BALTIMORE

NOVEMBER 2012

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT – SUBSURFACE INVESTIGATION

CENTRAL AVENUE RECONSTRUCTION

Whitman, Requardt & Associates, LLF

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November 19, 2012

Central Avenue Reconstruction

Limited Phase II Environmental Site Assessment (ESA) –Subsurface Investigation

Executive Summary

Whitman, Requardt & Associates LLP (WR&A) has conducted a limited Phase II Environmental Site Assessment (ESA) at the intersection of Alice Anna Street and Central Avenue. The investigation was performed in general accordance with the scope and limitation of the American Society for Testing and Materials (ASTM) Standard E 1903-97. The subsurface investigation was performed for the City of Baltimore and was conducted to develop information with respect to recognized environmental concerns (RECs) discovered during geotechnical drilling performed in July 2012. A site location map is included in *Appendix A* as *figure 1*.

During the geotechnical drilling activities for the reconstruction of Central Avenue, petroleum impacted soil was encountered at a soil boring located at the southwestern corner of the intersection of Alice Anna Street and Central Avenue (BA-3). A soil sample was collected and submitted for analysis. According to analytical results for the collected soil sample, concentrations of total petroleum hydrocarbons-diesel range organics (TPH-DRO) exceeded the clean-up standards set by Maryland Department of the Environment (MDE) for non-residential use soil (620 mg/kg).

Authorization to perform the investigation was given by the City of Baltimore on September 20, 2012. WR&A performed this subsurface investigation to delineate the area of contamination and evaluate environmental concerns in the area around boring location BA-3 for upcoming construction efforts. A total of four soil samples and four groundwater samples were collected from four sample locations in the vicinity of soil boring BA-3. According to the analytical data from the subsurface soil sampling, all four boring locations indicate concentrations of arsenic that exceed the Maryland Department of the Environment (MDE) Non-Residential Clean-up Standards for soil. Analytical data from the subsurface groundwater sampling indicate concentrations of TPH-DRO and multiple metals that exceed the MDE Groundwater Standards for Type I and II Aquifers. In addition to arsenic, lead, mercury, nickel, thallium, antimony, beryllium, cadmium, chromium, copper, and TPH-DRO were reported at concentration that exceeded MDE Groundwater Standards for Type I and II Aquifers.

1.0 Environmental Sampling

The purpose of this subsurface investigation was to gather information regarding the presence of hazardous substances or petroleum products at the project site and to evaluate on-site conditions for upcoming construction efforts. Field investigation and sampling efforts were conducted on September 27th and 28th 2012 under supervision of Mr. Kevin T. Roberts, Environmental Scientist, with WR&A. Prior to commencement of field work, Miss Utility, a utility locating service, was contacted to locate utilities on or adjacent to the project site. Prior to the field investigation, utilities were marked by the respective utility companies within the study area.

1.1 Determining Sampling Locations

A total of five sample locations where initially chosen in the immediate vicinity of the former BA-3 soil boring. Locations were selected to delineate the area of contamination detected. The boring locations were chosen based on the locations of previous borings (BA-1, BA-2 and BA-4) and in proximity to the area of concern to provide adequate coverage of the area of concern. One boring location (BA-3B) was terminated due to utility constraints. A soil boring location map is included in *Appendix A* as *figure 2*.

1.2 Environmental Sample Collection

Soil borings were installed using a hollow-stem auger to collect split spoon samples. Continuous split-spoon sampling was conducted in two foot intervals from the just below the surficial asphalt and gravel base to the terminus of the boring below the water table. Soil was removed from the split-spoon and was transferred to a zip-sealing bag and allowed time to volatilize. All soil was classified by WR&A during the drilling event. Soil was screened for volatile organic compounds (VOCs) using a photo-ionization detector (PID). Due to the low PID readings, soil samples were selected from the vadose-zone (just above the soil/ groundwater interface). Grab groundwater samples were also collected from each boring by means of a bailer. Following sample collection, soil borings were backfilled using portland cement and asphalt patch. Boring Logs and PID Readings are included in Appendix B of this report.

Soil and groundwater samples were immediately placed in a cooler on ice following collection and were submitted under standard chain-of-custody procedures to ESC Lab Sciences in Mount Juliet, Tennessee for analytical testing for the following parameters:

Soil Analytical Parameters:

- Total Petroleum Hydrocarbons-Diesel Range Organics (TPH-DRO) –EPA test method 3546
- Total Petroleum Hydrocarbons-Gasoline Range Organics (TPH-GRO) –EPA test method 8015B
- Volatile Organic Compounds (VOCs) plus Oxygenates –EPA test method 8260B
- Semi-Volatile Organic Compounds (SVOCs) –EPA test method 8270D
- Pollutant Priority List Metals (PPL Metals) –EPA test method 6020B and 7471

Groundwater Analytical Parameters:

- Total Petroleum Hydrocarbons-Diesel Range Organics (TPH-DRO) –EPA test method 3510C
- Total Petroleum Hydrocarbons-Gasoline Range Organics (TPH-GRO) –EPA test method 8015D
- Volatile Organic Compounds (VOCs) plus Oxygenates –EPA test method 8260B
- Semi-Volatile Organic Compounds (SVOCs) –EPA test method 8270C
- Pollutant Priority List Metals (PPL Metals) –EPA test method 6020, 7470A and 6010B

2.0 Environmental Sample Analytical Data

2.1 Soil Data

Analytical results for detected compounds in soil are summarized in *Table 1* located in *Appendix C* of this report. All detected concentrations were compared to the MDE Non-Residential Clean-up Soil Standards.

<u>Metals:</u>
Reported concentrations of arsenic exceeded the MDE Non-Residential Clean-up Standard of 1.9 mg/kg in soil collected from all boring locations (BA-3A 1-3ft., BA-3C 1-3 ft., BA-3D 1-3 ft., and BA-3E 3-5 ft.)

2.2 Groundwater Data

Analytical results for detected compound in groundwater are summarized in *Table 2* located in *Appendix C* of this report. All detected concentrations were compared to MDE Groundwater Standards for Type I and II Aquifers.

<u>Total Petroleum Hydrocarbons:</u>
Reported concentrations of TPH-DRO exceeded the MDE Groundwater Standards of 0.047 mg/l in groundwater samples collected from borings BA-3A, BA-3C, BA-3D and BA-3E.

Metals:
Reported concentrations of metals exceeding the MDE Groundwater Standards are summarized as follows:

- Lead was reported at concentrations exceeding the MDE standard of 0.015 mg/l in groundwater samples collected from borings BA-3A, BA-3C, BA-3D and BA-3E.
- Mercury was reported at concentrations exceeding the MDE standard of 0.002 mg/l in groundwater samples collected from borings BA-3A, BA-3C, BA-3D and BA-3E.
- Nickel was reported at concentrations exceeding the MDE standard of 0.007 mg/l in groundwater samples collected from borings BA-3A, BA-3C, BA-3D and BA-3E.
- Thallium was reported at concentrations exceeding the MDE standard of 0.002 mg/l in groundwater samples collected from borings BA-3A and BA-3C.
- Antimony was reported at concentrations exceeding the MDE standard of 0.006 mg/l in groundwater samples collected from borings BA-3A.
- Arsenic was reported at concentrations exceeding the MDE standard of 0.01 mg/l in groundwater samples collected from borings BA-3A, BA-3C, BA-3D and BA-3E.
- Beryllium was reported at concentrations exceeding the MDE standard of 0.004 mg/l in groundwater samples collected from borings BA-3A, BA-3C, BA-3D and BA-3E.
- Cadmium was reported at concentrations exceeding the MDE standard of 0.005 mg/l in groundwater samples collected from borings BA-3A, BA-3C, BA-3D and BA-3E.
- Chromium was reported at concentrations exceeding the MDE standard of 0.1 mg/l in groundwater samples collected from borings BA-3A, BA-3C, BA-3D and BA-3E.
- Copper was reported at concentrations exceeding the MDE standard of 1.3 mg/l in groundwater samples collected from borings BA-3A, BA-3C, BA-3D and BA-3E.

One soil trip blank was submitted to the laboratory for VOCs plus Oxygenates (8260B) for quality control/quality assurance. A copy of the analytical laboratory report and chain of custody are located in Appendix D of this report.

3.0 Conclusion and Recommendations

3.1 Potential Soil and Groundwater Contamination

Analytical results indicate all four sample locations had concentrations of arsenic that exceeded the MDE Non-Residential Clean-up Soil Standards. In addition to arsenic, eight metals (lead, mercury, nickel, beryllium, cadmium, chromium, copper and zinc) and 11 SVOCs compounds (1,3,5 trimethylbenzene, pyrene, benzo(b)fluoranthene, fluoranthene, chrysene, benzo(a)pyrene, 1,2,3-trimethlybenzene, benzo(a)anthracene, phenanthrene, naphthalene, and 1,2,4-trimethlybenzene) were detected in soil samples but were reported in concentrations below the MDE Non-Residential Clean-up standards.

Although arsenic is a naturally occurring metal that is commonly found in undisturbed soils across Maryland, the elevated concentrations observed in all four soil samples collected are greater than the Anticipated Typical Concentrations (ATC) values established by the United States Geological Survey (USGS) for the eastern region (3.6 mg/kg) and central region (4.9 mg/kg) of Maryland.

According to the analytical results of the soil samples collected from around previous boring BA-3, no petroleum hydrocarbon compounds were identified at concentrations above the MDE Non-Residential Cleanup Standards for soil. However, TPH-DRO was detected in soil boring BA-3C 1-3FT at 31 mg/kg. MDE defines soil that contains more than 10 mg/kg of petroleum hydrocarbons as “oil-contaminated,” requiring excavated soil to be disposed of at an approved treatment facility.

Analytical results of the groundwater sampling indicate concentrations of TPH-DRO and multiple metals (lead, mercury, nickel, thallium, antimony, arsenic, beryllium, cadmium, chromium, and copper) exceeded the MDE

Groundwater Standards for Type I and II Aquifers. In addition to TPH-DRO and the metals, one additional metal (zinc) and two SVOCs (diethyl phthalate and naphthalene) were detected in concentrations below MDE Groundwater Standards.

During drilling activities, soil was continuously collected and screened using a PID to the boring terminus. PID screening readings for all soil was minimal to none; no petroleum staining or odors were observed associated with the soil. No petroleum odors or free-product was observed during the collection of groundwater samples.

3.2 Potential Health and Safety Risks

The potential health and safety risks that workers and general public will be exposed to will vary by type and severity depending on the contaminant, frequency of exposure and the exposure route. The types of contamination that should be anticipated during construction activities include petroleum contamination in soil and groundwater, toxic metals, and semi-volatile compounds (SVOCs). These contaminants may vary in physical and chemical states.

Exposure routes that may be associated with construction activities include inhalation, ingestion, or dermal contact. Contaminant exposure will be greater to construction workers than it will for the general public due to the proximity to freshly excavated materials, open excavations and dewatering activities.

- Inhalation - Contaminants that can generate significant vapor concentrations, such as petroleum products or VOCs, or contaminants that adhere to soil particles that are subsequently transported as dust create and inhalation hazard. Institutional controls would include measures to protect the general public, such as restricted access to the construction site, covering materials with impermeable poly-sheeting and providing proper personal protective equipment (PPE), such as filter respirators to construction workers on-site.
- Dermal Contact – Construction workers who are in the immediate vicinity or actively handling contaminated materials would be at greater risk of this exposure route than the general public. Institutional controls would include measures to protect the general public, such as restricted access to the construction site. Dermal contact control for workers measures would include providing workers with PPE, such as gloves, eye-protection and coveralls.
- Ingestion – Ingestion of on-site contaminants would likely be caused by cross-contamination by workers handling contaminated materials or by dust ingestion. Cross-contamination controls for workers would include switching out contaminated PPE such as disposable gloves and/or coveralls and washing hands before eating, drinking or smoking. Dust ingestion can be minimized with normal construction dust control measures.

The health and safety plan should address the anticipated contamination: including equipment and procedures to protect the workers and the general public, monitoring contaminant exposures and identifying the contractor's chain of command for health and safety.

3.3 Management of Regulated Waste Materials

- Excavated Soil – Excavated materials that contain contaminant concentrations exceeding the applicable MDE regulatory levels will be considered regulated waste materials for off-site disposal. Additionally, soil that contains more than 10 mg/kg of petroleum hydrocarbons is considered "oil-contaminated" and must be disposed of at an approved treatment facility that accepts oil-contaminated soil. Soils that do not contain 10 mg/kg of petroleum hydrocarbon contamination will require disposal in approved landfill or off-site treatment facility. Disposal facilities may require soils to be further characterized before accepting materials.
- Dewatering – Dewatering activities in or near areas of contamination may require the storage, treatment and discharge of contaminated groundwater. Dewatering activities are to be performed

under MDE's General NPDES permit for the discharge of treated groundwater and would likely consist of treatment with activated carbon filtration and/or an oil water separator to treat groundwater for metals and petroleum contamination. Dewatering in or near contaminated areas may require sample collection and analysis of influent and effluent water to document contaminant concentrations are within the acceptable regulatory limits.

- Segregation of Contaminated Materials – Efforts should be made to segregate contaminated materials from the materials that do not require regulated disposal. Segregation may require stockpiling of suspected contaminated materials until material is characterized to determine if the contaminant concentrations exceed MDE regulatory levels. Segregation procedures typically include adequate space for stockpiling and additional handling and transporting materials beyond normal construction procedures. In cases where projects have inadequate workspace or are time-sensitive, it may be more feasible to treat all excavated materials as contaminated and dispose of it accordingly.
- Treatment and Disposal – Excavated material requiring treatment or disposal will include a greater regulatory compliance, additional paperwork such waste characterization and waste manifest record keeping and higher unit costs than disposal of uncontaminated materials. Dewatering in contaminated areas may require additional sample collection and analysis for regulatory compliance under the MDE general discharge permit.

Limitations and Restrictions

This investigation was limited to observations made during the field work conducted in the study area, the analytical data provided by the lab and the interpretation of that data. This investigation was performed to identify the recognized environmental concerns and/or potential liabilities associated with the study area. The conclusions and recommendations developed from this data were based on site condition at the time the data was gathered and professional judgment. The interpretations and recommendations provided from work performed in no way eliminate undiscovered hazards or the City of Baltimore's obligation to local, state or federal laws. Any party other than the City of Baltimore who seeks to use this limited Phase II ESA –subsurface investigation, must do so only with permission and must therefore understand all such assumptions and objectives and shall independently evaluate information provided within. No warranty, implied or expressed, is made.

Very truly yours,

Kevin T. Roberts

Kevin T. Roberts

Environmental Scientist

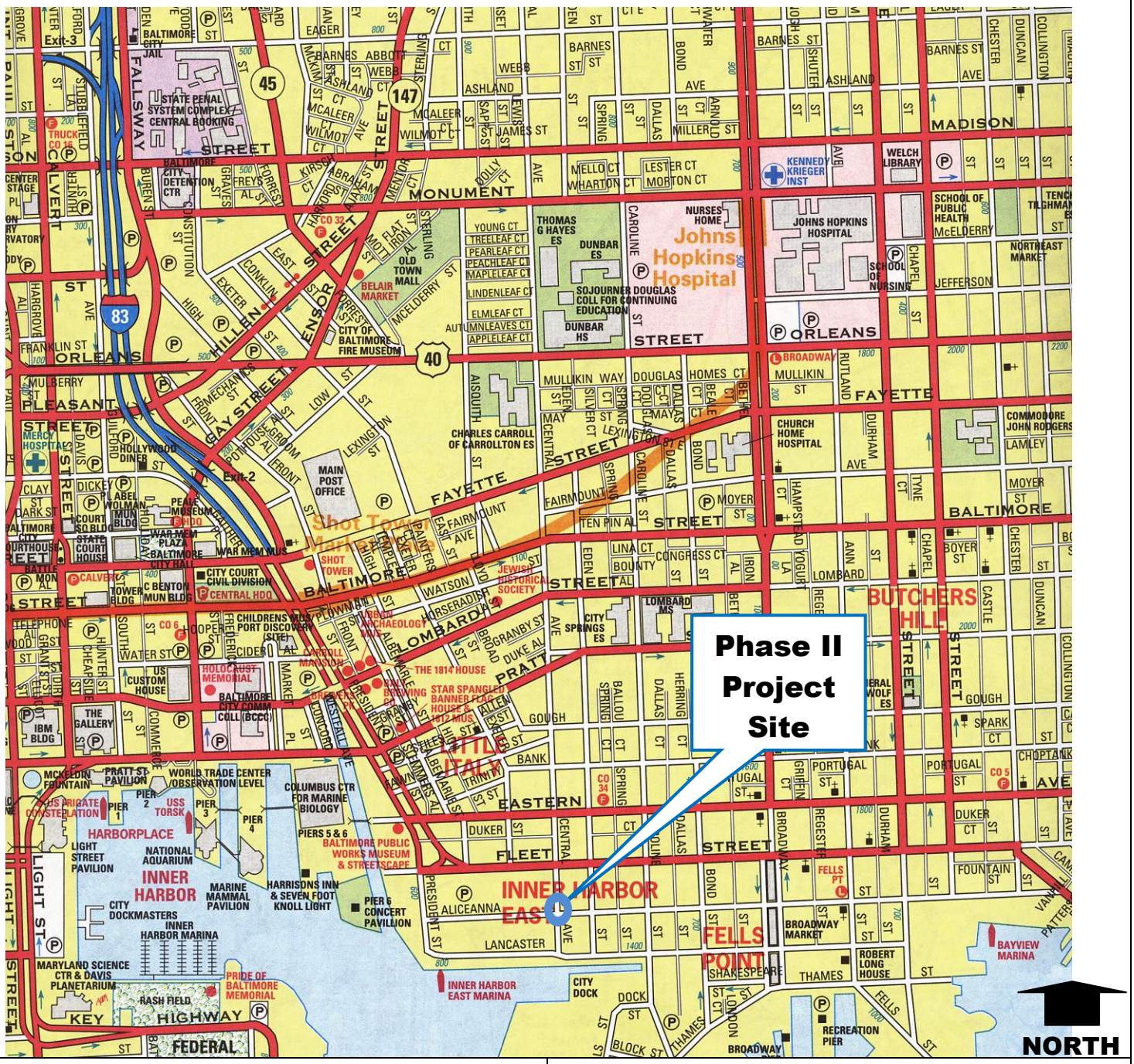
Whitman, Requardt & Associates, LLP

Enclosures

cc: Amanda Baxter, Monica Paylor, Ning Zhou

APPENDIX A

FIGURES



WR&A

WHITMAN, REQUARDT AND ASSOCIATES, LLP

Engineers, Architects and Planners

SITE LOCATION MAP

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT - SUBSURFACE INVESTIGATION
CENTRAL AVENUE
CITY OF BALTIMORE, MARYLAND

SCALE	DATE	SOURCE	FIGURE
NOT TO SCALE	NOVEMBER 2012	Copyright ADC The Map People Permitted Use Number 21002212	1

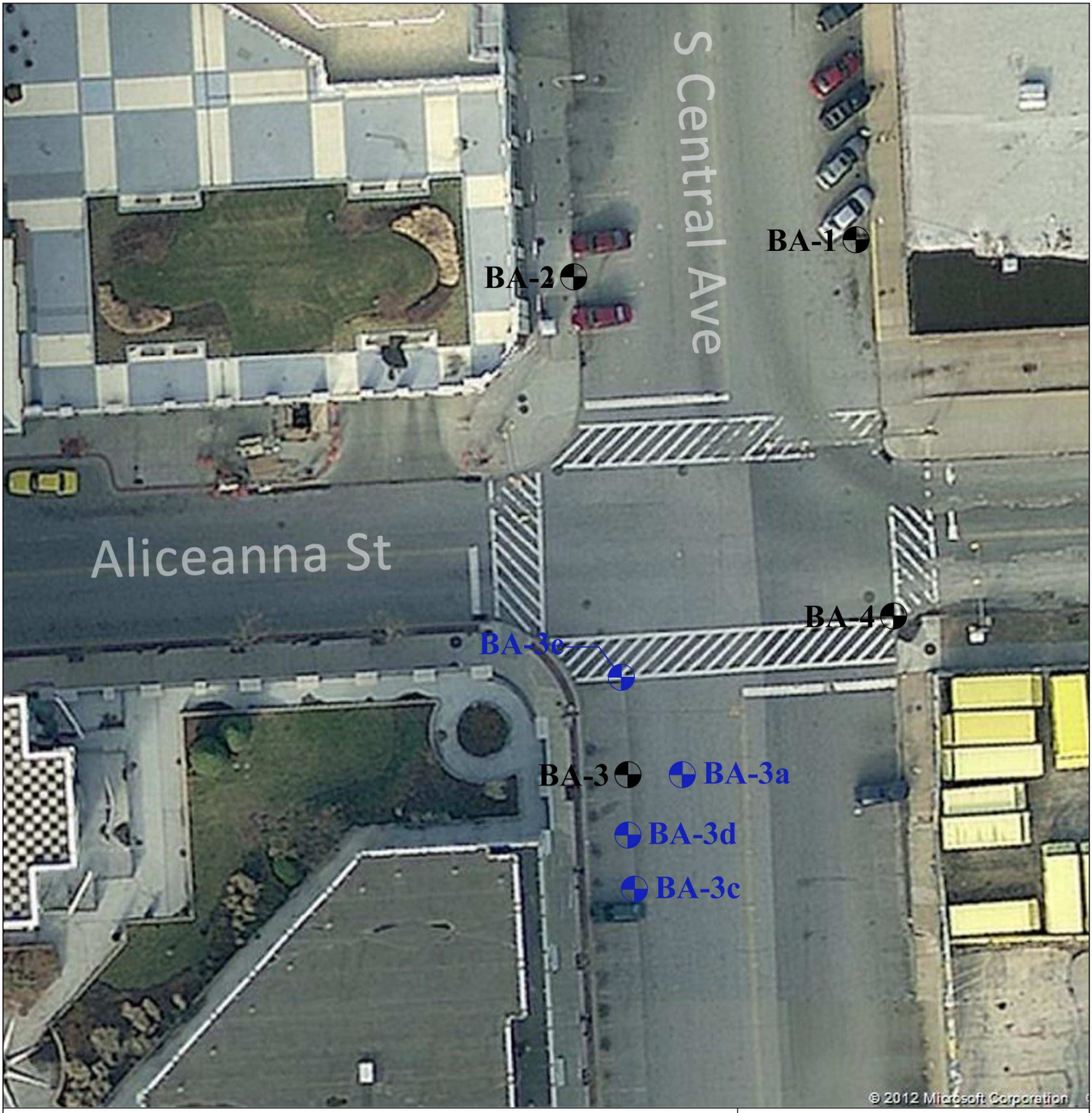


FIGURE 2

Central Avenue Reconstruction
Limited Phase II ESA - Subsurface Investigation
Soil Boring Location Plan

LEGEND
- Existing Soil Boring
- Environmental Soil Boring

SOURCE	DATE
Bing Maps	November 2012

WHITMAN, REQUARDT & ASSOCIATES, LLP
ENGINEERS·ARCHITECTS·PLANNERS
EST 1915

APPENDIX B

BORING LOGS AND PID READINGS

BORING LOG

FOR:	Baltimore City	HOLE NO:	BA-3A
PROJECT:	Central Avenue Phase II Reconstruction	ELEV:	
		SHT NO.:	
W.O. #:	31576-007	START DATE 9/27/2012	COMPLTED: 9/27/2012

GROUND WATER OBSERVATIONS

ENCOUNTERED: 3 FT; @ COMP: ____ FT; @ ____ HRS. ____ FT.
CAVE-IN: ____ FT; @ COMP: ____ FT; @ ____ HRS. ____ FT.

DRILLING BY: E2CR
DRILLER: Darrel Gough / CME-55
IINSPECTOR: Mital Patel
WR&A REP.: Kevin T. Roberts

HAMMER TYPE: Automatic
BORING METHOD: HSA
SAMPLER TYPE: SS
BOREHOLE DIA: 8"
ROD SIZE:
ROCK CORE SIZE:

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	PID/FID (ppm)
				9" asphalt, 4" base gravel			
1.5-3.5'		3,2,3,3	Fill	Fill material: brown/grey gravel and sand mix, moist, no petroleum odor	*11:15	2"	0ppm
3.5-5.5'		2,1,2,3	Fill	Fill material: dark brown F-MG sandy clay mixed with brick and oyster shells, loose, moist to wet, no petroleum odor		5"	0ppm
5.5-7.5'		2,1,1,1	Fill	Fill material: brown/grey F-MG sand, moist to wet no petroleum odor		14"	0ppm
7.5-9.5'		2,1 wh/12"	Fill	SAA		2"	0ppm
9.5-11.5'		1,1,1,1	SP	Grey F-MG Sand (SP) with some organic silt, wet no petroleum odor		17"	0ppm
				Terminate boring at 11' BGS			

Boring Method
HSA: HOLLOW STEM AUGER
HA\TR: HAND AUGER & TRIPOD
DC: DRIVEN CASING
MD: MUD DRILLING
DP: DIRECT PUSH
AR: AIR ROTARY/AIR HAMMER

Sampler Type:
SPT: STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER 1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED
AS: AUGER SAMPLE
RC: ROCK CORE
SS: SPLIT SPOON
@ST: SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)

Abbreviations:
NA: Not Applicable
SAA: Same as above
F-MG: fine to medium grained
BGS: below ground surface

BORING LOG

FOR: Baltimore City
PROJECT: Central Avenue Phase II Reconstruction
W.O. #: 31576-007

HOLE NO: BA-3C
ELEV:
SHT NO.:
START DATE 9/27/2012 COMPLTED: 9/27/2012

GROUND WATER OBSERVATIONS
ENCOUNTERED: 3 FT; @ COMP: ____ FT; @ ____ HRS. ____ FT.
CAVE-IN: ____ FT; @ COMP: ____ FT; @ ____ HRS. ____ FT.

DRILLING BY E2CR
DRILLER: Darrel Gough /CME-55
IINSPECTOR: Mital Patel
WR&A REP.: Kevin T. Roberts

HAMMER TYPE: Automatic
BORING METHOD: HSA
SAMPLER TYPE: SS
BOREHOLE DIA: 8"
ROD SIZE:
ROCK CORE SIZE:

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	PID/FID (ppm)
				4.5" asphalt, 6.5" base gravel			
1-3'		7,5,3,3	Fill	Fill material: dark brown/red silty fine to coarse grained sand, some brick frags no petroleum odor	*13:00	15"	0ppm
3-5'		5,5,5,5	Fill	SAA, oyster shells, wet, no petroleum odor		10"	0ppm
5-7'		5,6,4 wh/9"	MH	Dark brown/ brown elastic silt, FG, moist to wet organic odor		20"	0ppm
7-9'		2,2,4,5	MH	SAA, trace organics		24"	0ppm
9-11'		wh/18" 1	MH	SAA		16"	0ppm
				Terminate boring at 11' BGS			

Boring Method
HSA: HOLLOW STEM AUGER
HA\TR: HAND AUGER & TRIPOD
DC: DRIVEN CASING
MD: MUD DRILLING
DP: DIRECT PUSH
AR: AIR ROTARY/AIR HAMMER

Sampler Type:
SPT: STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER 1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED
AS: AUGER SAMPLE
RC: ROCK CORE
SS: SPLIT SPOON
@ST: SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)

Abbreviations:
NA: Not Applicable
SAA: Same as above
F-MG: fine to medium grained
BGS: below ground surface

BORING LOG

FOR:	Baltimore City	HOLE NO:	BA-3D
PROJECT:	Central Avenue Phase II Reconstruction	ELEV:	
		SHT NO.:	
W.O. #:	31576-007	START DATE 9/28/2012	COMPLTED: 9/28/2012

GROUND WATER OBSERVATIONS

ENCOUNTERED: 3.5 FT; @ COMP: ____ FT; @ ____ HRS. ____ FT.
CAVE-IN: ____ FT; @ COMP: ____ FT; @ ____ HRS. ____ FT.

DRILLING BY: E2CR
DRILLER: Darrel Gough /CME-55
IINSPECTOR: Mital Patel
WR&A REP.: Kevin T. Roberts

HAMMER TYPE: Automatic
BORING METHOD: HSA
SAMPLER TYPE: SS
BOREHOLE DIA: 8"
ROD SIZE:
ROCK CORE SIZE:

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	PID/FID (ppm)
				6" asphalt, 7" base gravel			
1-3'		2,2,3,3	Fill	Fill material: brown/black/red silty sand, F-MG, some oyster shells, damp, no petroleum odor	*13:00	8"	1.5ppm
3-5'		2,2,3,2	Fill	Fill material: dark brown F-MG sand, little clay wet, no petroleum odor		6"	0ppm
5-7'		1,1,1,6	Fill	Fill material: brown/dark brown FG clayey sand, little elastic silt, gravel and oyster shells, organic odor		7"	0ppm
				Terminate boring at 7' BGS			0ppm

Boring Method

HSA:	HOLLOW STEM AUGER
HA\TR:	HAND AUGER & TRIPOD
DC:	DRIVEN CASING
MD:	MUD DRILLING
DP:	DIRECT PUSH
AR:	AIR ROTARY/AIR HAMMER

Sampler Type:

SPT:	STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER 1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED
AS:	AUGER SAMPLE
RC:	ROCK CORE
SS:	SPLIT SPOON
@ST:	SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)

Abbreviations:
NA: Not Applicable
SAA: Same as above
F-MG: fine to medium grained
BGS: below ground surface

BORING LOG

FOR: **Baltimore City**
PROJECT: **Central Avenue Phase II Reconstruction**
W.O. #: **31576-007**

HOLE NO: **BA-3E**
ELEV:
SHT NO.:
START DATE **9/28/2012** COMPLTED: **9/28/2012**

GROUND WATER OBSERVATIONS
ENCOUNTERED: **5** FT; @ COMP: ____ FT; @ ____ HRS. ____ FT.
CAVE-IN: ____ FT; @ COMP: ____ FT; @ ____ HRS. ____ FT.

DRILLING BY **E2CR**
DRILLER: **Darrel Gough / CME -55**
IINSPECTOR: **Mital Patel**
WR&A REP.: **Kevin T. Roberts**

HAMMER TYPE: **Automatic** SAMPLER TYPE: **SS** ROD SIZE:
BORING METHOD: **HSA** BOREHOLE DIA: **8"** ROCK CORE SIZE:

DEPTH	WELL CONSTRUCTION	BLOW COUNT	CLASS	DESCRIPTION	SAMPLE SUBMITTED	RECOV.	PID/FID (ppm)
				6" asphalt, 5" base gravel			
1-3'		7,6,6,5	Fill	Fill material: brown/red silty sand, small gravel dry, no petroleum odor		12"	0ppm
3-5'		4,3,1,1	Fill	SAA, moist, organic odor	*10:00	16"	0ppm
5-7'		2,1,1,2	Fill MH	Dark brown elastic silt, FG, wet no petroleum odor		5"	0ppm
7-5'		1,1,1,1	MH	SAA, more sand, wet		12"	0ppm
9-11'		wh/12" 1,1	MH	SAA, wet		22"	0ppm
11-13'		wh/24"	MH	SAA, saturated		11"	0ppm
13-15'		wh/6" 1,,2,1	MH	SAA		24"	0ppm
				Boirng terminated at 15' BGS			

Boring Method
HSA: HOLLOW STEM AUGER
HA\TR: HAND AUGER & TRIPOD
DC: DRIVEN CASING
MD: MUD DRILLING
DP: DIRECT PUSH
AR: AIR ROTARY/AIR HAMMER

Sampler Type:
SPT: STANDARD PENETRATION TEST: DRIVING 2" O.D. SAMPLER 1.0 FT W/ 140 LB HAMMER FALLING 30" BLOW COUNTS RECORDED
AS: AUGER SAMPLE
RC: ROCK CORE
SS: SPLIT SPOON
@ST: SHELBY TUBE 6" INTERVALS. (SPLIT SPOON)

Abbreviations:
NA: Not Applicable
SAA: Same as above
F-MG: fine to medium grained
BGS: below ground surface

APPENDIX C

TABLES

Table 1: Summary of Environmental Soil Sampling Results

Sample ID				BA-3A 1-3 FT		BA-3C 1-3 FT		BA-3D 1-3 FT		BA-3E 3-5 FT	
Collect Date				09/27/2012		09/27/2012		09/28/2012		09/28/2012	
Method	**Parameter**	**Units**	**MDE Non-Residential Clean-up Standards**	**Value**	**Qualifier**	**Value**	**Qualifier**	**Value**	**Qualifier**	**Value**	**Qualifier**
	Total Petroleum Hydrocarbons										
3546/DRO	TPH (GC/FID) High Fraction	mg/kg	620	<24	O	**31**	O	<24	O	<4.9	
	Metals										
7471	Mercury	mg/kg	31	**0.4**		**0.80**		**1.0**		**0.25**	
6010B	Arsenic	mg/kg	1.9	**6.6**		**5.7**		**11**		**5.0**	
6010B	Beryllium	mg/kg	200	**0.35**		<0.11		<0.12		<0.12	
6010B	Cadmium	mg/kg	51	<0.30		<0.28		0.55		<0.31	
6010B	Chromium	mg/kg	310	**60**		**42**		**28**		**76**	
6010B	Copper	mg/kg	4,100	**30**		**30**		**180**		**40**	
6010B	Lead	mg/kg	1,000	**84**		**130**		**190**		**150**	
6010B	Nickel	mg/kg	2,000	**13**		**8.7**		**15**		**19**	
6010B	Zinc	mg/kg	31,000	**50**		**74**		**130**		**84**	
	Volatile Organic Compounds (VOCs)										
8260B	Benzene	mg/kg	52	<0.0012		<0.0011		**0.0022**		<0.0012	
	Semi-Volatile Organic Compounds (SVOCs)										
8260B	Naphthalene	mg/kg	200	<0.0060		<0.0056		<0.0061		**0.033**	
8260B	1,2,4-Trimethylbenzene	mg/kg	NA	<0.0012		<0.0011		<0.0012		**0.0027**	
8260B	1,2,3-Trimethylbenzene	mg/kg	NA	<0.0012		<0.0011		<0.0012		**0.0029**	V3
8260B	1,3,5-Trimethylbenzene	mg/kg	NA	<0.0012		<0.0011		<0.0012		**0.0015**	
8270C	Benzo(a)anthracene	mg/kg	3.9	<0.20		**0.72**	O	<2.0	O	<4.0	O
8270C	Benzo(b)fluoranthene	mg/kg	3.9	<0.20		**0.75**	O	<2.0	O	<4.0	O
8270C	Benzo(a)pyrene	mg/kg	0.39	<0.20		**0.56**	O	<2.0	O	<4.0	O
8270C	Chrysene	mg/kg	390	<0.20		**0.66**	O	<2.0	O	<4.0	O
8270C	Fluoranthene	mg/kg	4,100	0.21		**1.3**	O	<2.0	O	<4.0	O
8270C	Phenanthrene	mg/kg	31,00	<0.20		**0.98**	O	<2.0	O	<4.0	O

Sample ID				BA-3A 1-3 FT		BA-3C 1-3 FT		BA-3D 1-3 FT		BA-3E 3-5 FT	
Collect Date				09/27/2012		09/27/2012		09/28/2012		09/28/2012	
Method	**Parameter**	**Units**	**MDE Non-Residential Clean-up Standards**	**Value**	**Qualifier**	**Value**	**Qualifier**	**Value**	**Qualifier**	**Value**	**Qualifier**
8270C	Pyrene	mg/kg	3,100	<0.20		**0.96**	O	<2.0	O	<4.0	O

Notes: Shaded values indicate the concentration exceed MDE Groundwater Standards of Type I and II Aquifers. Bolded values indicate concentration detected above laboratory reporting limits.

Qualifiers:

O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
V3	(ESC) - Additional QC Info: The internal standard exhibited poor recovery due to sample matrix interference. The analytical results will be biased high. BDL results will be unaffected.

Table 2: Summary of Environmental Groundwater Sampling Results

Sample ID				BA-3A		BA-3C		BA-3D		BA-3E	
Collect Date				09/28/2012		09/28/2012		09/27/2012		09/27/2012	
Method	**Parameter**	**Units**	**MDE Groundwater Standards for Type I and II Aquifers**	**Value**	**Qualifier**	**Value**	**Qualifier**	**Value**	**Qualifier**	**Value**	**Qualifier**
	Total Petroleum Hydrocarbons										
3510/DRO	TPH (GC/FID) High Fraction	mg/l	0.047	**0.36**	B	**0.35**	B	**0.26**	B	**0.41**	B
	*Adjusted Values	mg/l	0.047	**0.34**		**0.33**		**0.24**		**0.39**	
	Metals										
6020	Antimony	mg/l	0.006	**0.0062**		<0.010	**O**	<0.010	**O**	<0.010	O
7470A	Mercury	mg/l	0.002	**0.093**		**0.032**		**0.21**		**0.028**	
6020	Arsenic	mg/l	0.01	**0.35**		**0.5**		**0.33**		**0.38**	
6010B	Beryllium	mg/l	0.004	**0.015**		**0.072**		**0.035**		**0.06**	
6010B	Cadmium	mg/l	0.005	**0.019**		**0.047**		**0.045**		**0.056**	
6010B	Chromium	mg/l	0.1	**9.7**		**8.7**		**3.7**		**7.3**	
6020	Copper	mg/l	1.3	**3.3**		**7.2**		**31**		**9.6**	
6010B	Lead	mg/l	0.015	**12**		**21**		**96**		**32**	
6010B	Nickel	mg/l	0.007	**0.99**		**2.5**		**1.5**		**2.2**	
6020	Thallium	mg/l	0.002	**0.0068**		**0.012**		<0.010	O	<0.010	O
6010B	Zinc	mg/l	5000	**5.3**		**11**		**26**		**18**	
	Volatile Organic Compounds (VOCs)										
8260B	Benzene	mg/l	0.047	0.36	B	0.35	B	0.26	B	0.41	B
	Semi-Volatile Organic Compounds (SVOCs)										
8270C	Diethyl phthalate	mg/l	2.9	<0.0038		<0.0060		<0.0060		**0.013**	Q
8270C	Naphthalene	mg/l	0.00065	<0.00102	O	<0.00020	O	<0.0020		**0.0048**	Q

Notes: Shaded values indicate the concentration exceed MDE Groundwater Standards of Type I and II Aquifers. Bolded values indicate concentration detected above laboratory reporting limits.

*Adjusted values for analytical results with estimated high bias of 0.0185 mg/l.

Qualifiers:

B	(EPA) - The indicated compound was found in the associated method blank as well as the laboratory sample.
O	(ESC) - Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
Q	(ESC) - Sample held beyond holding time.

APPENDIX D

LAB REPORT AND CHAIN OF CUSTODY

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Tax I.D. 62-0814289

Est. 1970

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

Report Summary

Thursday October 11, 2012

Report Number: L598273
Samples Received: 09/29/12
Client Project: 31576-007

Description: Balitmore City

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Alan Harvill

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.
Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-01

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3D 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/28/12 13:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	82.4	0.100	%	2540G	10/03/12	1
Mercury	1.0	0.12	mg/kg	7471	10/02/12	5
Antimony	BDL	6.1	mg/kg	6010B	10/04/12	5
Arsenic	11.	1.2	mg/kg	6010B	10/04/12	1
Beryllium	BDL	0.12	mg/kg	6010B	10/04/12	1
Cadmium	0.55	0.30	mg/kg	6010B	10/04/12	1
Chromium	28.	0.61	mg/kg	6010B	10/04/12	1
Copper	180	1.2	mg/kg	6010B	10/04/12	1
Lead	190	0.30	mg/kg	6010B	10/04/12	1
Nickel	15.	6.1	mg/kg	6010B	10/04/12	5
Selenium	BDL	1.2	mg/kg	6010B	10/04/12	1
Silver	BDL	0.61	mg/kg	6010B	10/04/12	1
Thallium	BDL	6.1	mg/kg	6010B	10/04/12	5
Zinc	130	9.1	mg/kg	6010B	10/04/12	5
TPH (GC/FID) Low Fraction	BDL	0.12	mg/kg	8015D/GRO	10/03/12	1
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	86.3		% Rec.	602/8015	10/03/12	1
Volatiles - Oxygenates						
Acetone	BDL	0.061	mg/kg	8260B	10/01/12	1
Acrylonitrile	BDL	0.012	mg/kg	8260B	10/01/12	1
Benzene	0.0022	0.0012	mg/kg	8260B	10/01/12	1
Bromobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromodichloromethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromoform	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromomethane	BDL	0.0061	mg/kg	8260B	10/01/12	1
n-Butylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
sec-Butylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
tert-Butylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Carbon tetrachloride	BDL	0.0012	mg/kg	8260B	10/01/12	1
Chlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Chlorodibromomethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Chloroethane	BDL	0.0061	mg/kg	8260B	10/01/12	1
2-Chloroethyl vinyl ether	BDL	0.061	mg/kg	8260B	10/01/12	1
Chloroform	BDL	0.0061	mg/kg	8260B	10/01/12	1
Chloromethane	BDL	0.0030	mg/kg	8260B	10/01/12	1
2-Chlorotoluene	BDL	0.0012	mg/kg	8260B	10/01/12	1
4-Chlorotoluene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2-Dibromo-3-Chloropropane	BDL	0.0061	mg/kg	8260B	10/01/12	1
1,2-Dibromoethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Dibromomethane	BDL	0.0012	mg/kg	8260B	10/01/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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L598273-01 (DRO) - extract thick/dark cannot run lower

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-01

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3D 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/28/12 13:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,2-Dichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,3-Dichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,4-Dichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Dichlorodifluoromethane	BDL	0.0061	mg/kg	8260B	10/01/12	1
1,1-Dichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2-Dichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1-Dichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
cis-1,2-Dichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
trans-1,2-Dichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2-Dichloropropane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1-Dichloropropene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,3-Dichloropropane	BDL	0.0012	mg/kg	8260B	10/01/12	1
cis-1,3-Dichloropropene	BDL	0.0012	mg/kg	8260B	10/01/12	1
trans-1,3-Dichloropropene	BDL	0.0012	mg/kg	8260B	10/01/12	1
2,2-Dichloropropane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Ethylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Hexachloro-1,3-butadiene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Isopropylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
p-Isopropyltoluene	BDL	0.0012	mg/kg	8260B	10/01/12	1
2-Butanone (MEK)	BDL	0.012	mg/kg	8260B	10/01/12	1
Methylene Chloride	BDL	0.0061	mg/kg	8260B	10/01/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.012	mg/kg	8260B	10/01/12	1
Naphthalene	BDL	0.0061	mg/kg	8260B	10/01/12	1
n-Propylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Styrene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,1,2-Tetrachloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Tetrachloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Toluene	BDL	0.0061	mg/kg	8260B	10/01/12	1
1,2,3-Trichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2,4-Trichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,1-Trichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,2-Trichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Trichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Trichlorofluoromethane	BDL	0.0061	mg/kg	8260B	10/01/12	1
1,2,3-Trichloropropane	BDL	0.0030	mg/kg	8260B	10/01/12	1
1,2,4-Trimethylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2,3-Trimethylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,3,5-Trimethylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Vinyl chloride	BDL	0.0012	mg/kg	8260B	10/01/12	1
Xylenes, Total	BDL	0.0036	mg/kg	8260B	10/01/12	1
Di-isopropyl ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
Ethanol	BDL	0.12	mg/kg	8260B	10/01/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-01

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3D 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/28/12 13:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Ethyl tert-butyl ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
Methyl tert-butyl ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
t-Amyl Alcohol	BDL	0.061	mg/kg	8260B	10/01/12	1
tert-Butyl alcohol	BDL	0.0061	mg/kg	8260B	10/01/12	1
tert-Amyl Methyl Ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
Surrogate Recovery						
Toluene-d8	86.1		% Rec.	8260B	10/01/12	1
Dibromofluoromethane	102.		% Rec.	8260B	10/01/12	1
4-Bromofluorobenzene	43.5		% Rec.	8260B	10/01/12	1
TPH (GC/FID) High Fraction	BDL	24.	mg/kg	3546/DRO	10/04/12	5
Surrogate recovery(%)						
o-Terphenyl	62.7		% Rec.	3546/DRO	10/04/12	5
Base/Neutral Extractables						
Acenaphthene	BDL	2.0	mg/kg	8270C	10/06/12	50
Acenaphthylene	BDL	2.0	mg/kg	8270C	10/06/12	50
Anthracene	BDL	2.0	mg/kg	8270C	10/06/12	50
Benzidine	BDL	20.	mg/kg	8270C	10/06/12	50
Benzo(a)anthracene	BDL	2.0	mg/kg	8270C	10/06/12	50
Benzo(b)fluoranthene	BDL	2.0	mg/kg	8270C	10/06/12	50
Benzo(k)fluoranthene	BDL	2.0	mg/kg	8270C	10/06/12	50
Benzo(g,h,i)perylene	BDL	2.0	mg/kg	8270C	10/06/12	50
Benzo(a)pyrene	BDL	2.0	mg/kg	8270C	10/06/12	50
Bis(2-chlorethoxy)methane	BDL	20.	mg/kg	8270C	10/06/12	50
Bis(2-chloroethyl)ether	BDL	20.	mg/kg	8270C	10/06/12	50
Bis(2-chloroisopropyl)ether	BDL	20.	mg/kg	8270C	10/06/12	50
4-Bromophenyl-phenylether	BDL	20.	mg/kg	8270C	10/06/12	50
2-Chloronaphthalene	BDL	2.0	mg/kg	8270C	10/06/12	50
4-Chlorophenyl-phenylether	BDL	20.	mg/kg	8270C	10/06/12	50
Chrysene	BDL	2.0	mg/kg	8270C	10/06/12	50
Dibenz(a,h)anthracene	BDL	2.0	mg/kg	8270C	10/06/12	50
3,3-Dichlorobenzidine	BDL	20.	mg/kg	8270C	10/06/12	50
2,4-Dinitrotoluene	BDL	20.	mg/kg	8270C	10/06/12	50
2,6-Dinitrotoluene	BDL	20.	mg/kg	8270C	10/06/12	50
Fluoranthene	BDL	2.0	mg/kg	8270C	10/06/12	50
Fluorene	BDL	2.0	mg/kg	8270C	10/06/12	50
Hexachlorobenzene	BDL	20.	mg/kg	8270C	10/06/12	50
Hexachloro-1,3-butadiene	BDL	20.	mg/kg	8270C	10/06/12	50
Hexachlorocyclopentadiene	BDL	20.	mg/kg	8270C	10/06/12	50
Hexachloroethane	BDL	20.	mg/kg	8270C	10/06/12	50
Indeno(1,2,3-cd)pyrene	BDL	2.0	mg/kg	8270C	10/06/12	50
Isophorone	BDL	20.	mg/kg	8270C	10/06/12	50
Naphthalene	BDL	2.0	mg/kg	8270C	10/06/12	50

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-01

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3D 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/28/12 13:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Nitrobenzene	BDL	20.	mg/kg	8270C	10/06/12	50
n-Nitrosodimethylamine	BDL	20.	mg/kg	8270C	10/06/12	50
n-Nitrosodiphenylamine	BDL	20.	mg/kg	8270C	10/06/12	50
n-Nitrosodi-n-propylamine	BDL	20.	mg/kg	8270C	10/06/12	50
Phenanthrene	BDL	2.0	mg/kg	8270C	10/06/12	50
Benzylbutyl phthalate	BDL	20.	mg/kg	8270C	10/06/12	50
Bis(2-ethylhexyl)phthalate	BDL	20.	mg/kg	8270C	10/06/12	50
Di-n-butyl phthalate	BDL	20.	mg/kg	8270C	10/06/12	50
Diethyl phthalate	BDL	20.	mg/kg	8270C	10/06/12	50
Dimethyl phthalate	BDL	20.	mg/kg	8270C	10/06/12	50
Di-n-octyl phthalate	BDL	20.	mg/kg	8270C	10/06/12	50
Pyrene	BDL	2.0	mg/kg	8270C	10/06/12	50
1,2,4-Trichlorobenzene	BDL	20.	mg/kg	8270C	10/06/12	50
Acid Extractables						
4-Chloro-3-methylphenol	BDL	20.	mg/kg	8270C	10/06/12	50
2-Chlorophenol	BDL	20.	mg/kg	8270C	10/06/12	50
2,4-Dichlorophenol	BDL	20.	mg/kg	8270C	10/06/12	50
2,4-Dimethylphenol	BDL	20.	mg/kg	8270C	10/06/12	50
4,6-Dinitro-2-methylphenol	BDL	20.	mg/kg	8270C	10/06/12	50
2,4-Dinitrophenol	BDL	20.	mg/kg	8270C	10/06/12	50
2-Nitrophenol	BDL	20.	mg/kg	8270C	10/06/12	50
4-Nitrophenol	BDL	20.	mg/kg	8270C	10/06/12	50
Pentachlorophenol	BDL	20.	mg/kg	8270C	10/06/12	50
Phenol	BDL	20.	mg/kg	8270C	10/06/12	50
2,4,6-Trichlorophenol	BDL	20.	mg/kg	8270C	10/06/12	50
Surrogate Recovery						
2-Fluorophenol	44.0		% Rec.	8270C	10/06/12	50
Phenol-d5	43.0		% Rec.	8270C	10/06/12	50
Nitrobenzene-d5	49.0		% Rec.	8270C	10/06/12	50
2-Fluorobiphenyl	61.2		% Rec.	8270C	10/06/12	50
2,4,6-Tribromophenol	30.0		% Rec.	8270C	10/06/12	50
p-Terphenyl-d14	58.6		% Rec.	8270C	10/06/12	50

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 10/10/12 16:47 Revised: 10/11/12 16:34
L598273-01 (DRO) - extract thick/dark cannot run lower

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-02

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3E 3-5 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/28/12 10:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	81.4	0.100	%	2540G	10/03/12	1
Mercury	0.25	0.024	mg/kg	7471	10/02/12	1
Antimony	BDL	2.4	mg/kg	6010B	10/04/12	2
Arsenic	5.0	1.2	mg/kg	6010B	10/04/12	1
Beryllium	BDL	0.12	mg/kg	6010B	10/04/12	1
Cadmium	BDL	0.31	mg/kg	6010B	10/04/12	1
Chromium	76.	0.61	mg/kg	6010B	10/04/12	1
Copper	40.	1.2	mg/kg	6010B	10/04/12	1
Lead	150	0.31	mg/kg	6010B	10/04/12	1
Nickel	19.	1.2	mg/kg	6010B	10/04/12	1
Selenium	BDL	1.2	mg/kg	6010B	10/04/12	1
Silver	BDL	0.61	mg/kg	6010B	10/04/12	1
Thallium	BDL	1.2	mg/kg	6010B	10/04/12	1
Zinc	84.	1.8	mg/kg	6010B	10/04/12	1
TPH (GC/FID) Low Fraction	BDL	0.12	mg/kg	8015D/GRO	10/03/12	1
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	94.7		% Rec.	602/8015	10/03/12	1
Volatiles - Oxygenates						
Acetone	BDL	0.061	mg/kg	8260B	10/01/12	1
Acrylonitrile	BDL	0.012	mg/kg	8260B	10/01/12	1
Benzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromodichloromethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromoform	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromomethane	BDL	0.0061	mg/kg	8260B	10/01/12	1
n-Butylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
sec-Butylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
tert-Butylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Carbon tetrachloride	BDL	0.0012	mg/kg	8260B	10/01/12	1
Chlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Chlorodibromomethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Chloroethane	BDL	0.0061	mg/kg	8260B	10/01/12	1
2-Chloroethyl vinyl ether	BDL	0.061	mg/kg	8260B	10/01/12	1
Chloroform	BDL	0.0061	mg/kg	8260B	10/01/12	1
Chloromethane	BDL	0.0031	mg/kg	8260B	10/01/12	1
2-Chlorotoluene	BDL	0.0012	mg/kg	8260B	10/01/12	1
4-Chlorotoluene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2-Dibromo-3-Chloropropane	BDL	0.0061	mg/kg	8260B	10/01/12	1
1,2-Dibromoethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Dibromomethane	BDL	0.0012	mg/kg	8260B	10/01/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
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3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-02

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3E 3-5 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/28/12 10:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,2-Dichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,3-Dichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,4-Dichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Dichlorodifluoromethane	BDL	0.0061	mg/kg	8260B	10/01/12	1
1,1-Dichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2-Dichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1-Dichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
cis-1,2-Dichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
trans-1,2-Dichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2-Dichloropropane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1-Dichloropropene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,3-Dichloropropane	BDL	0.0012	mg/kg	8260B	10/01/12	1
cis-1,3-Dichloropropene	BDL	0.0012	mg/kg	8260B	10/01/12	1
trans-1,3-Dichloropropene	BDL	0.0012	mg/kg	8260B	10/01/12	1
2,2-Dichloropropane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Ethylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Hexachloro-1,3-butadiene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Isopropylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
p-Isopropyltoluene	BDL	0.0012	mg/kg	8260B	10/01/12	1
2-Butanone (MEK)	BDL	0.012	mg/kg	8260B	10/01/12	1
Methylene Chloride	BDL	0.0061	mg/kg	8260B	10/01/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.012	mg/kg	8260B	10/01/12	1
Naphthalene	0.033	0.0061	mg/kg	8260B	10/01/12	1
n-Propylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Styrene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,1,2-Tetrachloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Tetrachloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Toluene	BDL	0.0061	mg/kg	8260B	10/01/12	1
1,2,3-Trichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2,4-Trichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,1-Trichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,2-Trichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Trichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Trichlorofluoromethane	BDL	0.0061	mg/kg	8260B	10/01/12	1
1,2,3-Trichloropropane	BDL	0.0031	mg/kg	8260B	10/01/12	1
1,2,4-Trimethylbenzene	0.0027	0.0012	mg/kg	8260B	10/01/12	1
1,2,3-Trimethylbenzene	0.0029	0.0012	mg/kg	8260B	10/01/12	1
1,3,5-Trimethylbenzene	0.0015	0.0012	mg/kg	8260B	10/01/12	1
Vinyl chloride	BDL	0.0012	mg/kg	8260B	10/01/12	1
Xylenes, Total	BDL	0.0037	mg/kg	8260B	10/01/12	1
Di-isopropyl ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
Ethanol	BDL	0.12	mg/kg	8260B	10/01/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-02

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3E 3-5 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/28/12 10:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Ethyl tert-butyl ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
Methyl tert-butyl ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
t-Amyl Alcohol	BDL	0.061	mg/kg	8260B	10/01/12	1
tert-Butyl alcohol	BDL	0.0061	mg/kg	8260B	10/01/12	1
tert-Amyl Methyl Ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
Surrogate Recovery						
Toluene-d8	94.3		% Rec.	8260B	10/01/12	1
Dibromofluoromethane	93.2		% Rec.	8260B	10/01/12	1
4-Bromofluorobenzene	71.0		% Rec.	8260B	10/01/12	1
TPH (GC/FID) High Fraction	BDL	4.9	mg/kg	3546/DRO	10/04/12	1
Surrogate recovery(%)						
o-Terphenyl	59.9		% Rec.	3546/DRO	10/04/12	1
Base/Neutral Extractables						
Acenaphthene	BDL	4.0	mg/kg	8270C	10/06/12	100
Acenaphthylene	BDL	4.0	mg/kg	8270C	10/06/12	100
Anthracene	BDL	4.0	mg/kg	8270C	10/06/12	100
Benzidine	BDL	41.	mg/kg	8270C	10/06/12	100
Benzo(a)anthracene	BDL	4.0	mg/kg	8270C	10/06/12	100
Benzo(b)fluoranthene	BDL	4.0	mg/kg	8270C	10/06/12	100
Benzo(k)fluoranthene	BDL	4.0	mg/kg	8270C	10/06/12	100
Benzo(g,h,i)perylene	BDL	4.0	mg/kg	8270C	10/06/12	100
Benzo(a)pyrene	BDL	4.0	mg/kg	8270C	10/06/12	100
Bis(2-chlorethoxy)methane	BDL	41.	mg/kg	8270C	10/06/12	100
Bis(2-chloroethyl)ether	BDL	41.	mg/kg	8270C	10/06/12	100
Bis(2-chloroisopropyl)ether	BDL	41.	mg/kg	8270C	10/06/12	100
4-Bromophenyl-phenylether	BDL	41.	mg/kg	8270C	10/06/12	100
2-Chloronaphthalene	BDL	4.0	mg/kg	8270C	10/06/12	100
4-Chlorophenyl-phenylether	BDL	41.	mg/kg	8270C	10/06/12	100
Chrysene	BDL	4.0	mg/kg	8270C	10/06/12	100
Dibenz(a,h)anthracene	BDL	4.0	mg/kg	8270C	10/06/12	100
3,3-Dichlorobenzidine	BDL	41.	mg/kg	8270C	10/06/12	100
2,4-Dinitrotoluene	BDL	41.	mg/kg	8270C	10/06/12	100
2,6-Dinitrotoluene	BDL	41.	mg/kg	8270C	10/06/12	100
Fluoranthene	BDL	4.0	mg/kg	8270C	10/06/12	100
Fluorene	BDL	4.0	mg/kg	8270C	10/06/12	100
Hexachlorobenzene	BDL	41.	mg/kg	8270C	10/06/12	100
Hexachloro-1,3-butadiene	BDL	41.	mg/kg	8270C	10/06/12	100
Hexachlorocyclopentadiene	BDL	41.	mg/kg	8270C	10/06/12	100
Hexachloroethane	BDL	41.	mg/kg	8270C	10/06/12	100
Indeno(1,2,3-cd)pyrene	BDL	4.0	mg/kg	8270C	10/06/12	100
Isophorone	BDL	41.	mg/kg	8270C	10/06/12	100
Naphthalene	BDL	4.0	mg/kg	8270C	10/06/12	100

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

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October 11,2012

ESC Sample # : L598273-02

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3E 3-5 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/28/12 10:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Nitrobenzene	BDL	41.	mg/kg	8270C	10/06/12	100
n-Nitrosodimethylamine	BDL	41.	mg/kg	8270C	10/06/12	100
n-Nitrosodiphenylamine	BDL	41.	mg/kg	8270C	10/06/12	100
n-Nitrosodi-n-propylamine	BDL	41.	mg/kg	8270C	10/06/12	100
Phenanthrene	BDL	4.0	mg/kg	8270C	10/06/12	100
Benzylbutyl phthalate	BDL	41.	mg/kg	8270C	10/06/12	100
Bis(2-ethylhexyl)phthalate	BDL	41.	mg/kg	8270C	10/06/12	100
Di-n-butyl phthalate	BDL	41.	mg/kg	8270C	10/06/12	100
Diethyl phthalate	BDL	41.	mg/kg	8270C	10/06/12	100
Dimethyl phthalate	BDL	41.	mg/kg	8270C	10/06/12	100
Di-n-octyl phthalate	BDL	41.	mg/kg	8270C	10/06/12	100
Pyrene	BDL	4.0	mg/kg	8270C	10/06/12	100
1,2,4-Trichlorobenzene	BDL	41.	mg/kg	8270C	10/06/12	100
Acid Extractables						
4-Chloro-3-methylphenol	BDL	41.	mg/kg	8270C	10/06/12	100
2-Chlorophenol	BDL	41.	mg/kg	8270C	10/06/12	100
2,4-Dichlorophenol	BDL	41.	mg/kg	8270C	10/06/12	100
2,4-Dimethylphenol	BDL	41.	mg/kg	8270C	10/06/12	100
4,6-Dinitro-2-methylphenol	BDL	41.	mg/kg	8270C	10/06/12	100
2,4-Dinitrophenol	BDL	41.	mg/kg	8270C	10/06/12	100
2-Nitrophenol	BDL	41.	mg/kg	8270C	10/06/12	100
4-Nitrophenol	BDL	41.	mg/kg	8270C	10/06/12	100
Pentachlorophenol	BDL	41.	mg/kg	8270C	10/06/12	100
Phenol	BDL	41.	mg/kg	8270C	10/06/12	100
2,4,6-Trichlorophenol	BDL	41.	mg/kg	8270C	10/06/12	100
Surrogate Recovery						
2-Fluorophenol	30.8		% Rec.	8270C	10/06/12	100
Phenol-d5	32.5		% Rec.	8270C	10/06/12	100
Nitrobenzene-d5	35.2		% Rec.	8270C	10/06/12	100
2-Fluorobiphenyl	38.0		% Rec.	8270C	10/06/12	100
2,4,6-Tribromophenol	20.6		% Rec.	8270C	10/06/12	100
p-Terphenyl-d14	46.0		% Rec.	8270C	10/06/12	100

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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Reported: 10/10/12 16:47 Revised: 10/11/12 16:34

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REPORT OF ANALYSIS

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October 11,2012

ESC Sample # : L598273-03

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3C 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	88.5	0.100	%	2540G	10/03/12	1
Mercury	0.80	0.045	mg/kg	7471	10/02/12	2
Antimony	BDL	1.1	mg/kg	6010B	10/04/12	1
Arsenic	5.7	1.1	mg/kg	6010B	10/04/12	1
Beryllium	BDL	0.11	mg/kg	6010B	10/04/12	1
Cadmium	BDL	0.28	mg/kg	6010B	10/04/12	1
Chromium	42.	0.56	mg/kg	6010B	10/04/12	1
Copper	30.	1.1	mg/kg	6010B	10/04/12	1
Lead	130	0.28	mg/kg	6010B	10/04/12	1
Nickel	8.7	1.1	mg/kg	6010B	10/04/12	1
Selenium	BDL	1.1	mg/kg	6010B	10/04/12	1
Silver	BDL	0.56	mg/kg	6010B	10/04/12	1
Thallium	BDL	1.1	mg/kg	6010B	10/04/12	1
Zinc	74.	1.7	mg/kg	6010B	10/04/12	1
TPH (GC/FID) Low Fraction	BDL	0.11	mg/kg	8015D/GRO	10/03/12	1
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	87.3		% Rec.	602/8015	10/03/12	1
Volatiles - Oxygenates						
Acetone	BDL	0.056	mg/kg	8260B	10/01/12	1
Acrylonitrile	BDL	0.011	mg/kg	8260B	10/01/12	1
Benzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Bromobenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Bromodichloromethane	BDL	0.0011	mg/kg	8260B	10/01/12	1
Bromoform	BDL	0.0011	mg/kg	8260B	10/01/12	1
Bromomethane	BDL	0.0056	mg/kg	8260B	10/01/12	1
n-Butylbenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
sec-Butylbenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
tert-Butylbenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Carbon tetrachloride	BDL	0.0011	mg/kg	8260B	10/01/12	1
Chlorobenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Chlorodibromomethane	BDL	0.0011	mg/kg	8260B	10/01/12	1
Chloroethane	BDL	0.0056	mg/kg	8260B	10/01/12	1
2-Chloroethyl vinyl ether	BDL	0.056	mg/kg	8260B	10/01/12	1
Chloroform	BDL	0.0056	mg/kg	8260B	10/01/12	1
Chloromethane	BDL	0.0028	mg/kg	8260B	10/01/12	1
2-Chlorotoluene	BDL	0.0011	mg/kg	8260B	10/01/12	1
4-Chlorotoluene	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,2-Dibromo-3-Chloropropane	BDL	0.0056	mg/kg	8260B	10/01/12	1
1,2-Dibromoethane	BDL	0.0011	mg/kg	8260B	10/01/12	1
Dibromomethane	BDL	0.0011	mg/kg	8260B	10/01/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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L598273-03 (SV8270BNA) - diluted due to matrix

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-03

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3C 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,2-Dichlorobenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,3-Dichlorobenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,4-Dichlorobenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Dichlorodifluoromethane	BDL	0.0056	mg/kg	8260B	10/01/12	1
1,1-Dichloroethane	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,2-Dichloroethane	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,1-Dichloroethene	BDL	0.0011	mg/kg	8260B	10/01/12	1
cis-1,2-Dichloroethene	BDL	0.0011	mg/kg	8260B	10/01/12	1
trans-1,2-Dichloroethene	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,2-Dichloropropane	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,1-Dichloropropene	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,3-Dichloropropane	BDL	0.0011	mg/kg	8260B	10/01/12	1
cis-1,3-Dichloropropene	BDL	0.0011	mg/kg	8260B	10/01/12	1
trans-1,3-Dichloropropene	BDL	0.0011	mg/kg	8260B	10/01/12	1
2,2-Dichloropropane	BDL	0.0011	mg/kg	8260B	10/01/12	1
Ethylbenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Hexachloro-1,3-butadiene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Isopropylbenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
p-Isopropyltoluene	BDL	0.0011	mg/kg	8260B	10/01/12	1
2-Butanone (MEK)	BDL	0.011	mg/kg	8260B	10/01/12	1
Methylene Chloride	BDL	0.0056	mg/kg	8260B	10/01/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.011	mg/kg	8260B	10/01/12	1
Naphthalene	BDL	0.0056	mg/kg	8260B	10/01/12	1
n-Propylbenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Styrene	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,1,1,2-Tetrachloroethane	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0011	mg/kg	8260B	10/01/12	1
Tetrachloroethene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Toluene	BDL	0.0056	mg/kg	8260B	10/01/12	1
1,2,3-Trichlorobenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,2,4-Trichlorobenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,1,1-Trichloroethane	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,1,2-Trichloroethane	BDL	0.0011	mg/kg	8260B	10/01/12	1
Trichloroethene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Trichlorofluoromethane	BDL	0.0056	mg/kg	8260B	10/01/12	1
1,2,3-Trichloropropane	BDL	0.0028	mg/kg	8260B	10/01/12	1
1,2,4-Trimethylbenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,2,3-Trimethylbenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
1,3,5-Trimethylbenzene	BDL	0.0011	mg/kg	8260B	10/01/12	1
Vinyl chloride	BDL	0.0011	mg/kg	8260B	10/01/12	1
Xylenes, Total	BDL	0.0034	mg/kg	8260B	10/01/12	1
Di-isopropyl ether	BDL	0.0011	mg/kg	8260B	10/01/12	1
Ethanol	BDL	0.11	mg/kg	8260B	10/01/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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L598273-03 (SV8270BNA) - diluted due to matrix

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-03

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3C 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Ethyl tert-butyl ether	BDL	0.0011	mg/kg	8260B	10/01/12	1
Methyl tert-butyl ether	BDL	0.0011	mg/kg	8260B	10/01/12	1
t-Amyl Alcohol	BDL	0.056	mg/kg	8260B	10/01/12	1
tert-Butyl alcohol	BDL	0.0056	mg/kg	8260B	10/01/12	1
tert-Amyl Methyl Ether	BDL	0.0011	mg/kg	8260B	10/01/12	1
Surrogate Recovery						
Toluene-d8	87.3		% Rec.	8260B	10/01/12	1
Dibromofluoromethane	104.		% Rec.	8260B	10/01/12	1
4-Bromofluorobenzene	43.5		% Rec.	8260B	10/01/12	1
TPH (GC/FID) High Fraction	31.	22.	mg/kg	3546/DRO	10/04/12	5
Surrogate recovery(%)						
o-Terphenyl	55.5		% Rec.	3546/DRO	10/04/12	5
Base/Neutral Extractables						
Acenaphthene	BDL	0.37	mg/kg	8270C	10/06/12	10
Acenaphthylene	BDL	0.37	mg/kg	8270C	10/06/12	10
Anthracene	BDL	0.37	mg/kg	8270C	10/06/12	10
Benzidine	BDL	3.8	mg/kg	8270C	10/06/12	10
Benzo(a)anthracene	0.72	0.37	mg/kg	8270C	10/06/12	10
Benzo(b)fluoranthene	0.75	0.37	mg/kg	8270C	10/06/12	10
Benzo(k)fluoranthene	BDL	0.37	mg/kg	8270C	10/06/12	10
Benzo(g,h,i)perylene	BDL	0.37	mg/kg	8270C	10/06/12	10
Benzo(a)pyrene	0.56	0.37	mg/kg	8270C	10/06/12	10
Bis(2-chlorethoxy)methane	BDL	3.8	mg/kg	8270C	10/06/12	10
Bis(2-chloroethyl)ether	BDL	3.8	mg/kg	8270C	10/06/12	10
Bis(2-chloroisopropyl)ether	BDL	3.8	mg/kg	8270C	10/06/12	10
4-Bromophenyl-phenylether	BDL	3.8	mg/kg	8270C	10/06/12	10
2-Chloronaphthalene	BDL	0.37	mg/kg	8270C	10/06/12	10
4-Chlorophenyl-phenylether	BDL	3.8	mg/kg	8270C	10/06/12	10
Chrysene	0.66	0.37	mg/kg	8270C	10/06/12	10
Dibenz(a,h)anthracene	BDL	0.37	mg/kg	8270C	10/06/12	10
3,3-Dichlorobenzidine	BDL	3.8	mg/kg	8270C	10/06/12	10
2,4-Dinitrotoluene	BDL	3.8	mg/kg	8270C	10/06/12	10
2,6-Dinitrotoluene	BDL	3.8	mg/kg	8270C	10/06/12	10
Fluoranthene	1.3	0.37	mg/kg	8270C	10/06/12	10
Fluorene	BDL	0.37	mg/kg	8270C	10/06/12	10
Hexachlorobenzene	BDL	3.8	mg/kg	8270C	10/06/12	10
Hexachloro-1,3-butadiene	BDL	3.8	mg/kg	8270C	10/06/12	10
Hexachlorocyclopentadiene	BDL	3.8	mg/kg	8270C	10/06/12	10
Hexachloroethane	BDL	3.8	mg/kg	8270C	10/06/12	10
Indeno(1,2,3-cd)pyrene	BDL	0.37	mg/kg	8270C	10/06/12	10
Isophorone	BDL	3.8	mg/kg	8270C	10/06/12	10
Naphthalene	BDL	0.37	mg/kg	8270C	10/06/12	10

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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L598273-03 (SV8270BNA) - diluted due to matrix

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Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
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3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-03

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3C 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Nitrobenzene	BDL	3.8	mg/kg	8270C	10/06/12	10
n-Nitrosodimethylamine	BDL	3.8	mg/kg	8270C	10/06/12	10
n-Nitrosodiphenylamine	BDL	3.8	mg/kg	8270C	10/06/12	10
n-Nitrosodi-n-propylamine	BDL	3.8	mg/kg	8270C	10/06/12	10
Phenanthrene	0.98	0.37	mg/kg	8270C	10/06/12	10
Benzylbutyl phthalate	BDL	3.8	mg/kg	8270C	10/06/12	10
Bis(2-ethylhexyl)phthalate	BDL	3.8	mg/kg	8270C	10/06/12	10
Di-n-butyl phthalate	BDL	3.8	mg/kg	8270C	10/06/12	10
Diethyl phthalate	BDL	3.8	mg/kg	8270C	10/06/12	10
Dimethyl phthalate	BDL	3.8	mg/kg	8270C	10/06/12	10
Di-n-octyl phthalate	BDL	3.8	mg/kg	8270C	10/06/12	10
Pyrene	0.96	0.37	mg/kg	8270C	10/06/12	10
1,2,4-Trichlorobenzene	BDL	3.8	mg/kg	8270C	10/06/12	10
Acid Extractables						
4-Chloro-3-methylphenol	BDL	3.8	mg/kg	8270C	10/06/12	10
2-Chlorophenol	BDL	3.8	mg/kg	8270C	10/06/12	10
2,4-Dichlorophenol	BDL	3.8	mg/kg	8270C	10/06/12	10
2,4-Dimethylphenol	BDL	3.8	mg/kg	8270C	10/06/12	10
4,6-Dinitro-2-methylphenol	BDL	3.8	mg/kg	8270C	10/06/12	10
2,4-Dinitrophenol	BDL	3.8	mg/kg	8270C	10/06/12	10
2-Nitrophenol	BDL	3.8	mg/kg	8270C	10/06/12	10
4-Nitrophenol	BDL	3.8	mg/kg	8270C	10/06/12	10
Pentachlorophenol	BDL	3.8	mg/kg	8270C	10/06/12	10
Phenol	BDL	3.8	mg/kg	8270C	10/06/12	10
2,4,6-Trichlorophenol	BDL	3.8	mg/kg	8270C	10/06/12	10
Surrogate Recovery						
2-Fluorophenol	70.5		% Rec.	8270C	10/06/12	10
Phenol-d5	66.4		% Rec.	8270C	10/06/12	10
Nitrobenzene-d5	68.2		% Rec.	8270C	10/06/12	10
2-Fluorobiphenyl	76.5		% Rec.	8270C	10/06/12	10
2,4,6-Tribromophenol	71.2		% Rec.	8270C	10/06/12	10
p-Terphenyl-d14	49.6		% Rec.	8270C	10/06/12	10

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BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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Reported: 10/10/12 16:47 Revised: 10/11/12 16:34
L598273-03 (SV8270BNA) - diluted due to matrix

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
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3701 Pender Dr, Suite 450
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October 11,2012

ESC Sample # : L598273-04

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3A 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 11:15

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Total Solids	83.5	0.100	%	2540G	10/03/12	1
Mercury	0.40	0.024	mg/kg	7471	10/02/12	1
Antimony	BDL	2.4	mg/kg	6010B	10/04/12	2
Arsenic	6.6	1.2	mg/kg	6010B	10/04/12	1
Beryllium	0.35	0.12	mg/kg	6010B	10/04/12	1
Cadmium	BDL	0.30	mg/kg	6010B	10/04/12	1
Chromium	60.	0.60	mg/kg	6010B	10/04/12	1
Copper	30.	1.2	mg/kg	6010B	10/04/12	1
Lead	84.	0.30	mg/kg	6010B	10/04/12	1
Nickel	13.	1.2	mg/kg	6010B	10/04/12	1
Selenium	BDL	1.2	mg/kg	6010B	10/04/12	1
Silver	BDL	0.60	mg/kg	6010B	10/04/12	1
Thallium	BDL	1.2	mg/kg	6010B	10/04/12	1
Zinc	50.	1.8	mg/kg	6010B	10/04/12	1
TPH (GC/FID) Low Fraction	BDL	0.12	mg/kg	8015D/GRO	10/03/12	1
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	95.6		% Rec.	602/8015	10/03/12	1
Volatiles - Oxygenates						
Acetone	BDL	0.060	mg/kg	8260B	10/01/12	1
Acrylonitrile	BDL	0.012	mg/kg	8260B	10/01/12	1
Benzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromodichloromethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromoform	BDL	0.0012	mg/kg	8260B	10/01/12	1
Bromomethane	BDL	0.0060	mg/kg	8260B	10/01/12	1
n-Butylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
sec-Butylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
tert-Butylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Carbon tetrachloride	BDL	0.0012	mg/kg	8260B	10/01/12	1
Chlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Chlorodibromomethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Chloroethane	BDL	0.0060	mg/kg	8260B	10/01/12	1
2-Chloroethyl vinyl ether	BDL	0.060	mg/kg	8260B	10/01/12	1
Chloroform	BDL	0.0060	mg/kg	8260B	10/01/12	1
Chloromethane	BDL	0.0030	mg/kg	8260B	10/01/12	1
2-Chlorotoluene	BDL	0.0012	mg/kg	8260B	10/01/12	1
4-Chlorotoluene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2-Dibromo-3-Chloropropane	BDL	0.0060	mg/kg	8260B	10/01/12	1
1,2-Dibromoethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Dibromomethane	BDL	0.0012	mg/kg	8260B	10/01/12	1

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BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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L598273-04 (SV8270BNA) - diluted due to matrix
L598273-04 (DRO) - extract thick/dark cannot run lower

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
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October 11,2012

ESC Sample # : L598273-04

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3A 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 11:15

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
1,2-Dichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,3-Dichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,4-Dichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Dichlorodifluoromethane	BDL	0.0060	mg/kg	8260B	10/01/12	1
1,1-Dichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2-Dichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1-Dichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
cis-1,2-Dichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
trans-1,2-Dichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2-Dichloropropane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1-Dichloropropene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,3-Dichloropropane	BDL	0.0012	mg/kg	8260B	10/01/12	1
cis-1,3-Dichloropropene	BDL	0.0012	mg/kg	8260B	10/01/12	1
trans-1,3-Dichloropropene	BDL	0.0012	mg/kg	8260B	10/01/12	1
2,2-Dichloropropane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Ethylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Hexachloro-1,3-butadiene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Isopropylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
p-Isopropyltoluene	BDL	0.0012	mg/kg	8260B	10/01/12	1
2-Butanone (MEK)	BDL	0.012	mg/kg	8260B	10/01/12	1
Methylene Chloride	BDL	0.0060	mg/kg	8260B	10/01/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.012	mg/kg	8260B	10/01/12	1
Naphthalene	BDL	0.0060	mg/kg	8260B	10/01/12	1
n-Propylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Styrene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,1,2-Tetrachloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Tetrachloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Toluene	BDL	0.0060	mg/kg	8260B	10/01/12	1
1,2,3-Trichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2,4-Trichlorobenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,1-Trichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,1,2-Trichloroethane	BDL	0.0012	mg/kg	8260B	10/01/12	1
Trichloroethene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Trichlorofluoromethane	BDL	0.0060	mg/kg	8260B	10/01/12	1
1,2,3-Trichloropropane	BDL	0.0030	mg/kg	8260B	10/01/12	1
1,2,4-Trimethylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,2,3-Trimethylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
1,3,5-Trimethylbenzene	BDL	0.0012	mg/kg	8260B	10/01/12	1
Vinyl chloride	BDL	0.0012	mg/kg	8260B	10/01/12	1
Xylenes, Total	BDL	0.0036	mg/kg	8260B	10/01/12	1
Di-isopropyl ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
Ethanol	BDL	0.12	mg/kg	8260B	10/01/12	1

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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L598273-04 (DRO) - extract thick/dark cannot run lower

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REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
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October 11,2012

ESC Sample # : L598273-04

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3A 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 11:15

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Ethyl tert-butyl ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
Methyl tert-butyl ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
t-Amyl Alcohol	BDL	0.060	mg/kg	8260B	10/01/12	1
tert-Butyl alcohol	BDL	0.0060	mg/kg	8260B	10/01/12	1
tert-Amyl Methyl Ether	BDL	0.0012	mg/kg	8260B	10/01/12	1
Surrogate Recovery						
Toluene-d8	91.9		% Rec.	8260B	10/01/12	1
Dibromofluoromethane	97.0		% Rec.	8260B	10/01/12	1
4-Bromofluorobenzene	70.6		% Rec.	8260B	10/01/12	1
TPH (GC/FID) High Fraction	BDL	24.	mg/kg	3546/DRO	10/04/12	5
Surrogate recovery(%)						
o-Terphenyl	54.5		% Rec.	3546/DRO	10/04/12	5
Base/Neutral Extractables						
Acenaphthene	BDL	0.20	mg/kg	8270C	10/06/12	5
Acenaphthylene	BDL	0.20	mg/kg	8270C	10/06/12	5
Anthracene	BDL	0.20	mg/kg	8270C	10/06/12	5
Benzidine	BDL	2.0	mg/kg	8270C	10/06/12	5
Benzo(a)anthracene	BDL	0.20	mg/kg	8270C	10/06/12	5
Benzo(b)fluoranthene	BDL	0.20	mg/kg	8270C	10/06/12	5
Benzo(k)fluoranthene	BDL	0.20	mg/kg	8270C	10/06/12	5
Benzo(g,h,i)perylene	BDL	0.20	mg/kg	8270C	10/06/12	5
Benzo(a)pyrene	BDL	0.20	mg/kg	8270C	10/06/12	5
Bis(2-chlorethoxy)methane	BDL	2.0	mg/kg	8270C	10/06/12	5
Bis(2-chloroethyl)ether	BDL	2.0	mg/kg	8270C	10/06/12	5
Bis(2-chloroisopropyl)ether	BDL	2.0	mg/kg	8270C	10/06/12	5
4-Bromophenyl-phenylether	BDL	2.0	mg/kg	8270C	10/06/12	5
2-Chloronaphthalene	BDL	0.20	mg/kg	8270C	10/06/12	5
4-Chlorophenyl-phenylether	BDL	2.0	mg/kg	8270C	10/06/12	5
Chrysene	BDL	0.20	mg/kg	8270C	10/06/12	5
Dibenz(a,h)anthracene	BDL	0.20	mg/kg	8270C	10/06/12	5
3,3-Dichlorobenzidine	BDL	2.0	mg/kg	8270C	10/06/12	5
2,4-Dinitrotoluene	BDL	2.0	mg/kg	8270C	10/06/12	5
2,6-Dinitrotoluene	BDL	2.0	mg/kg	8270C	10/06/12	5
Fluoranthene	0.21	0.20	mg/kg	8270C	10/06/12	5
Fluorene	BDL	0.20	mg/kg	8270C	10/06/12	5
Hexachlorobenzene	BDL	2.0	mg/kg	8270C	10/06/12	5
Hexachloro-1,3-butadiene	BDL	2.0	mg/kg	8270C	10/06/12	5
Hexachlorocyclopentadiene	BDL	2.0	mg/kg	8270C	10/06/12	5
Hexachloroethane	BDL	2.0	mg/kg	8270C	10/06/12	5
Indeno(1,2,3-cd)pyrene	BDL	0.20	mg/kg	8270C	10/06/12	5
Isophorone	BDL	2.0	mg/kg	8270C	10/06/12	5
Naphthalene	BDL	0.20	mg/kg	8270C	10/06/12	5

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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The reported analytical results relate only to the sample submitted
L598273-04 (SV8270BNA) - diluted due to matrix
L598273-04 (DRO) - extract thick/dark cannot run lower

12065 Lebanon Rd.
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
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3701 Pender Dr, Suite 450
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October 11,2012

ESC Sample # : L598273-04

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3A 1-3 FT

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 11:15

Parameter	Dry Result	Det. Limit	Units	Method	Date	Dil.
Nitrobenzene	BDL	2.0	mg/kg	8270C	10/06/12	5
n-Nitrosodimethylamine	BDL	2.0	mg/kg	8270C	10/06/12	5
n-Nitrosodiphenylamine	BDL	2.0	mg/kg	8270C	10/06/12	5
n-Nitrosodi-n-propylamine	BDL	2.0	mg/kg	8270C	10/06/12	5
Phenanthrene	BDL	0.20	mg/kg	8270C	10/06/12	5
Benzylbutyl phthalate	BDL	2.0	mg/kg	8270C	10/06/12	5
Bis(2-ethylhexyl)phthalate	BDL	2.0	mg/kg	8270C	10/06/12	5
Di-n-butyl phthalate	BDL	2.0	mg/kg	8270C	10/06/12	5
Diethyl phthalate	BDL	2.0	mg/kg	8270C	10/06/12	5
Dimethyl phthalate	BDL	2.0	mg/kg	8270C	10/06/12	5
Di-n-octyl phthalate	BDL	2.0	mg/kg	8270C	10/06/12	5
Pyrene	BDL	0.20	mg/kg	8270C	10/06/12	5
1,2,4-Trichlorobenzene	BDL	2.0	mg/kg	8270C	10/06/12	5
Acid Extractables						
4-Chloro-3-methylphenol	BDL	2.0	mg/kg	8270C	10/06/12	5
2-Chlorophenol	BDL	2.0	mg/kg	8270C	10/06/12	5
2,4-Dichlorophenol	BDL	2.0	mg/kg	8270C	10/06/12	5
2,4-Dimethylphenol	BDL	2.0	mg/kg	8270C	10/06/12	5
4,6-Dinitro-2-methylphenol	BDL	2.0	mg/kg	8270C	10/06/12	5
2,4-Dinitrophenol	BDL	2.0	mg/kg	8270C	10/06/12	5
2-Nitrophenol	BDL	2.0	mg/kg	8270C	10/06/12	5
4-Nitrophenol	BDL	2.0	mg/kg	8270C	10/06/12	5
Pentachlorophenol	BDL	2.0	mg/kg	8270C	10/06/12	5
Phenol	BDL	2.0	mg/kg	8270C	10/06/12	5
2,4,6-Trichlorophenol	BDL	2.0	mg/kg	8270C	10/06/12	5
Surrogate Recovery						
2-Fluorophenol	59.9		% Rec.	8270C	10/06/12	5
Phenol-d5	61.8		% Rec.	8270C	10/06/12	5
Nitrobenzene-d5	64.6		% Rec.	8270C	10/06/12	5
2-Fluorobiphenyl	67.6		% Rec.	8270C	10/06/12	5
2,4,6-Tribromophenol	62.2		% Rec.	8270C	10/06/12	5
p-Terphenyl-d14	53.6		% Rec.	8270C	10/06/12	5

Results listed are dry weight basis.
BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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Reported: 10/10/12 16:47 Revised: 10/11/12 16:34
L598273-04 (SV8270BNA) - diluted due to matrix
L598273-04 (DRO) - extract thick/dark cannot run lower

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Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
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October 11,2012

ESC Sample # : L598273-05

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3A

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 11:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Antimony	6.2	5.0	ug/l	6020	10/05/12	5
Arsenic	350	20.	ug/l	6020	10/05/12	20
Lead	12000	20.	ug/l	6020	10/05/12	20
Thallium	6.8	5.0	ug/l	6020	10/05/12	5
Mercury	93.	10.	ug/l	7470A	10/03/12	50
Beryllium	15.	2.0	ug/l	6010B	10/05/12	1
Cadmium	19.	5.0	ug/l	6010B	10/05/12	1
Chromium	9700	10.	ug/l	6010B	10/05/12	1
Copper	3300	20.	ug/l	6010B	10/05/12	1
Nickel	990	20.	ug/l	6010B	10/05/12	1
Selenium	BDL	20.	ug/l	6010B	10/05/12	1
Silver	BDL	10.	ug/l	6010B	10/05/12	1
Zinc	5300	30.	ug/l	6010B	10/05/12	1
TPH (GC/FID) Low Fraction	BDL	100	ug/l	8015D/GRO	10/03/12	1
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	97.0		% Rec.	8015D/GRO	10/03/12	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	10/01/12	1
Acrolein	BDL	50.	ug/l	8260B	10/01/12	1
Acrylonitrile	BDL	10.	ug/l	8260B	10/01/12	1
Benzene	BDL	1.0	ug/l	8260B	10/01/12	1
Bromobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	10/01/12	1
Bromoform	BDL	1.0	ug/l	8260B	10/01/12	1
Bromomethane	BDL	5.0	ug/l	8260B	10/01/12	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	10/01/12	1
Chlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	10/01/12	1
Chloroethane	BDL	5.0	ug/l	8260B	10/01/12	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	10/01/12	1
Chloroform	BDL	5.0	ug/l	8260B	10/01/12	1
Chloromethane	BDL	2.5	ug/l	8260B	10/01/12	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	10/01/12	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	10/01/12	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	10/01/12	1
Dibromomethane	BDL	1.0	ug/l	8260B	10/01/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-05

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3A

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 11:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	10/01/12	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
Ethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	10/01/12	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	10/01/12	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	10/01/12	1
Methylene Chloride	BDL	5.0	ug/l	8260B	10/01/12	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	10/01/12	1
Naphthalene	BDL	5.0	ug/l	8260B	10/01/12	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Styrene	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2-Trichlorotrifluoroethane	BDL	1.0	ug/l	8260B	10/01/12	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
Toluene	BDL	5.0	ug/l	8260B	10/01/12	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
Trichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	10/01/12	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	10/01/12	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Vinyl chloride	BDL	1.0	ug/l	8260B	10/01/12	1
Xylenes, Total	BDL	3.0	ug/l	8260B	10/01/12	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
Ethanol	BDL	100	ug/l	8260B	10/01/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
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October 11,2012

ESC Sample # : L598273-05

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3A

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 11:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Ethyl tert-butyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
t-Amyl Alcohol	BDL	50.	ug/l	8260B	10/01/12	1
tert-Butyl alcohol	BDL	2.0	ug/l	8260B	10/01/12	1
tert-Amyl Methyl Ether	BDL	1.0	ug/l	8260B	10/01/12	1
tert-Butyl Formate	BDL	20.	ug/l	8260B	10/01/12	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	10/01/12	1
Dibromofluoromethane	104.		% Rec.	8260B	10/01/12	1
4-Bromofluorobenzene	99.5		% Rec.	8260B	10/01/12	1
TPH (GC/FID) High Fraction	360	100	ug/l	3510C / DR	10/05/12	1.05
Surrogate recovery(%)						
o-Terphenyl	61.1		% Rec.	3510C / DR	10/05/12	1.05
Base/Neutral Extractables						
Acenaphthene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Acenaphthylene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Anthracene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Benzidine	BDL	12.	ug/l	8270 C	10/05/12	1.25
Benzo(a)anthracene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Benzo(b)fluoranthene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Benzo(k)fluoranthene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Benzo(g,h,i)perylene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Benzo(a)pyrene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Bis(2-chlorethoxy)methane	BDL	12.	ug/l	8270 C	10/05/12	1.25
Bis(2-chloroethyl)ether	BDL	12.	ug/l	8270 C	10/05/12	1.25
Bis(2-chloroisopropyl)ether	BDL	12.	ug/l	8270 C	10/05/12	1.25
4-Bromophenyl-phenylether	BDL	12.	ug/l	8270 C	10/05/12	1.25
2-Chloronaphthalene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
4-Chlorophenyl-phenylether	BDL	12.	ug/l	8270 C	10/05/12	1.25
Chrysene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Dibenz(a,h)anthracene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
3,3-Dichlorobenzidine	BDL	12.	ug/l	8270 C	10/05/12	1.25
2,4-Dinitrotoluene	BDL	12.	ug/l	8270 C	10/05/12	1.25
2,6-Dinitrotoluene	BDL	12.	ug/l	8270 C	10/05/12	1.25
Fluoranthene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Fluorene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Hexachlorobenzene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Hexachloro-1,3-butadiene	BDL	12.	ug/l	8270 C	10/05/12	1.25
Hexachlorocyclopentadiene	BDL	12.	ug/l	8270 C	10/05/12	1.25
Hexachloroethane	BDL	12.	ug/l	8270 C	10/05/12	1.25
Indeno(1,2,3-cd)pyrene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Isophorone	BDL	12.	ug/l	8270 C	10/05/12	1.25

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Kevin Roberts
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3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-05

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3A

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 11:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Naphthalene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Nitrobenzene	BDL	12.	ug/l	8270 C	10/05/12	1.25
n-Nitrosodimethylamine	BDL	12.	ug/l	8270 C	10/05/12	1.25
n-Nitrosodiphenylamine	BDL	12.	ug/l	8270 C	10/05/12	1.25
n-Nitrosodi-n-propylamine	BDL	12.	ug/l	8270 C	10/05/12	1.25
Phenanthrene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
Benzylbutyl phthalate	BDL	3.8	ug/l	8270 C	10/05/12	1.25
Bis(2-ethylhexyl)phthalate	BDL	3.8	ug/l	8270 C	10/05/12	1.25
Di-n-butyl phthalate	BDL	3.8	ug/l	8270 C	10/05/12	1.25
Diethyl phthalate	BDL	3.8	ug/l	8270 C	10/05/12	1.25
Dimethyl phthalate	BDL	3.8	ug/l	8270 C	10/05/12	1.25
Di-n-octyl phthalate	BDL	3.8	ug/l	8270 C	10/05/12	1.25
Pyrene	BDL	1.2	ug/l	8270 C	10/05/12	1.25
1,2,4-Trichlorobenzene	BDL	12.	ug/l	8270 C	10/05/12	1.25
Acid Extractables						
4-Chloro-3-methylphenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
2-Chlorophenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
2,4-Dichlorophenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
2,4-Dimethylphenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
4,6-Dinitro-2-methylphenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
2,4-Dinitrophenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
2-Nitrophenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
4-Nitrophenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
Pentachlorophenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
Phenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
2,4,6-Trichlorophenol	BDL	12.	ug/l	8270 C	10/05/12	1.25
Surrogate Recovery						
2-Fluorophenol	33.1		% Rec.	8270 C	10/05/12	1.25
Phenol-d5	22.2		% Rec.	8270 C	10/05/12	1.25
Nitrobenzene-d5	73.8		% Rec.	8270 C	10/05/12	1.25
2-Fluorobiphenyl	76.2		% Rec.	8270 C	10/05/12	1.25
2,4,6-Tribromophenol	76.7		% Rec.	8270 C	10/05/12	1.25
p-Terphenyl-d14	84.6		% Rec.	8270 C	10/05/12	1.25

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 10/10/12 16:47 Revised: 10/11/12 16:34

12065 Lebanon Rd.
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-06

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3D

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Antimony	BDL	10.	ug/l	6020	10/08/12	10
Arsenic	330	5.0	ug/l	6020	10/05/12	5
Lead	96000	100	ug/l	6020	10/05/12	100
Thallium	BDL	10.	ug/l	6020	10/08/12	10
Mercury	210	20.	ug/l	7470A	10/03/12	100
Beryllium	35.	2.0	ug/l	6010B	10/05/12	1
Cadmium	45.	25.	ug/l	6010B	10/05/12	5
Chromium	3700	50.	ug/l	6010B	10/05/12	5
Copper	31000	100	ug/l	6010B	10/05/12	5
Nickel	1500	100	ug/l	6010B	10/05/12	5
Selenium	BDL	100	ug/l	6010B	10/05/12	5
Silver	BDL	50.	ug/l	6010B	10/05/12	5
Zinc	26000	150	ug/l	6010B	10/05/12	5
TPH (GC/FID) Low Fraction	BDL	100	ug/l	8015D/GRO	10/03/12	1
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.3		% Rec.	8015D/GRO	10/03/12	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	10/01/12	1
Acrolein	BDL	50.	ug/l	8260B	10/01/12	1
Acrylonitrile	BDL	10.	ug/l	8260B	10/01/12	1
Benzene	BDL	1.0	ug/l	8260B	10/01/12	1
Bromobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	10/01/12	1
Bromoform	BDL	1.0	ug/l	8260B	10/01/12	1
Bromomethane	BDL	5.0	ug/l	8260B	10/01/12	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	10/01/12	1
Chlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	10/01/12	1
Chloroethane	BDL	5.0	ug/l	8260B	10/01/12	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	10/01/12	1
Chloroform	BDL	5.0	ug/l	8260B	10/01/12	1
Chloromethane	BDL	2.5	ug/l	8260B	10/01/12	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	10/01/12	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	10/01/12	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	10/01/12	1
Dibromomethane	BDL	1.0	ug/l	8260B	10/01/12	1

BDL - Below Detection Limit
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REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-06

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3D

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	10/01/12	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
Ethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	10/01/12	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	10/01/12	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	10/01/12	1
Methylene Chloride	BDL	5.0	ug/l	8260B	10/01/12	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	10/01/12	1
Naphthalene	BDL	5.0	ug/l	8260B	10/01/12	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Styrene	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2-Trichlorotrifluoroethane	BDL	1.0	ug/l	8260B	10/01/12	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
Toluene	BDL	5.0	ug/l	8260B	10/01/12	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
Trichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	10/01/12	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	10/01/12	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Vinyl chloride	BDL	1.0	ug/l	8260B	10/01/12	1
Xylenes, Total	BDL	3.0	ug/l	8260B	10/01/12	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
Ethanol	BDL	100	ug/l	8260B	10/01/12	1

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REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-06

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3D

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Ethyl tert-butyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
t-Amyl Alcohol	BDL	50.	ug/l	8260B	10/01/12	1
tert-Butyl alcohol	BDL	2.0	ug/l	8260B	10/01/12	1
tert-Amyl Methyl Ether	BDL	1.0	ug/l	8260B	10/01/12	1
tert-Butyl Formate	BDL	20.	ug/l	8260B	10/01/12	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	10/01/12	1
Dibromofluoromethane	102.		% Rec.	8260B	10/01/12	1
4-Bromofluorobenzene	102.		% Rec.	8260B	10/01/12	1
TPH (GC/FID) High Fraction	260	140	ug/l	3510C / DR	10/05/12	1.42
Surrogate recovery(%)						
o-Terphenyl	96.0		% Rec.	3510C / DR	10/05/12	1.42
Base/Neutral Extractables						
Acenaphthene	BDL	2.0	ug/l	8270 C	10/05/12	2
Acenaphthylene	BDL	2.0	ug/l	8270 C	10/05/12	2
Anthracene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzidine	BDL	20.	ug/l	8270 C	10/05/12	2
Benzo(a)anthracene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzo(b)fluoranthene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzo(k)fluoranthene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzo(g,h,i)perylene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzo(a)pyrene	BDL	2.0	ug/l	8270 C	10/05/12	2
Bis(2-chlorethoxy)methane	BDL	20.	ug/l	8270 C	10/05/12	2
Bis(2-chloroethyl)ether	BDL	20.	ug/l	8270 C	10/05/12	2
Bis(2-chloroisopropyl)ether	BDL	20.	ug/l	8270 C	10/05/12	2
4-Bromophenyl-phenylether	BDL	20.	ug/l	8270 C	10/05/12	2
2-Chloronaphthalene	BDL	2.0	ug/l	8270 C	10/05/12	2
4-Chlorophenyl-phenylether	BDL	20.	ug/l	8270 C	10/05/12	2
Chrysene	BDL	2.0	ug/l	8270 C	10/05/12	2
Dibenz(a,h)anthracene	BDL	2.0	ug/l	8270 C	10/05/12	2
3,3-Dichlorobenzidine	BDL	20.	ug/l	8270 C	10/05/12	2
2,4-Dinitrotoluene	BDL	20.	ug/l	8270 C	10/05/12	2
2,6-Dinitrotoluene	BDL	20.	ug/l	8270 C	10/05/12	2
Fluoranthene	BDL	2.0	ug/l	8270 C	10/05/12	2
Fluorene	BDL	2.0	ug/l	8270 C	10/05/12	2
Hexachlorobenzene	BDL	2.0	ug/l	8270 C	10/05/12	2
Hexachloro-1,3-butadiene	BDL	20.	ug/l	8270 C	10/05/12	2
Hexachlorocyclopentadiene	BDL	20.	ug/l	8270 C	10/05/12	2
Hexachloroethane	BDL	20.	ug/l	8270 C	10/05/12	2
Indeno(1,2,3-cd)pyrene	BDL	2.0	ug/l	8270 C	10/05/12	2
Isophorone	BDL	20.	ug/l	8270 C	10/05/12	2

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-06

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3D

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Naphthalene	BDL	2.0	ug/l	8270 C	10/05/12	2
Nitrobenzene	BDL	20.	ug/l	8270 C	10/05/12	2
n-Nitrosodimethylamine	BDL	20.	ug/l	8270 C	10/05/12	2
n-Nitrosodiphenylamine	BDL	20.	ug/l	8270 C	10/05/12	2
n-Nitrosodi-n-propylamine	BDL	20.	ug/l	8270 C	10/05/12	2
Phenanthrene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzylbutyl phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Bis(2-ethylhexyl)phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Di-n-butyl phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Diethyl phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Dimethyl phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Di-n-octyl phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Pyrene	BDL	2.0	ug/l	8270 C	10/05/12	2
1,2,4-Trichlorobenzene	BDL	20.	ug/l	8270 C	10/05/12	2
Acid Extractables						
4-Chloro-3-methylphenol	BDL	20.	ug/l	8270 C	10/05/12	2
2-Chlorophenol	BDL	20.	ug/l	8270 C	10/05/12	2
2,4-Dichlorophenol	BDL	20.	ug/l	8270 C	10/05/12	2
2,4-Dimethylphenol	BDL	20.	ug/l	8270 C	10/05/12	2
4,6-Dinitro-2-methylphenol	BDL	20.	ug/l	8270 C	10/05/12	2
2,4-Dinitrophenol	BDL	20.	ug/l	8270 C	10/05/12	2
2-Nitrophenol	BDL	20.	ug/l	8270 C	10/05/12	2
4-Nitrophenol	BDL	20.	ug/l	8270 C	10/05/12	2
Pentachlorophenol	BDL	20.	ug/l	8270 C	10/05/12	2
Phenol	BDL	20.	ug/l	8270 C	10/05/12	2
2,4,6-Trichlorophenol	BDL	20.	ug/l	8270 C	10/05/12	2
Surrogate Recovery						
2-Fluorophenol	29.8		% Rec.	8270 C	10/05/12	2
Phenol-d5	19.0		% Rec.	8270 C	10/05/12	2
Nitrobenzene-d5	79.1		% Rec.	8270 C	10/05/12	2
2-Fluorobiphenyl	83.4		% Rec.	8270 C	10/05/12	2
2,4,6-Tribromophenol	74.8		% Rec.	8270 C	10/05/12	2
p-Terphenyl-d14	89.2		% Rec.	8270 C	10/05/12	2

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

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October 11,2012

ESC Sample # : L598273-07

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3E

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 10:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Antimony	BDL	10.	ug/l	6020	10/08/12	10
Arsenic	380	5.0	ug/l	6020	10/05/12	5
Lead	32000	50.	ug/l	6020	10/05/12	50
Thallium	BDL	10.	ug/l	6020	10/08/12	10
Mercury	28.	2.0	ug/l	7470A	10/03/12	10
Beryllium	60.	2.0	ug/l	6010B	10/05/12	1
Cadmium	56.	25.	ug/l	6010B	10/05/12	5
Chromium	7300	50.	ug/l	6010B	10/05/12	5
Copper	9600	100	ug/l	6010B	10/05/12	5
Nickel	2200	100	ug/l	6010B	10/05/12	5
Selenium	BDL	200	ug/l	6010B	10/05/12	10
Silver	BDL	50.	ug/l	6010B	10/05/12	5
Zinc	18000	150	ug/l	6010B	10/05/12	5
TPH (GC/FID) Low Fraction	BDL	100	ug/l	8015D/GRO	10/03/12	1
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.4		% Rec.	8015D/GRO	10/03/12	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	10/01/12	1
Acrolein	BDL	50.	ug/l	8260B	10/01/12	1
Acrylonitrile	BDL	10.	ug/l	8260B	10/01/12	1
Benzene	BDL	1.0	ug/l	8260B	10/01/12	1
Bromobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	10/01/12	1
Bromoform	BDL	1.0	ug/l	8260B	10/01/12	1
Bromomethane	BDL	5.0	ug/l	8260B	10/01/12	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	10/01/12	1
Chlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	10/01/12	1
Chloroethane	BDL	5.0	ug/l	8260B	10/01/12	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	10/01/12	1
Chloroform	BDL	5.0	ug/l	8260B	10/01/12	1
Chloromethane	BDL	2.5	ug/l	8260B	10/01/12	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	10/01/12	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	10/01/12	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	10/01/12	1
Dibromomethane	BDL	1.0	ug/l	8260B	10/01/12	1

BDL - Below Detection Limit
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REPORT OF ANALYSIS

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Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-07

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3E

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 10:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	10/01/12	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
Ethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	10/01/12	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	10/01/12	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	10/01/12	1
Methylene Chloride	BDL	5.0	ug/l	8260B	10/01/12	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	10/01/12	1
Naphthalene	BDL	5.0	ug/l	8260B	10/01/12	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Styrene	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2-Trichlorotrifluoroethane	BDL	1.0	ug/l	8260B	10/01/12	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
Toluene	BDL	5.0	ug/l	8260B	10/01/12	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
Trichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	10/01/12	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	10/01/12	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Vinyl chloride	BDL	1.0	ug/l	8260B	10/01/12	1
Xylenes, Total	BDL	3.0	ug/l	8260B	10/01/12	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
Ethanol	BDL	100	ug/l	8260B	10/01/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

12065 Lebanon Rd.
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-07

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3E

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 10:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Ethyl tert-butyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
t-Amyl Alcohol	BDL	50.	ug/l	8260B	10/01/12	1
tert-Butyl alcohol	BDL	2.0	ug/l	8260B	10/01/12	1
tert-Amyl Methyl Ether	BDL	1.0	ug/l	8260B	10/01/12	1
tert-Butyl Formate	BDL	20.	ug/l	8260B	10/01/12	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	10/01/12	1
Dibromofluoromethane	102.		% Rec.	8260B	10/01/12	1
4-Bromofluorobenzene	100.		% Rec.	8260B	10/01/12	1
TPH (GC/FID) High Fraction	410	140	ug/l	3510C / DR	10/05/12	1.42
Surrogate recovery(%)						
o-Terphenyl	56.6		% Rec.	3510C / DR	10/05/12	1.42
Base/Neutral Extractables						
Acenaphthene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Acenaphthylene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Anthracene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Benzidine	BDL	17.	ug/l	8270 C	10/10/12	1.67
Benzo(a)anthracene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Benzo(b)fluoranthene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Benzo(k)fluoranthene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Benzo(g,h,i)perylene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Benzo(a)pyrene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Bis(2-chlorethoxy)methane	BDL	17.	ug/l	8270 C	10/10/12	1.67
Bis(2-chloroethyl)ether	BDL	17.	ug/l	8270 C	10/10/12	1.67
Bis(2-chloroisopropyl)ether	BDL	17.	ug/l	8270 C	10/10/12	1.67
4-Bromophenyl-phenylether	BDL	17.	ug/l	8270 C	10/10/12	1.67
2-Chloronaphthalene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
4-Chlorophenyl-phenylether	BDL	17.	ug/l	8270 C	10/10/12	1.67
Chrysene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Dibenz(a,h)anthracene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
3,3-Dichlorobenzidine	BDL	17.	ug/l	8270 C	10/10/12	1.67
2,4-Dinitrotoluene	BDL	17.	ug/l	8270 C	10/10/12	1.67
2,6-Dinitrotoluene	BDL	17.	ug/l	8270 C	10/10/12	1.67
Fluoranthene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Fluorene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Hexachlorobenzene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Hexachloro-1,3-butadiene	BDL	17.	ug/l	8270 C	10/10/12	1.67
Hexachlorocyclopentadiene	BDL	17.	ug/l	8270 C	10/10/12	1.67
Hexachloroethane	BDL	17.	ug/l	8270 C	10/10/12	1.67
Indeno(1,2,3-cd)pyrene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Isophorone	BDL	17.	ug/l	8270 C	10/10/12	1.67

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-07

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3E

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 10:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Naphthalene	4.8	1.7	ug/l	8270 C	10/10/12	1.67
Nitrobenzene	BDL	17.	ug/l	8270 C	10/10/12	1.67
n-Nitrosodimethylamine	BDL	17.	ug/l	8270 C	10/10/12	1.67
n-Nitrosodiphenylamine	BDL	17.	ug/l	8270 C	10/10/12	1.67
n-Nitrosodi-n-propylamine	BDL	17.	ug/l	8270 C	10/10/12	1.67
Phenanthrene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
Benzylbutyl phthalate	BDL	5.0	ug/l	8270 C	10/10/12	1.67
Bis(2-ethylhexyl)phthalate	BDL	5.0	ug/l	8270 C	10/10/12	1.67
Di-n-butyl phthalate	BDL	5.0	ug/l	8270 C	10/10/12	1.67
Diethyl phthalate	13.	5.0	ug/l	8270 C	10/10/12	1.67
Dimethyl phthalate	BDL	5.0	ug/l	8270 C	10/10/12	1.67
Di-n-octyl phthalate	BDL	5.0	ug/l	8270 C	10/10/12	1.67
Pyrene	BDL	1.7	ug/l	8270 C	10/10/12	1.67
1,2,4-Trichlorobenzene	BDL	17.	ug/l	8270 C	10/10/12	1.67
Acid Extractables						
4-Chloro-3-methylphenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
2-Chlorophenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
2,4-Dichlorophenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
2,4-Dimethylphenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
4,6-Dinitro-2-methylphenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
2,4-Dinitrophenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
2-Nitrophenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
4-Nitrophenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
Pentachlorophenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
Phenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
2,4,6-Trichlorophenol	BDL	17.	ug/l	8270 C	10/10/12	1.67
Surrogate Recovery						
2-Fluorophenol	34.9		% Rec.	8270 C	10/10/12	1.67
Phenol-d5	23.9		% Rec.	8270 C	10/10/12	1.67
Nitrobenzene-d5	75.1		% Rec.	8270 C	10/10/12	1.67
2-Fluorobiphenyl	77.4		% Rec.	8270 C	10/10/12	1.67
2,4,6-Tribromophenol	82.8		% Rec.	8270 C	10/10/12	1.67
p-Terphenyl-d14	84.9		% Rec.	8270 C	10/10/12	1.67

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 10/10/12 16:47 Revised: 10/11/12 16:35

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-08

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3C

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Antimony	BDL	10.	ug/l	6020	10/07/12	10
Arsenic	500	50.	ug/l	6020	10/08/12	50
Lead	21000	50.	ug/l	6020	10/08/12	50
Thallium	12.	10.	ug/l	6020	10/07/12	10
Mercury	32.	2.0	ug/l	7470A	10/03/12	10
Beryllium	72.	10.	ug/l	6010B	10/05/12	5
Cadmium	47.	25.	ug/l	6010B	10/05/12	5
Chromium	8700	50.	ug/l	6010B	10/05/12	5
Copper	7200	100	ug/l	6010B	10/05/12	5
Nickel	2500	100	ug/l	6010B	10/05/12	5
Selenium	BDL	100	ug/l	6010B	10/05/12	5
Silver	BDL	50.	ug/l	6010B	10/05/12	5
Zinc	11000	150	ug/l	6010B	10/05/12	5
TPH (GC/FID) Low Fraction	BDL	100	ug/l	8015D/GRO	10/03/12	1
Surrogate Recovery-%						
a,a,a-Trifluorotoluene(FID)	96.9		% Rec.	8015D/GRO	10/03/12	1
Volatile Organics						
Acetone	BDL	50.	ug/l	8260B	10/01/12	1
Acrolein	BDL	50.	ug/l	8260B	10/01/12	1
Acrylonitrile	BDL	10.	ug/l	8260B	10/01/12	1
Benzene	BDL	1.0	ug/l	8260B	10/01/12	1
Bromobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Bromodichloromethane	BDL	1.0	ug/l	8260B	10/01/12	1
Bromoform	BDL	1.0	ug/l	8260B	10/01/12	1
Bromomethane	BDL	5.0	ug/l	8260B	10/01/12	1
n-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
sec-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
tert-Butylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Carbon tetrachloride	BDL	1.0	ug/l	8260B	10/01/12	1
Chlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Chlorodibromomethane	BDL	1.0	ug/l	8260B	10/01/12	1
Chloroethane	BDL	5.0	ug/l	8260B	10/01/12	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	8260B	10/01/12	1
Chloroform	BDL	5.0	ug/l	8260B	10/01/12	1
Chloromethane	BDL	2.5	ug/l	8260B	10/01/12	1
2-Chlorotoluene	BDL	1.0	ug/l	8260B	10/01/12	1
4-Chlorotoluene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dibromo-3-Chloropropane	BDL	5.0	ug/l	8260B	10/01/12	1
1,2-Dibromoethane	BDL	1.0	ug/l	8260B	10/01/12	1
Dibromomethane	BDL	1.0	ug/l	8260B	10/01/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-08

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3C

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,2-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Dichlorodifluoromethane	BDL	5.0	ug/l	8260B	10/01/12	1
1,1-Dichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
cis-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	8260B	10/01/12	1
2,2-Dichloropropane	BDL	1.0	ug/l	8260B	10/01/12	1
Ethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Hexachloro-1,3-butadiene	BDL	1.0	ug/l	8260B	10/01/12	1
Isopropylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
p-Isopropyltoluene	BDL	1.0	ug/l	8260B	10/01/12	1
2-Butanone (MEK)	BDL	10.	ug/l	8260B	10/01/12	1
Methylene Chloride	BDL	5.0	ug/l	8260B	10/01/12	1
4-Methyl-2-pentanone (MIBK)	BDL	10.	ug/l	8260B	10/01/12	1
Naphthalene	BDL	5.0	ug/l	8260B	10/01/12	1
n-Propylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Styrene	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,1,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2-Trichlorotrifluoroethane	BDL	1.0	ug/l	8260B	10/01/12	1
Tetrachloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
Toluene	BDL	5.0	ug/l	8260B	10/01/12	1
1,2,3-Trichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2,4-Trichlorobenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	8260B	10/01/12	1
Trichloroethene	BDL	1.0	ug/l	8260B	10/01/12	1
Trichlorofluoromethane	BDL	5.0	ug/l	8260B	10/01/12	1
1,2,3-Trichloropropane	BDL	2.5	ug/l	8260B	10/01/12	1
1,2,4-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,2,3-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
1,3,5-Trimethylbenzene	BDL	1.0	ug/l	8260B	10/01/12	1
Vinyl chloride	BDL	1.0	ug/l	8260B	10/01/12	1
Xylenes, Total	BDL	3.0	ug/l	8260B	10/01/12	1
Di-isopropyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
Ethanol	BDL	100	ug/l	8260B	10/01/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

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Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-08

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3C

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Ethyl tert-butyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	10/01/12	1
t-Amyl Alcohol	BDL	50.	ug/l	8260B	10/01/12	1
tert-Butyl alcohol	BDL	2.0	ug/l	8260B	10/01/12	1
tert-Amyl Methyl Ether	BDL	1.0	ug/l	8260B	10/01/12	1
tert-Butyl Formate	BDL	20.	ug/l	8260B	10/01/12	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	10/01/12	1
Dibromofluoromethane	104.		% Rec.	8260B	10/01/12	1
4-Bromofluorobenzene	104.		% Rec.	8260B	10/01/12	1
TPH (GC/FID) High Fraction	350	170	ug/l	3510C / DR	10/05/12	1.66
Surrogate recovery(%)						
o-Terphenyl	69.6		% Rec.	3510C / DR	10/05/12	1.66
Base/Neutral Extractables						
Acenaphthene	BDL	2.0	ug/l	8270 C	10/05/12	2
Acenaphthylene	BDL	2.0	ug/l	8270 C	10/05/12	2
Anthracene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzidine	BDL	20.	ug/l	8270 C	10/05/12	2
Benzo(a)anthracene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzo(b)fluoranthene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzo(k)fluoranthene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzo(g,h,i)perylene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzo(a)pyrene	BDL	2.0	ug/l	8270 C	10/05/12	2
Bis(2-chlorethoxy)methane	BDL	20.	ug/l	8270 C	10/05/12	2
Bis(2-chloroethyl)ether	BDL	20.	ug/l	8270 C	10/05/12	2
Bis(2-chloroisopropyl)ether	BDL	20.	ug/l	8270 C	10/05/12	2
4-Bromophenyl-phenylether	BDL	20.	ug/l	8270 C	10/05/12	2
2-Chloronaphthalene	BDL	2.0	ug/l	8270 C	10/05/12	2
4-Chlorophenyl-phenylether	BDL	20.	ug/l	8270 C	10/05/12	2
Chrysene	BDL	2.0	ug/l	8270 C	10/05/12	2
Dibenz(a,h)anthracene	BDL	2.0	ug/l	8270 C	10/05/12	2
3,3-Dichlorobenzidine	BDL	20.	ug/l	8270 C	10/05/12	2
2,4-Dinitrotoluene	BDL	20.	ug/l	8270 C	10/05/12	2
2,6-Dinitrotoluene	BDL	20.	ug/l	8270 C	10/05/12	2
Fluoranthene	BDL	2.0	ug/l	8270 C	10/05/12	2
Fluorene	BDL	2.0	ug/l	8270 C	10/05/12	2
Hexachlorobenzene	BDL	2.0	ug/l	8270 C	10/05/12	2
Hexachloro-1,3-butadiene	BDL	20.	ug/l	8270 C	10/05/12	2
Hexachlorocyclopentadiene	BDL	20.	ug/l	8270 C	10/05/12	2
Hexachloroethane	BDL	20.	ug/l	8270 C	10/05/12	2
Indeno(1,2,3-cd)pyrene	BDL	2.0	ug/l	8270 C	10/05/12	2
Isophorone	BDL	20.	ug/l	8270 C	10/05/12	2

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Kevin Roberts
Whitman, Requardt & Associates, LLP
3701 Pender Dr, Suite 450
Fairfax, VA 22030

October 11,2012

ESC Sample # : L598273-08

Date Received : September 29, 2012
Description : Balitmore City

Site ID : BALTIMORE, MD

Sample ID : BA-3C

Project # : 31576-007

Collected By : Kevin Roberts
Collection Date : 09/27/12 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Naphthalene	BDL	2.0	ug/l	8270 C	10/05/12	2
Nitrobenzene	BDL	20.	ug/l	8270 C	10/05/12	2
n-Nitrosodimethylamine	BDL	20.	ug/l	8270 C	10/05/12	2
n-Nitrosodiphenylamine	BDL	20.	ug/l	8270 C	10/05/12	2
n-Nitrosodi-n-propylamine	BDL	20.	ug/l	8270 C	10/05/12	2
Phenanthrene	BDL	2.0	ug/l	8270 C	10/05/12	2
Benzylbutyl phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Bis(2-ethylhexyl)phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Di-n-butyl phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Diethyl phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Dimethyl phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Di-n-octyl phthalate	BDL	6.0	ug/l	8270 C	10/05/12	2
Pyrene	BDL	2.0	ug/l	8270 C	10/05/12	2
1,2,4-Trichlorobenzene	BDL	20.	ug/l	8270 C	10/05/12	2
Acid Extractables						
4-Chloro-3-methylphenol	BDL	20.	ug/l	8270 C	10/05/12	2
2-Chlorophenol	BDL	20.	ug/l	8270 C	10/05/12	2
2,4-Dichlorophenol	BDL	20.	ug/l	8270 C	10/05/12	2
2,4-Dimethylphenol	BDL	20.	ug/l	8270 C	10/05/12	2
4,6-Dinitro-2-methylphenol	BDL	20.	ug/l	8270 C	10/05/12	2
2,4-Dinitrophenol	BDL	20.	ug/l	8270 C	10/05/12	2
2-Nitrophenol	BDL	20.	ug/l	8270 C	10/05/12	2
4-Nitrophenol	BDL	20.	ug/l	8270 C	10/05/12	2
Pentachlorophenol	BDL	20.	ug/l	8270 C	10/05/12	2
Phenol	BDL	20.	ug/l	8270 C	10/05/12	2
2,4,6-Trichlorophenol	BDL	20.	ug/l	8270 C	10/05/12	2
Surrogate Recovery						
2-Fluorophenol	41.8		% Rec.	8270 C	10/05/12	2
Phenol-d5	28.7		% Rec.	8270 C	10/05/12	2
Nitrobenzene-d5	75.7		% Rec.	8270 C	10/05/12	2
2-Fluorobiphenyl	80.5		% Rec.	8270 C	10/05/12	2
2,4,6-Tribromophenol	81.1		% Rec.	8270 C	10/05/12	2
p-Terphenyl-d14	87.4		% Rec.	8270 C	10/05/12	2

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
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Reported: 10/10/12 16:47 Revised: 10/11/12 16:35

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L598273-01	WG615924	SAMP	TPH (GC/FID) High Fraction	R2375497	O
	WG615835	SAMP	Antimony	R2376196	O
	WG615835	SAMP	Thallium	R2376196	O
	WG615643	SAMP	Acenaphthene	R2378697	O
	WG615643	SAMP	Acenaphthylene	R2378697	O
	WG615643	SAMP	Anthracene	R2378697	O
	WG615643	SAMP	Benzidine	R2378697	J4O
	WG615643	SAMP	Benzo(a)anthracene	R2378697	O
	WG615643	SAMP	Benzo(b)fluoranthene	R2378697	O
	WG615643	SAMP	Benzo(k)fluoranthene	R2378697	O
	WG615643	SAMP	Benzo(g,h,i)perylene	R2378697	O
	WG615643	SAMP	Benzo(a)pyrene	R2378697	O
	WG615643	SAMP	Bis(2-chlorethoxy)methane	R2378697	O
	WG615643	SAMP	Bis(2-chloroethyl)ether	R2378697	O
	WG615643	SAMP	Bis(2-chloroisopropyl)ether	R2378697	O
	WG615643	SAMP	4-Bromophenyl-phenylether	R2378697	O
	WG615643	SAMP	2-Chloronaphthalene	R2378697	O
	WG615643	SAMP	4-Chlorophenyl-phenylether	R2378697	O
	WG615643	SAMP	Chrysene	R2378697	O
	WG615643	SAMP	Dibenz(a,h)anthracene	R2378697	O
	WG615643	SAMP	3,3-Dichlorobenzidine	R2378697	O
	WG615643	SAMP	2,4-Dinitrotoluene	R2378697	O
	WG615643	SAMP	2,6-Dinitrotoluene	R2378697	O
	WG615643	SAMP	Fluoranthene	R2378697	O
	WG615643	SAMP	Fluorene	R2378697	O
	WG615643	SAMP	Hexachlorobenzene	R2378697	O
	WG615643	SAMP	Hexachloro-1,3-butadiene	R2378697	O
	WG615643	SAMP	Hexachlorocyclopentadiene	R2378697	O
	WG615643	SAMP	Hexachloroethane	R2378697	O
	WG615643	SAMP	Indeno(1,2,3-cd)pyrene	R2378697	O
	WG615643	SAMP	Isophorone	R2378697	O
	WG615643	SAMP	Naphthalene	R2378697	O
	WG615643	SAMP	Nitrobenzene	R2378697	O
	WG615643	SAMP	n-Nitrosodimethylamine	R2378697	O
	WG615643	SAMP	n-Nitrosodiphenylamine	R2378697	O
	WG615643	SAMP	n-Nitrosodi-n-propylamine	R2378697	O
	WG615643	SAMP	Phenanthrene	R2378697	O
	WG615643	SAMP	Benzylbutyl phthalate	R2378697	O
	WG615643	SAMP	Bis(2-ethylhexyl)phthalate	R2378697	O
	WG615643	SAMP	Di-n-butyl phthalate	R2378697	O
	WG615643	SAMP	Diethyl phthalate	R2378697	O
	WG615643	SAMP	Dimethyl phthalate	R2378697	O
	WG615643	SAMP	Di-n-octyl phthalate	R2378697	O
	WG615643	SAMP	Pyrene	R2378697	O
	WG615643	SAMP	1,2,4-Trichlorobenzene	R2378697	O
	WG615643	SAMP	4-Chloro-3-methylphenol	R2378697	O
	WG615643	SAMP	2-Chlorophenol	R2378697	O
	WG615643	SAMP	2,4-Dichlorophenol	R2378697	O
	WG615643	SAMP	2,4-Dimethylphenol	R2378697	O
	WG615643	SAMP	4,6-Dinitro-2-methylphenol	R2378697	O
	WG615643	SAMP	2,4-Dinitrophenol	R2378697	O
	WG615643	SAMP	2-Nitrophenol	R2378697	O
	WG615643	SAMP	4-Nitrophenol	R2378697	O
	WG615643	SAMP	Pentachlorophenol	R2378697	O
	WG615643	SAMP	Phenol	R2378697	O
	WG615643	SAMP	2,4,6-Trichlorophenol	R2378697	O
	WG615643	SAMP	2-Fluorophenol	R2378697	J7
	WG615643	SAMP	Phenol-d5	R2378697	J7
	WG615643	SAMP	Nitrobenzene-d5	R2378697	J7
	WG615643	SAMP	2-Fluorobiphenyl	R2378697	J7
	WG615643	SAMP	2,4,6-Tribromophenol	R2378697	J7
	WG615643	SAMP	p-Terphenyl-d14	R2378697	J7
	WG615440	SAMP	4-Bromofluorobenzene	R2372915	J2
L598273-02	WG615835	SAMP	Antimony	R2376196	O
	WG615643	SAMP	Acenaphthene	R2378697	O
	WG615643	SAMP	Acenaphthylene	R2378697	O
	WG615643	SAMP	Anthracene	R2378697	O
	WG615643	SAMP	Benzidine	R2378697	J4O
	WG615643	SAMP	Benzo(a)anthracene	R2378697	O

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
	WG615643	SAMP	Benzo(b)fluoranthene	R2378697	O
	WG615643	SAMP	Benzo(k)fluoranthene	R2378697	O
	WG615643	SAMP	Benzo(g,h,i)perylene	R2378697	O
	WG615643	SAMP	Benzo(a)pyrene	R2378697	O
	WG615643	SAMP	Bis(2-chlorethoxy)methane	R2378697	O
	WG615643	SAMP	Bis(2-chloroethyl)ether	R2378697	O
	WG615643	SAMP	Bis(2-chloroisopropyl)ether	R2378697	O
	WG615643	SAMP	4-Bromophenyl-phenylether	R2378697	O
	WG615643	SAMP	2-Chloronaphthalene	R2378697	O
	WG615643	SAMP	4-Chlorophenyl-phenylether	R2378697	O
	WG615643	SAMP	Chrysene	R2378697	O
	WG615643	SAMP	Dibenz(a,h)anthracene	R2378697	O
	WG615643	SAMP	3,3-Dichlorobenzidine	R2378697	O
	WG615643	SAMP	2,4-Dinitrotoluene	R2378697	O
	WG615643	SAMP	2,6-Dinitrotoluene	R2378697	O
	WG615643	SAMP	Fluoranthene	R2378697	O
	WG615643	SAMP	Fluorene	R2378697	O
	WG615643	SAMP	Hexachlorobenzene	R2378697	O
	WG615643	SAMP	Hexachloro-1,3-butadiene	R2378697	O
	WG615643	SAMP	Hexachlorocyclopentadiene	R2378697	O
	WG615643	SAMP	Hexachloroethane	R2378697	O
	WG615643	SAMP	Indeno(1,2,3-cd)pyrene	R2378697	O
	WG615643	SAMP	Isophorone	R2378697	O
	WG615643	SAMP	Naphthalene	R2378697	O
	WG615643	SAMP	Nitrobenzene	R2378697	O
	WG615643	SAMP	n-Nitrosodimethylamine	R2378697	O
	WG615643	SAMP	n-Nitrosodiphenylamine	R2378697	O
	WG615643	SAMP	n-Nitrosodi-n-propylamine	R2378697	O
	WG615643	SAMP	Phenanthrene	R2378697	O
	WG615643	SAMP	Benzylbutyl phthalate	R2378697	O
	WG615643	SAMP	Bis(2-ethylhexyl)phthalate	R2378697	O
	WG615643	SAMP	Di-n-butyl phthalate	R2378697	O
	WG615643	SAMP	Diethyl phthalate	R2378697	O
	WG615643	SAMP	Dimethyl phthalate	R2378697	O
	WG615643	SAMP	Di-n-octyl phthalate	R2378697	O
	WG615643	SAMP	Pyrene	R2378697	O
	WG615643	SAMP	1,2,4-Trichlorobenzene	R2378697	O
	WG615643	SAMP	4-Chloro-3-methylphenol	R2378697	O
	WG615643	SAMP	2-Chlorophenol	R2378697	O
	WG615643	SAMP	2,4-Dichlorophenol	R2378697	O
	WG615643	SAMP	2,4-Dimethylphenol	R2378697	O
	WG615643	SAMP	4,6-Dinitro-2-methylphenol	R2378697	O
	WG615643	SAMP	2,4-Dinitrophenol	R2378697	O
	WG615643	SAMP	2-Nitrophenol	R2378697	O
	WG615643	SAMP	4-Nitrophenol	R2378697	O
	WG615643	SAMP	Pentachlorophenol	R2378697	O
	WG615643	SAMP	Phenol	R2378697	O
	WG615643	SAMP	2,4,6-Trichlorophenol	R2378697	O
	WG615643	SAMP	2-Fluorophenol	R2378697	J7
	WG615643	SAMP	Phenol-d5	R2378697	J7
	WG615643	SAMP	Nitrobenzene-d5	R2378697	J7
	WG615643	SAMP	2-Fluorobiphenyl	R2378697	J7
	WG615643	SAMP	2,4,6-Tribromophenol	R2378697	J7
	WG615643	SAMP	p-Terphenyl-d14	R2378697	J7
	WG615440	SAMP	1,2,3-Trimethylbenzene	R2372915	V3
L598273-03	WG615831	SAMP	Isophorone	R2379177	J4
	WG615440	SAMP	4-Bromofluorobenzene	R2372915	J2
L598273-04	WG615924	SAMP	TPH (GC/FID) High Fraction	R2375497	O
	WG615835	SAMP	Antimony	R2376196	O
	WG615831	SAMP	Isophorone	R2379177	J4
L598273-05	WG615838	SAMP	Benzidine	R2377854	L1
	WG615838	SAMP	4-Nitrophenol	R2377854	J3
	WG615652	SAMP	TPH (GC/FID) High Fraction	R2375633	B
L598273-06	WG615838	SAMP	Benzidine	R2377854	L1
	WG615838	SAMP	4-Nitrophenol	R2377854	J3
	WG615652	SAMP	TPH (GC/FID) High Fraction	R2375633	B
	WG616378	SAMP	Antimony	R2378415	O
	WG616378	SAMP	Thallium	R2378415	O
	WG616295	SAMP	Selenium	R2377873	O
	WG616295	SAMP	Silver	R2377873	O

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L598273-07	WG616948	SAMP	Acenaphthene	R2384078	Q
	WG616948	SAMP	Acenaphthylene	R2384078	Q
	WG616948	SAMP	Anthracene	R2384078	Q
	WG616948	SAMP	Benzidine	R2384078	L1Q
	WG616948	SAMP	Benzo(a)anthracene	R2384078	Q
	WG616948	SAMP	Benzo(b)fluoranthene	R2384078	Q
	WG616948	SAMP	Benzo(k)fluoranthene	R2384078	Q
	WG616948	SAMP	Benzo(g,h,i)perylene	R2384078	Q
	WG616948	SAMP	Benzo(a)pyrene	R2384078	Q
	WG616948	SAMP	Bis(2-chlorethoxy)methane	R2384078	Q
	WG616948	SAMP	Bis(2-chloroethyl)ether	R2384078	Q
	WG616948	SAMP	Bis(2-chloroisopropyl)ether	R2384078	Q
	WG616948	SAMP	4-Bromophenyl-phenylether	R2384078	Q
	WG616948	SAMP	2-Chloronaphthalene	R2384078	Q
	WG616948	SAMP	4-Chlorophenyl-phenylether	R2384078	Q
	WG616948	SAMP	Chrysene	R2384078	Q
	WG616948	SAMP	Dibenz(a,h)anthracene	R2384078	Q
	WG616948	SAMP	3,3-Dichlorobenzidine	R2384078	Q
	WG616948	SAMP	2,4-Dinitrotoluene	R2384078	Q
	WG616948	SAMP	2,6-Dinitrotoluene	R2384078	Q
	WG616948	SAMP	Fluoranthene	R2384078	Q
	WG616948	SAMP	Fluorene	R2384078	Q
	WG616948	SAMP	Hexachlorobenzene	R2384078	Q
	WG616948	SAMP	Hexachloro-1,3-butadiene	R2384078	Q
	WG616948	SAMP	Hexachlorocyclopentadiene	R2384078	Q
	WG616948	SAMP	Hexachloroethane	R2384078	Q
	WG616948	SAMP	Indeno(1,2,3-cd)pyrene	R2384078	Q
	WG616948	SAMP	Isophorone	R2384078	Q
	WG616948	SAMP	Naphthalene	R2384078	Q
	WG616948	SAMP	Nitrobenzene	R2384078	Q
	WG616948	SAMP	n-Nitrosodimethylamine	R2384078	Q
	WG616948	SAMP	n-Nitrosodiphenylamine	R2384078	Q
	WG616948	SAMP	n-Nitrosodi-n-propylamine	R2384078	Q
	WG616948	SAMP	Phenanthrene	R2384078	Q
	WG616948	SAMP	Benzylbutyl phthalate	R2384078	Q
	WG616948	SAMP	Bis(2-ethylhexyl)phthalate	R2384078	Q
	WG616948	SAMP	Di-n-butyl phthalate	R2384078	Q
	WG616948	SAMP	Diethyl phthalate	R2384078	Q
	WG616948	SAMP	Dimethyl phthalate	R2384078	Q
	WG616948	SAMP	Di-n-octyl phthalate	R2384078	Q
	WG616948	SAMP	Pyrene	R2384078	Q
	WG616948	SAMP	1,2,4-Trichlorobenzene	R2384078	Q
	WG616948	SAMP	4-Chloro-3-methylphenol	R2384078	Q
	WG616948	SAMP	2-Chlorophenol	R2384078	Q
	WG616948	SAMP	2,4-Dichlorophenol	R2384078	Q
	WG616948	SAMP	2,4-Dimethylphenol	R2384078	Q
	WG616948	SAMP	4,6-Dinitro-2-methylphenol	R2384078	Q
	WG616948	SAMP	2,4-Dinitrophenol	R2384078	Q
	WG616948	SAMP	2-Nitrophenol	R2384078	Q
	WG616948	SAMP	4-Nitrophenol	R2384078	Q
	WG616948	SAMP	Pentachlorophenol	R2384078	Q
	WG616948	SAMP	Phenol	R2384078	Q
	WG616948	SAMP	2,4,6-Trichlorophenol	R2384078	Q
	WG615652	SAMP	TPH (GC/FID) High Fraction	R2375633	B
	WG616378	SAMP	Antimony	R2378415	O
	WG616378	SAMP	Thallium	R2378415	O
	WG616295	SAMP	Selenium	R2377873	O
	WG616295	SAMP	Silver	R2377873	O
L598273-08	WG615838	SAMP	Benzidine	R2377854	L1
	WG615838	SAMP	4-Nitrophenol	R2377854	J3
	WG615652	SAMP	TPH (GC/FID) High Fraction	R2375633	B
	WG616411	SAMP	Antimony	R2378799	O
	WG616295	SAMP	Selenium	R2377873	O
	WG616295	SAMP	Silver	R2377873	O

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
B	(EPA) - The indicated compound was found in the associated method blank as well as the laboratory sample.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
L1	(ESC) The associated batch LCS exceeded the upper control limit, which indicates a high bias; The sample analyte was "not detected" and is therefore unaffected.
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
Q	(ESC) Sample held beyond the accepted holding time.
V3	(ESC) - Additional QC Info: The internal standard exhibited poor recovery due to sample matrix interference. The analytical results will be biased high. BDL results will be unaffected.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
10/11/12 at 16:35:08

TSR Signing Reports: 364
RX - Priority Rush

Accounting - pending credit app

Sample: L598273-01 Account: WRAFVA Received: 09/29/12 09:45 Due Date: 10/12/12 00:00 RPT Date: 10/10/12 16:47

Sample: L598273-02 Account: WRAFVA Received: 09/29/12 09:45 Due Date: 10/12/12 00:00 RPT Date: 10/10/12 16:47

Sample: L598273-03 Account: WRAFVA Received: 09/29/12 09:45 Due Date: 10/12/12 00:00 RPT Date: 10/10/12 16:47

Sample: L598273-04 Account: WRAFVA Received: 09/29/12 09:45 Due Date: 10/12/12 00:00 RPT Date: 10/10/12 16:47

Sample: L598273-05 Account: WRAFVA Received: 09/29/12 09:45 Due Date: 10/12/12 00:00 RPT Date: 10/10/12 16:47

Sample: L598273-06 Account: WRAFVA Received: 09/29/12 09:45 Due Date: 10/12/12 00:00 RPT Date: 10/10/12 16:47

Sample: L598273-07 Account: WRAFVA Received: 09/29/12 09:45 Due Date: 10/12/12 00:00 RPT Date: 10/10/12 16:47

Sample: L598273-08 Account: WRAFVA Received: 09/29/12 09:45 Due Date: 10/12/12 00:00 RPT Date: 10/10/12 16:47

Whitman, Requardt & Associates, LLP
3701 Pender Dr. Suite 450
Fairfax, VA 22030

Billing information:
Mr. Kevin Roberts
3701 Pender Dr, Suite 450
Fairfax, VA 22030

Analysis/Container/Preservative

1019

Chain of Custody 1 of 3

ESC LAB SCIENCES
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

L598273

Report to: Mr. Kevin Roberts
Email: kroberts@wrallp.com
Project Description: Balitmore City
City/State Collected: Baltimore, MD
Phone: (703) 293-7432
FAX:
Client Project #: 31576-007
Lab Project #: WRAFVA-31576-007
Collected by (print): Kevin Roberts
Site/Facility ID#: BALTIMORE, MD
P.O.#:
Collected by (signature): Kevin T. Roberts
Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed: Standard TAT
Email? ___No X Yes
FAX? ___No ___Yes

(lab use only)
Acctnum: WRAFVA
Template/Prelogin: T81484 P404060
Cooler #: 8-29-18
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	8270 100ml Amb NoPres	DRO 100ml Amb-HCl C2	DRO,SV8270 4ozClr-NoPres	GRO 40mlAmb HCl	Metals 500mlHDPE-HNO3 C2	Metals, TS 2ozClr-NoPres	V8260OXY 40ml/NaHSO4/Syr/MeOH	V8260OXY 40mlAmb-HCl	Remarks/Contaminant	Sample # (lab only)
BA-3D @ 1-3'	Grab	SS	1-3'	9/28	13:00	6			X			X	X		Please call with any	01
BA-3E @ 3-5'	Grab	SS	3-5	9/28	10:00	5			X			X	X		questions	02
BA-3C @ 1-3'	Grab	SS	1-3'	9/27	13:00	6			X			X	X		770-356-8110	03
BA-3A @ 1-3'	Grab	SS	1-3'	9/27	11:15	5			X			X	X			04
		SS				6			X			X	X			
BA-3A	Grab	~~SS~~ GW	—	9/27	11:15	9	X	X		X	X			X		05
BA-3D	Grab	GW	—	9/28	13:00	8	X	X		X	X			X		06
BA-3E	Grab	GW	—	9/28	10:00	9	X	X		X	X			X		07
BA-3C	Grab	GW	—	9/27	13:00	9	X	X		X	X			X		08

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

5040 0637 6478

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐	Condition: JT (lab use only)
Kevin T. Roberts	9/28	4:15			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.4 Bottles Received: 57	COC Seal Intact: ✓ Y ___ N ___ NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9-29-12 Time: 0945	pH Checked: C2 NCF: