/a	VI7115
JB12678-14	I176143.D	1	08/06/12	SJM	n/a	n/a	VI7115

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-4

CAS No.	Compound	JB12678-14 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		52	53.4	103	51.4	99	4	41-138/23
100-41-4	Ethylbenzene	ND		52	48.0	92	47.4	91	1	29-137/25
87-68-3	Hexachlorobutadiene	ND		52	36.0	69	37.7	72	5	10-164/35
98-82-8	Isopropylbenzene	ND		52	46.5	89	45.7	88	2	27-138/26
99-87-6	p-Isopropyltoluene	ND		52	43.9	84	43.6	84	1	17-147/28
1634-04-4	Methyl Tert Butyl Ether	ND		52	62.9	121	60.2	116	4	51-128/20
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		52	57.4	110	53.0	102	8	39-143/22
74-95-3	Methylene bromide	ND		52	56.2	108	52.7	101	6	48-136/20
75-09-2	Methylene chloride	ND		52	54.0	104	52.1	100	4	50-125/20
91-20-3	Naphthalene	ND		52	53.8	103	52.7	101	2	10-152/31
103-65-1	n-Propylbenzene	ND		52	46.8	90	46.4	89	1	18-142/27
100-42-5	Styrene	ND		52	51.3	99	50.6	97	1	27-146/25
75-65-0	Tert Butyl Alcohol	ND		260	268	103	295	113	10	46-145/28
994-05-8	tert-Amyl Methyl Ether	ND		52	54.6	105	52.1	100	5	48-126/20
637-92-3	tert-Butyl Ethyl Ether	ND		52	63.0	121	60.3	116	4	48-130/21
630-20-6	1,1,1,2-Tetrachloroethane	ND		52	53.7	103	52.6	101	2	41-140/22
79-34-5	1,1,2,2-Tetrachloroethane	ND		52	44.0	85	39.8	76	10	36-130/27
127-18-4	Tetrachloroethene	ND		52	81.0	156	80.9	155	0	20-173/26
108-88-3	Toluene	ND		52	48.5	93	47.7	92	2	40-135/22
87-61-6	1,2,3-Trichlorobenzene	ND		52	49.1	94	47.7	92	3	10-155/34
120-82-1	1,2,4-Trichlorobenzene	ND		52	47.7	92	45.7	88	4	10-152/34
71-55-6	1,1,1-Trichloroethane	ND		52	50.2	96	49.2	95	2	41-145/22
79-00-5	1,1,2-Trichloroethane	ND		52	53.6	103	51.3	99	4	45-137/21
79-01-6	Trichloroethene	ND		52	56.4	108	57.2	110	1	35-149/23
75-69-4	Trichlorofluoromethane	ND		52	43.0	83	42.1	81	2	26-164/25
96-18-4	1,2,3-Trichloropropane	ND		52	53.5	103	50.2	96	6	40-139/23
95-63-6	1,2,4-Trimethylbenzene	ND		52	50.6	97	50.4	97	0	17-142/28
108-67-8	1,3,5-Trimethylbenzene	ND		52	49.0	94	48.5	93	1	20-140/27
75-01-4	Vinyl chloride	ND		52	44.5	86	43.6	84	2	36-150/23
	m,p-Xylene	ND		104	97.3	94	96.0	92	1	28-139/26
95-47-6	o-Xylene	ND		52	49.9	96	49.3	95	1	31-139/24
1330-20-7	Xylene (total)	ND		156	147	94	145	93	1	28-139/25

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB12678-14MS	I176144.D	1	08/06/12	SJM	n/a	n/a	VI7115
JB12678-14MSD	I176145.D	1	08/06/12	SJM	n/a	n/a	VI7115
JB12678-14	I176143.D	1	08/06/12	SJM	n/a	n/a	VI7115

The QC reported here applies to the following samples: **Method:** SW846 8260B

JB12712-4

CAS No.	Surrogate Recoveries	MS	MSD	JB12678-14	Limits
1868-53-7	Dibromofluoromethane	107%	106%	108%	70-130%
17060-07-0	1,2-Dichloroethane-D4	97%	93%	99%	70-122%
2037-26-5	Toluene-D8	109%	110%	108%	81-127%
460-00-4	4-Bromofluorobenzene	102%	103%	104%	66-132%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample: VI7085-BFB1
Lab File ID: I175414.D
Instrument ID: GCMSI
Injection Date: 07/11/12
Injection Time: 09:14

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	13384	22.8		Pass
75	30.0 - 60.0% of mass 95	30366	51.7		Pass
95	Base peak, 100% relative abundance	58717	100.0		Pass
96	5.0 - 9.0% of mass 95	4053	6.90		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	55160	93.9		Pass
175	5.0 - 9.0% of mass 174	4244	7.23	(7.69) [a]	Pass
176	95.0 - 101.0% of mass 174	54205	92.3	(98.3) [a]	Pass
177	5.0 - 9.0% of mass 176	3526	6.01	(6.50) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VI7085-IC7085	I175416.D	07/11/12	10:22	01:08	Initial cal 1.0
VI7085-IC7085	I175417.D	07/11/12	10:53	01:39	Initial cal 0.5
VI7085-IC7085	I175418.D	07/11/12	11:24	02:10	Initial cal 2
VI7085-IC7085	I175419.D	07/11/12	11:54	02:40	Initial cal 5
VI7085-IC7085	I175420.D	07/11/12	12:26	03:12	Initial cal 10
VI7085-IC7085	I175421.D	07/11/12	13:00	03:46	Initial cal 20
VI7085-ICC7085	I175422.D	07/11/12	13:33	04:19	Initial cal 50
VI7085-IC7085	I175423.D	07/11/12	14:07	04:53	Initial cal 100
VI7085-IC7085	I175424.D	07/11/12	14:39	05:25	Initial cal 200
VI7085-ICV7085	I175426.D	07/11/12	16:03	06:49	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample: VI7112-BFB
Lab File ID: I176064.D
Instrument ID: GCMSI
Injection Date: 08/03/12
Injection Time: 09:29

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	9142	23.3		Pass
75	30.0 - 60.0% of mass 95	21109	53.9		Pass
95	Base peak, 100% relative abundance	39186	100.0		Pass
96	5.0 - 9.0% of mass 95	2560	6.53		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	36034	92.0		Pass
175	5.0 - 9.0% of mass 174	2760	7.04	(7.66) [a]	Pass
176	95.0 - 101.0% of mass 174	35128	89.6	(97.5) [a]	Pass
177	5.0 - 9.0% of mass 176	2420	6.18	(6.89) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VI7112-CC7085	I176066.D	08/03/12	11:11	01:42	Continuing cal 50
VI7112-MB1	I176068.D	08/03/12	12:56	03:27	Method Blank
VI7112-BS	I176069.D	08/03/12	13:29	04:00	Blank Spike
ZZZZZZ	I176071.D	08/03/12	14:30	05:01	(unrelated sample)
ZZZZZZ	I176072.D	08/03/12	14:59	05:30	(unrelated sample)
ZZZZZZ	I176073.D	08/03/12	15:28	05:59	(unrelated sample)
JB12773-2	I176074.D	08/03/12	15:57	06:28	(used for QC only; not part of job JB12712)
JB12773-2MS	I176075.D	08/03/12	16:27	06:58	Matrix Spike
JB12773-2MSD	I176076.D	08/03/12	16:56	07:27	Matrix Spike Duplicate
ZZZZZZ	I176077.D	08/03/12	17:24	07:55	(unrelated sample)
ZZZZZZ	I176078.D	08/03/12	17:53	08:24	(unrelated sample)
ZZZZZZ	I176079.D	08/03/12	18:22	08:53	(unrelated sample)
ZZZZZZ	I176080.D	08/03/12	18:51	09:22	(unrelated sample)
ZZZZZZ	I176081.D	08/03/12	19:20	09:51	(unrelated sample)
JB12712-1	I176082.D	08/03/12	19:48	10:19	137675 - 721 BNS - 13-15
JB12712-2	I176083.D	08/03/12	20:17	10:48	137675 - 721 BNS - 25-27
JB12712-3	I176084.D	08/03/12	20:46	11:17	137675 - 721 BND - 31-33

Instrument Performance Check (BFB)

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample: VI7115-BFB
Lab File ID: I176136.D
Instrument ID: GCMSI
Injection Date: 08/06/12
Injection Time: 11:05

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	10089	23.3		Pass
75	30.0 - 60.0% of mass 95	23128	53.4		Pass
95	Base peak, 100% relative abundance	43341	100.0		Pass
96	5.0 - 9.0% of mass 95	2845	6.56		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	40229	92.8		Pass
175	5.0 - 9.0% of mass 174	3105	7.16	(7.72) [a]	Pass
176	95.0 - 101.0% of mass 174	39754	91.7	(98.8) [a]	Pass
177	5.0 - 9.0% of mass 176	2757	6.36	(6.94) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VI7115-CC7085	I176138.D	08/06/12	12:28	01:23	Continuing cal 50
VI7115-MB1	I176140.D	08/06/12	14:05	03:00	Method Blank
VI7115-BS	I176141.D	08/06/12	14:45	03:40	Blank Spike
JB12678-14	I176143.D	08/06/12	16:08	05:03	(used for QC only; not part of job JB12712)
JB12678-14MS	I176144.D	08/06/12	16:37	05:32	Matrix Spike
JB12678-14MSD	I176145.D	08/06/12	17:06	06:01	Matrix Spike Duplicate
ZZZZZZ	I176147.D	08/06/12	18:03	06:58	(unrelated sample)
ZZZZZZ	I176148.D	08/06/12	18:32	07:27	(unrelated sample)
ZZZZZZ	I176151.D	08/06/12	19:58	08:53	(unrelated sample)
ZZZZZZ	I176152.D	08/06/12	20:27	09:22	(unrelated sample)
ZZZZZZ	I176153.D	08/06/12	20:56	09:51	(unrelated sample)
ZZZZZZ	I176154.D	08/06/12	21:25	10:20	(unrelated sample)
ZZZZZZ	I176155.D	08/06/12	21:54	10:49	(unrelated sample)
JB12712-4	I176156.D	08/06/12	22:23	11:18	137675 - 721 BND - 29-31
VI7115-MB2	I176161.D	08/07/12	00:47	13:42	Method Blank
ZZZZZZ	I176164.D	08/07/12	02:13	15:08	(unrelated sample)
ZZZZZZ	I176165.D	08/07/12	02:42	15:37	(unrelated sample)
ZZZZZZ	I176166.D	08/07/12	03:10	16:05	(unrelated sample)
ZZZZZZ	I176167.D	08/07/12	03:39	16:34	(unrelated sample)
ZZZZZZ	I176168.D	08/07/12	04:08	17:03	(unrelated sample)
ZZZZZZ	I176169.D	08/07/12	04:37	17:32	(unrelated sample)
ZZZZZZ	I176170.D	08/07/12	05:06	18:01	(unrelated sample)
ZZZZZZ	I176171.D	08/07/12	05:34	18:29	(unrelated sample)
ZZZZZZ	I176172.D	08/07/12	06:03	18:58	(unrelated sample)

Volatile Surrogate Recovery Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JB12712-1	I176082.D	113.0	104.0	108.0	102.0
JB12712-2	I176083.D	111.0	100.0	108.0	103.0
JB12712-3	I176084.D	111.0	99.0	108.0	103.0
JB12712-4	I176156.D	111.0	101.0	108.0	105.0
JB12678-14MS	I176144.D	107.0	97.0	109.0	102.0
JB12678-14MSD	I176145.D	106.0	93.0	110.0	103.0
JB12773-2MS	I176075.D	18.0* [a]	106.0	108.0	104.0
JB12773-2MSD	I176076.D	21.0* [a]	102.0	108.0	103.0
VI7112-BS	I176069.D	107.0	101.0	109.0	102.0
VI7112-MB1	I176068.D	110.0	96.0	110.0	105.0
VI7115-BS	I176141.D	110.0	98.0	109.0	104.0
VI7115-MB1	I176140.D	110.0	109.0	106.0	104.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-130%
S2 = 1,2-Dichloroethane-D4	70-122%
S3 = Toluene-D8	81-127%
S4 = 4-Bromofluorobenzene	66-132%

(a) Outside control limits due to matrix interference.

New Jersey ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GPF2815-MB1	PF99493.D	1	08/06/12	XPL	n/a	n/a	GPF2815

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB12712-1, JB12712-2, JB12712-3, JB12712-4

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	10	0.95	mg/kg	

CAS No.	Surrogate Recoveries		Limits
98-08-8	aaa-Trifluorotoluene	89%	66-119%

Blank Spike Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GPF2815-BS	PF99500.D	1	08/06/12	XPL	n/a	n/a	GPF2815

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB12712-1, JB12712-2, JB12712-3, JB12712-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	400	396	99	70-120

CAS No.	Surrogate Recoveries	BSP	Limits
98-08-8	aaa-Trifluorotoluene	109%	66-119%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JB12712-1MS	PF99498.D	1	08/06/12	XPL	n/a	n/a	GPF2815
JB12712-1MSD	PF99499.D	1	08/06/12	XPL	n/a	n/a	GPF2815
JB12712-1	PF99494.D	1	08/06/12	XPL	n/a	n/a	GPF2815

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB12712-1, JB12712-2, JB12712-3, JB12712-4

CAS No.	Compound	JB12712-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		535	519	97	542	101	4	61-128/14

CAS No.	Surrogate Recoveries	MS	MSD	JB12712-1	Limits
98-08-8	aaa-Trifluorotoluene	106%	108%	93%	66-119%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Method: SW846 8015C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JB12712-1	PF99494.D	93.0
JB12712-2	PF99495.D	97.0
JB12712-3	PF99496.D	94.0
JB12712-4	PF99497.D	93.0
GPF2815-BS	PF99500.D	109.0
GPF2815-MB1	PF99493.D	89.0
JB12712-1MS	PF99498.D	106.0
JB12712-1MSD	PF99499.D	108.0

Surrogate Compounds	Recovery Limits
S1 = aaa-Trifluorotoluene	66-119%

(a) Recovery from GC signal #1

New Jersey ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58751-MB1	5Y4094.D	1	08/06/12	CS	08/03/12	OP58751	G5Y147

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB12712-1, JB12712-2, JB12712-3, JB12712-4

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	10	0.32	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	73%	13-142%
16416-32-3	Tetracosane-d50	89%	12-141%
438-22-2	5a-Androstane	81%	13-142%

Blank Spike Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58751-BS1	5Y4095.D	1	08/06/12	CS	08/03/12	OP58751	G5Y147

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB12712-1, JB12712-2, JB12712-3, JB12712-4

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	100	76.3	76	46-125

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	82%	13-142%
16416-32-3	Tetracosane-d50	85%	12-141%
438-22-2	5a-Androstane	81%	13-142%

8.2.1

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* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP58751-MS	5Y4097.D	1	08/06/12	CS	08/03/12	OP58751	G5Y147
OP58751-MSD	5Y4098.D	1	08/06/12	CS	08/03/12	OP58751	G5Y147
JB12610-2	5Y4099.D	25	08/06/12	CS	08/03/12	OP58751	G5Y147

The QC reported here applies to the following samples: **Method:** SW846 8015C

JB12712-1, JB12712-2, JB12712-3, JB12712-4

CAS No.	Compound	JB12610-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	27700		113	723	0* [a]	809	0* [a]	11	10-160/50

CAS No.	Surrogate Recoveries	MS	MSD	JB12610-2	Limits
84-15-1	o-Terphenyl	51%	49%	3216%* [b]	13-142%
16416-32-3	Tetracosane-d50	1%* [c]	1%* [c]	128%	12-141%
438-22-2	5a-Androstane	39%	27%	3535%* [b]	13-142%

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Outside control limits due to matrix interference and dilution.
(c) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: JB12712
Account: SHELLWIC Shell Oil Products US
Project: URSMDG:SS#137675, 15541 New Hampshire Aveune, Silver Spring, MD

Method: SW846 8015C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]	S3 [a]
JB12712-1	5Y4105.D	74.0	86.0	82.0
JB12712-2	5Y4100.D	80.0	95.0	86.0
JB12712-3	5Y4101.D	72.0	93.0	76.0
JB12712-4	5Y4102.D	80.0	93.0	86.0
OP58751-BS1	5Y4095.D	82.0	85.0	81.0
OP58751-MB1	5Y4094.D	73.0	89.0	81.0
OP58751-MS	5Y4097.D	51.0	1.0* [b]	39.0
OP58751-MSD	5Y4098.D	49.0	1.0* [b]	27.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	13-142%
S2 = Tetracosane-d50	12-141%
S3 = 5a-Androstane	13-142%

(a) Recovery from GC signal #1
(b) Outside control limits due to matrix interference.