# ATTACHMENT G

# Limited Phase II Environmental Assessment

# BWI Thurgood Marshall Airport Future Hotel Site

# BWI Thurgood Marshall Airport, MD 21240

Prepared for:

Maryland Aviation Administration (MAA)
BWI Thurgood Marshall Airport Employee Parking Lot

August 2012

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# 1.0 BACKGROUND AND PURPOSE

The subject property is an approximate 2.5 acre land parcel located immediately north-west of building 160 the hourly parking garage at the main terminal facility as detailed in **Figure 1**. The property is asphalt paved and currently used as an employee parking lot. The purpose of the assessment is to evaluate the current environmental conditions of the property in anticipation of development of the property as a hotel.

The work completed was based on a limited amount of data including conversations with MAA personnel, historical data provided in an e-mail and a site visit. Based on the limited information provided, AECOM understands that the subject property has partially been historically used for fuel storage, gasoline retail operations and rental car facilities which included automobile fueling and maintenance services. Historical maps of the property identify the presence of underground storage tanks (USTs), pump islands,a utility plant with oil fired boilers and fuel piping associated with the fuel storage and rental car servicing facilities that were located on the southeast and southwest corners of the current subject property.

Additionally, AECOM is also aware that documented releases of petroleum hydrocarbons have occurred on adjacent properties. Dames and Moore conducted a modified Phase I Environmental Assessment in August of 1991 on the “Quick Turn Around” property, located near the northwest of the current subject site. Their report identified a former large aircraft fuel storage area located between Oak and Cedar roads on the south side of Elm road, a reported UST leak at the former Chevron retail gasoline location and a fuel line leak at the former Dollar Rental Car facility all within close proximity to the subject site. To evaluate these areas of concern Dames and Moore collected 190 soil samples from 29 soil borings and installed seven (7) groundwater monitoring wells. The aircraft fuel storage area and Dollar Rental Car locations are located northwest of the current subject site location. The former Chevron retail petroleum site is located on the southwest corner of the current subject site. Overall conclusions of the study were that petroleum impacts do exist north and northwest of the subject property location.

AECOM was also provided three separate groundwater monitoring and assessment reports from R.E. Wright Associates Inc. dated November 1992, October 1993 and September 1995. These reports outline R.E. Wright’s investigation of the area containing the former Chevron retail gasoline location and former Dollar Car Rental location and associated MDE case numbers 91-0812-AA and 9-0277-AA. The reports detail the installation and monitoring of 22 soil boring and 13 monitoring wells in areas northwest and southwest of the current subject site in response to a leaking underground fuel line at the former Dollar Rental Car location, and the report of leaking USTs at the former Chevron retail gasoline location. Overall project findings are elevated petroleum constituent concentrations within the groundwater and soil samples collected with the suspected source being the underground leaks. More recent studies or analytical data was not provided to AECOM for review.

# 2.0 METHODS

## 2.1 Health and Safety Plan

AECOM developed a Health and Safety Plan that was specific to the subject property. The development of this plan is required by the Occupational Safety and Health Administration (OSHA) under Hazardous Waste Operations & Emergency Response 29 CFR 1910.120. The site Health and Safety Plan is designed to reduce the risk of physical or chemical exposures that may affect workers in the proposed work area. The site Health and Safety Plan includes information about potential chemicals on the site, health and safety procedures for working on-site, and emergency response procedures. The Health and Safety plan is on file at AECOM and was implemented during the field activities.

## 2.2 Utility Markout

AECOM retained Harford Electrical Testing Co., Inc (Harford) of Joppa, MD, to conduct a utility survey of the subject property prior to commencement of drilling activities. On Tuesday, May 22, 2012, Harford identified and clearly marked out the locations of a 60 Hz electric utility, and a communication utility at the subject property. Harford signed off on the MAA Utility Modification/ Digging Authorization permit which must be acquired prior to any drilling. AECOM also retained Connelly Drilling Associates Air-knifing services for the purpose of clearing all proposed drilling locations of utilities utilizing “soft dig” technology. The air-knife utilizes compressed air and a vacuum hose to loosen and remove soils without injuring any subsurface structures. The air-knife was used to clear a hole approximately 120% larger than the anticipated drilling diameter (approximately 10-inches) to a depth of 5 feet below ground surface (bgs). All boring locations were cleared prior to drilling using the air-knife technique.

## 2.3 Geophysical Survey

AECOM reviewed historical data provided by Environmental Data Resources (EDR) of Milford, CT, including historical aerial photographs, topographic maps, city directories, and applicable environmental databases. Through this research it was found that the site historically contained a number of fueling facilities. A figure from 1948 provided to AECOM by MAA includes locations for Texaco, Esso (Exxon), Texaco Jet Fuel and locations for numerous “oil tank vaults”. A former Chevron retail gasoline site was reported to have been located on the southwest corner of the current subject site and a former boiler facility building was located along the southeastern portion of the site. Enviroscan Inc. of Lancaster, PA (Enviroscan) used Ground Penetrating Radar (GPR) and Electromagnetic (EM) techniques specifically within the two areas of the former boiler facility and Chevron Station, as illustrated in **Figure 2**. Based on historical maps and figures, these two areas were targeted as having the highest likelihood of remnant subsurface structures such as USTs and associated piping based on their uses and associated need for underground structures.

A geophysical study was completed on Tuesday May 22, 2012 by Enviroscan to check for the presence of USTs, vaults and associated piping. GPR was used in combination with EM techniques to check for the presence of subsurface structures. GPR systems produce cross-sectional images of subsurface features and layers. Since electrical properties of metallic tanks, pipes and waste produce dramatic reflections, EM can be used with GPR to discriminate between subsurface anomalies. The lithology beneath the subject property consists mainly of fine to medium Arundel Sands which allowed the GPR to penetrate to depths greater than

20ft. below grade surface (bgs). Enviroscan found no subsurface anomalies that would be indicative of the presence of tanks or piping within the scanned areas.

GPR and EM techniques were also used to clear each boring location of utilities prior to drilling activities. Anomalies were detected directly beneath several of the proposed locations. Therefore, new locations were established several feet away from the identified anomaly to ensure clearance of any potential underground utility.

## 2.4 Soil Investigation

To determine existing soil conditions and to determine any impacts from historical operations, AECOM retained Connelly & Associates to perform a Geoprobe™ soil sampling survey. The exact locations of the test soil borings were based on information obtained during the site records review and during the geophysical survey.

From May 23 to May 25, 2012, AECOM advanced nineteen soil borings (SB-1 through SB-19) to depths ranging from 20 ft bgs to 45 ft bgs. Forty soil samples were collected from the nineteen boring locations from composite soils retrieved from the 0-1 ft. interval during air-knifing operations, and an additional sample collected at depth during direct push geo-probe operations based on field observations and photo-ionization detector (PID) readings. Sample locations were spread throughout the entire subject site, with a higher concentration in the southwest and southeast corners where historical operations were located. Based on field observations and delineation efforts, twenty samples were sent to the laboratory for analysis. Surface and subsurface soil samples from the following boring locations were submitted to the lab; SB-1, S-2, SB-4, SB-5, SB-6, SB-7, SB-12, SB-14, SB-18 and SB-19. The boring locations are depicted on **Figure 1**; laboratory analytical is detailed in **Table 1** and included as **Attachment 2**.

Prior to the advancement of each soil boring, sample equipment was decontaminated in accordance with industry standards. Any soil cuttings generated were temporarily staged on plastic sheeting for inspection prior to sampling and boring back-fill. Upon sample removal from the ground, collected soils were inspected for visual and olfactory indications of potential impacts and physical soil parameters including lithology, soil type, density, color, moisture content and sample recovery. Boring logs are included as **Attachment 1**.
Soil samples were collected and placed in laboratory-supplied containers and packed with ice for transport to Phase Separation Science Laboratory of Catonsville, MD, under chain-of-custody protocol. Soil samples were submitted for analysis of Volatile Organic Compounds (VOCs) by EPA Method 8260 and total petroleum hydrocarbons (TPH) gasoline and diesel range organics (TPH-GRO and TPH-DRO) via Method 8015B. Refer to **Table 1** for a summary of soil analytical results. The Laboratory analytical reports and chain of custody documentation are presented in **Attachment 2**.

# 3.0 Results and Findings

## 3.1 Site Lithology

The lithology present in the vicinity of the borings consisted mainly of fine to medium grained sands with trace amounts of silts and gravels. A confining layer of very low permeability, white clay was identified beneath the entire investigation area at depths ranging from 10 to 40 ft bgs. A zone of perched water was often present just above the clay. Bedrock refusal was not encountered during boring activities. Soil descriptions are included in the boring logs in **Attachment 1.**

Geologic description of the area from the Maryland Geologic Survey describes the underlying deposits as composites of the Potomac Group which is composed of interbedded quartzose gravels; protoquartzitic to orthoquartzitic argillaceous sands; and white, dark gray and multicolored silts and clays at thicknesses of 0 to 800 feet; the Raritan and Patapsco Formations composed of gray, brown, and red variegated silts and clays; lenticular, cross-bedded, argillaceous, sub-rounded sands; minor gravels at thicknesses of 0 to 400 feet; the Arundel Clay composed of dark gray and maroon lignitic clays; abundant siderite concretions; present only in Baltimore-Washington area at thickness of 0 to 100 feet; and the Patuxent Formation composed of white or light gray to orange-brown, moderately sorted, cross-bedded, argillaceous, angular sands and sub-rounded quartz gravels; silts and clays subordinate, predominately pale gray at thicknesses of 0 to 250 feet.

## 3.2 Soil Quality

Visual and olfactory evidence of petroleum impacts were detected in soil boring location SB-14 from sampling intervals 33.5-34.5 ft. bgs (178 ppm PID reading) and 39.5-40 ft. bgs (102 ppm PID reading) with stained soils accompanied by moderate to strong petroleum odors. The sample from 33.5-34.5 ft. bgs was submitted for analysis.

The soil analytical results are summarized in **Table 1.** No concentrations of the common fuel constituents benzene, toluene, ethylbenzene or total xylenes (BTEX) were detected above laboratory detection limits in any of the soil samples submitted. Of the subsurface soil samples submitted for analysis, only soil sample SB-14 (33.5-34.5) contained concentrations above laboratory detection limits for Naphthalene (0.036mg/kg), TPH-GRO (16 mg/kg) and TPH-DRO (64 mg/kg); all other subsurface soil samples were below laboratory detection limits for all analytes. None of the concentrations detected in the subsurface samples exceed Maryland Department of the Environment (MDE) Non-Residential Cleanup Standards.

Analysis of the surface soil samples collected at the site revealed trace concentrations of TPH-DRO and naphthalene. The maximum concentration of naphthalene in surface soil samples was 0.13 mg/kg in sample SB-2 (0'-1'); and the maximum concentration of TPH-DRO was 110 mg/kg in sample SB-18 (0'-1'). Diesel range organics are composed of larger chains of hydrocarbons and their presence in the soil samples could also indicate the presence of jet fuel or fuel oil which are also composed of similar length (heavier) hydrocarbon chains. None of the concentrations detected in the surface soil samples exceed Maryland Department of the Environment (MDE) Non-Residential Cleanup Standards.

## 3.3 Groundwater

AECOM had proposed to collect 5 representative groundwater samples from the subject property. However, the water table was never fully encountered during the subsurface investigation and no groundwater samples

were collected. Various zones of perched water are present across the site, but these zones did not yield a sufficient amount of water for sample collection. Groundwater sample collection was attempted using temporary monitoring wells with 0.20 slot screen, installed in the following boring locations; SB-12 (28'-38'), SB-14 (30'-40'), SB-15 (15'-25'), SB-16 (23'-33') and SB-18 (27'-37'). Due to the potential for cross-contamination, the integrity of the confining layer encountered was not be breached for the purpose of attempting to collect a groundwater sample at greater depths.

# 4.0 CONCLUSIONS

There does not appear to be any significant impacts of concern within the first foot below grade at the subject property in the areas investigated. Based on field observations and the analytical results of the subsurface investigation, petroleum hydrocarbon impacts appear localized to the 33-40 ft. bgs portion of soil boring SB-14 location and not widespread. Furthermore, SB-14 is the farthest outlying boring from the suspected potential source areas, with closer boring locations showing no evidence of petroleum impacts. Given that the concentrations detected in SB-14 do not exceed the MDE Non-Residential Clean-up Standards; and that future activities at the site are unlikely to include excavation or disturbance of soils at the impacted depths; no further actions are recommended at this time. If potential future development plans include excavations greater than 30 ft bgs, management of impacted soils may need to be further evaluated. Groundwater was not encountered during this investigation. If groundwater is encountered during potential future development operations, potential impacts may need to be evaluated.

# FIGURES

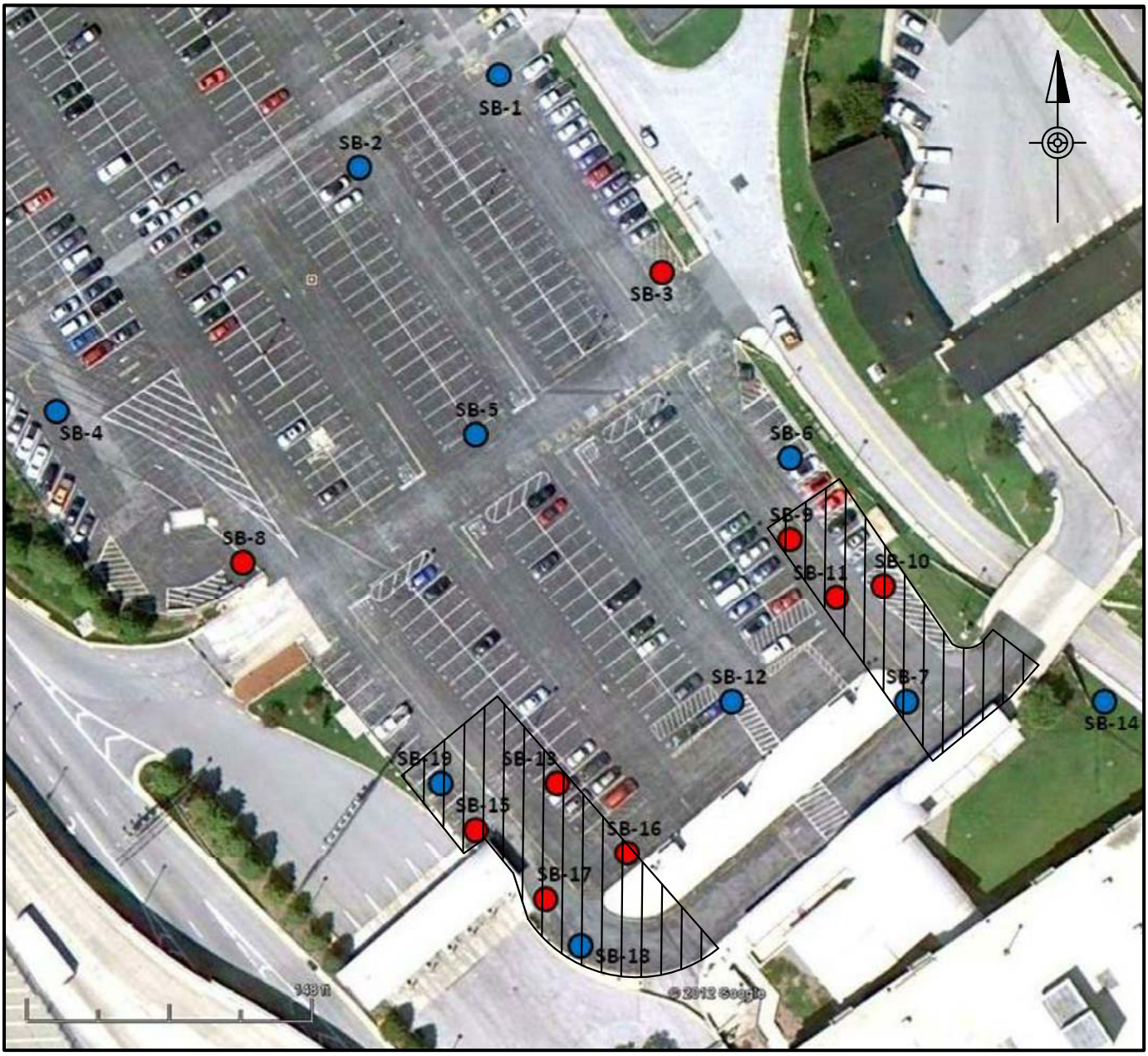
LEGEND

SOIL BORING LOCATION

SOIL BORING LOCATION
WITH ANALYTICAL RESULTS

**FIGURE 1 - SITE LOCATION**
**MARYLAND AVIATION ADMINISTRATION**
BWI AIRPORT - PARKING LOT
BALTIMORE, MD
PROJECT #60268768.1

AECOM




LEGEND

SOIL BORING LOCATION

SOIL BORING LOCATION WITH ANALYTICAL RESULTS

GEOPHYSICAL SURVEY

**FIGURE 2 - GEOPHYSICAL SURVEY**
**MARYLAND AVIATION ADMINISTRATION**
BWI AIRPORT - PARKING LOT
BALTIMORE, MD
PROJECT #60268768.1

AECOM

# TABLE

**Table 1 - Soil Analytical Results**
**Maryland Aviation Administration - BWI Thurgood Marshall Airport - Parking Lot Phase II ESA**
**May 2012**

| | | | | | | | | | | | | | | | | | | | | | **Soil Standards** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | SB-1 (0-1) | SB-1 (9.5-10.5) | SB-2 (0-1) | SB-2 (14-15) | SB-4 (0-1) | SB-4 (14-15) | SB-5 (0-1) | SB-5 (14-15) | SB-6 (0-1) | SB-6 (12.5-13.5) | SB-7 (0-1) | SB-7 (14-15 | SB-12 (0-1) | SB-12 (14-15) | SB-14 (0-1) | SB-14 (33.5-34.5) | SB-18 (0-1) | SB-18 (11-12) | SB-19 (0-1) | SB-19 (14.5-15.5) | **Non-Residential Clean-up Standard** |
| Date | 5/24/2012 | 5/24/2012 | 5/24/2012 | 5/24/2012 | 5/25/2012 | 5/24/2012 | 5/24/2012 | 5/25/2012 | 5/24/2012 | 5/25/2012 | 5/23/2012 | 5/24/2012 | 5/23/2012 | 5/24/2012 | 5/24/2012 | 5/24/2012 | 5/23/2012 | 5/23/2012 | 5/23/2012 | 5/23/2012 | |
| Sample Depth (feet) | 0-1 | 9.5-10.5 | 0-1 | 14-15 | 0-1 | 14-15 | 0-1 | 14-15 | 0-1 | 12.5-13.5 | 0-1 | 14-15 | 0-1 | 14-15 | 0-1 | 33.5-34.5 | 0-1 | 11-12 | 0-1 | 14.5-15.5 | |
| Units | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | **(mg/kg)** |
| **Volatile Organic Compounds (VOCs)** | | | | | | | | | | | | | | | | | | | | | |
| Benzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 52 |
| Ethylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 10,000 |
| Toluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 8,200 |
| Xylenes | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 20,000 |
| | | | | | | | | | | | | | | | | | | | | | |
| **Semi-Volatile Organic Compounds (VOCs)** | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ND | ND | 0.13 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.036 | 0.0091 | ND | ND | ND | 2,000 |
| | | | | | | | | | | | | | | | | | | | | | |
| **TPH-DRO** | ND | ND | 14 | ND | 6.7 | ND | 7.2 | ND | ND | ND | 35 | ND | 9.7 | ND | 7.7 | 64 | 110 | ND | 9.8 | ND | 620 |
| | | | | | | | | | | | | | | | | | | | | | |
| **TPH-GRO** | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 16 | ND | ND | ND | ND | 620 |

**Notes:**
Soil Standards - June 2008 State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater
MDE = State of Maryland Department of the Environment
mg/kg- milligrams per kilogram
ND- Not detected at or above the reporting limit
** ONLY COMPOUNDS DETECTED LISTED - SEE COMPLETE LABORATORY RESULTS FOR FULL RESULTS

# ATTACHMENT 1

BORING LOGS

| | | | |
|---|---|---|---|
| AECOM | *Client:* Maryland Aviation Administration | | ***BORING ID: SB-1*** |
| | *Project Number: 60268768.1* | | |
| | *Site Location: BWI Airport* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* | *Boring Diameter:* | *Screened Interval:* |
| *Weather: low 80's, chance of thunderstorms* | *Logged By: Dan Hulbert* | *Date Started: 5/24/2012* | *Depth of Boring: 35'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* | *Date Finished: 5/24/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Airknife to 5 ft. bgs. | SB-1(0-1) submitted for analysis | 0-1' bgs |
| 2 | | | | 60 | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | 0 | | 0-24" brown, medium sand, trace gravel, dry, loose | | |
| | | | | | 0 | | 24-30" band of white clay, dry, tight | | |
| 7 | | | | 60 | 0 | | 30-40" brown, medium sand, trace gravel, dry, loose | | |
| 8 | | | | | 0 | | 40-50" band of white clay, dry, tight | | |
| 9 | | | | | 0 | | 50-60" brown, medium sand, trace gravel, dry, loose | SB-1(9.5-10.5) submitted for analysis | 9.5-10.5' bgs |
| 10 | | | | | | | | | |
| 11 | | | | | 0 | | 0-6" brown, medium sand, trace gravel, dry, loose | | |
| | | | | | 0 | | 6-60" white/tan, clay, very tight, dry | | |
| 12 | | | | 60 | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | 0 | | 0-20" white/tan, clay, very tight, dry | | |
| | | | | | 0 | | 20-60" light tan, fine to medium sand, gravel throughout, no silt, loose | | |
| 17 | | | | 60 | | | | | |
| 18 | | | | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | 0 | | 0-10" light tan, fine to medium sand, gravel throughout, no silt, loose | | |
| | | | | | 0 | | 10-60" white/tan, clay, very tight, dry | | |
| 22 | | | | 60 | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | 0 | | 0-60" light tan, fine sands, dry, loose | | |
| 27 | | | | 60 | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | 0 | | 0-60" light tan, fine sands, with gravel, dry, loose | | |
| 32 | | | | 60 | | | | | |
| 33 | | | | | | | | | |
| 34 | | | | | | | | | |
| 35 | | | | | | | | | |

**NOTES:** SB-1(0-1) and SB-1(9.5-10.5) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Checked by _____ Date: _____

| | | |
|---|---|---|
| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-2*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval:* |
| *Weather: low 80's, chance of thunderstorms* | *Logged By: Dan Hulbert* *Date Started: 5/24/2012* | *Depth of Boring: 25'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/24/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Airknife to 5 ft. bgs. | SB-2(0-1) submitted for analysis | 0-1' bgs |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | 0 | | 0-36" light tan, fine to medium sand, dry, loose | | |
| 7 | | | | | 0 | | 36-54" white clay, very tight, dry | | |
| 8 | | | | 60 | 0 | | 54-60" light tan, fine to medium sand, dry, loose | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | 0 | | 0-6" light tan, fine to medium sand, dry, loose | | |
| 12 | | | | | 0 | | 6-54" white clay, very tight, dry | | |
| 13 | | | | 60 | 0 | | 54-60" light brown, fine to medium sands, loose, dry | | |
| 14 | | | | | | | | SB-2(14-15) submitted for analysis | 14-15' bgs |
| 15 | | | | | | | | | |
| 16 | | | | | 0 | | 0-12" light brown, fine to medium sands, with gravel, loose, dry | | |
| 17 | | | | | 0 | | 12-24" white clay, very tight, moist | | |
| 18 | | | | 48 | 0 | | 24-36" light brown, fine to medium sands, with gravel, loose, moist | | |
| 19 | | | | | 0 | | 36-48" light tan, silt, soft, moist | | |
| 20 | | | | | | | | | |
| 21 | | | | | 0 | | 0-60" white/tan, clay with red striations, very tight, dry | | |
| 22 | | | | | | | | | |
| 23 | | | | 60 | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |

**NOTES:** SB-2(0-1) and SB-2(14-15) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Checked by _____ Date:_____

| | | |
|---|---|---|
| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-3*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval:* |
| *Weather: low 80's, chance of thunderstorms* | *Logged By: Dan Hulbert* *Date Started: 5/24/2012* | *Depth of Boring: 25'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/24/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Airknife to 5 ft. bgs. | SB-3(0-1) NOT submitted for analysis | 0-1' bgs |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | 0 | | 0-55" brown, fine to medium sands with silt, tight, dry | | |
| 7 | | | | 55 | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | 0 | | 0-60" brown, fine to medium sands with silt, tight, dry | | |
| 12 | | | | 60 | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | SB-3(14-15) NOT submitted for analysis | 14-15' bgs |
| 15 | | | | | | | | | |
| 16 | | | | | 0 | | 0-12" light tan, fine sand, trace silt, dry | | |
| 17 | | | | | 0 | | 12-18" band of white clay, tight dry | | |
| 18 | | | | 60 | 0 | | 18-48" light tan, fine sand, trace silt, dry | | |
| 19 | | | | | 0 | | 48-54" band of white clay, tight dry | | |
| 20 | | | | | 0 | | 54-60" brown, fine to medium sand, gravel throughout, moist | | |
| 21 | | | | | 0 | | 0-50" brown, fine to medium sand, gravel throughout, moist | | |
| 22 | | | | 50 | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-4*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval: N/A* |
| *Weather: Hot, Humid, Mid 80's* | *Logged By: Dan Hulbert* *Date Started: 5/25/2012* | *Depth of Boring: 45'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/25/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S. | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Airknife to 5 ft. bgs. | SB-4(0-1) submitted for analysis | 0-1' bgs |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | 0 | | 0-20" light tan, very fine, silty sand, dry, tight | | |
| | | | | | 0 | | 20-48" brown, fine to medium sand, dry, loose | | |
| 7 | | | | 60 | 0 | | 48-60" brown, fine to medium sand, large gravel mixed throughout, loose, dry | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | 0 | | 0-24" brown, fine to medium sand, large gravel mixed throughout, loose, dry | | |
| | | | | | 0 | | 24-36" white, silty sand, tight, dry | | |
| 12 | | | | 60 | 0 | | 36-60" light brown, fine gravel with medium sand, dry, loose | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | SB-4(14-15) submitted for analysis | 14-15' bgs |
| 15 | | | | | | | | | |
| 16 | | | | | 0 | | 0-6" light brown, fine gravel with medium sand, dry, loose | | |
| | | | | | 0 | | 6-54" white, silty sand, tight, dry | | |
| 17 | | | | 60 | 0 | | 54-60" light brown, fine gravel with medium sand, dry, loose | | |
| 18 | | | | | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | 0 | | 0-30" light brown, fine gravel with medium sand, dry, loose | | |
| | | | | | 0 | | 30-50" light brown, fine gravel with medium sand, moist, loose | | |
| 22 | | | | 60 | 0 | | 50-54" light brown, very fine sand, tight, moist | | |
| 23 | | | | | 0 | | 54-60" white clay, very tight, dry | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | 0 | | 0-55" light brown, very fine sands, tight, moist | | |
| 27 | | | | 55 | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | 0 | | 0-36" light brown, fine gravel with medium sands, moist, loose | | |
| | | | | | 0 | | 36-48" light tan/white, very fine sands with silty clay lenses, tight, moist | | |
| 32 | | | | 60 | 0 | | 48-60" light tan, very fine sand, trace gravel, tight, moist | | |
| 33 | | | | | | | | | |
| 34 | | | | | | | | | |
| 35 | | | | | | | | | |
| 36 | | | | | 0 | | 0-36" light tan, very fine sand, trace gravel, tight, moist | | |
| | | | | | | | 36-48" white, clay, tight | | |
| 37 | | | | 60 | | | 48-60" brown, medium gravel with medium sand, compact, moist, tight | | |
| 38 | | | | | | | | | |
| 39 | | | | | | | | | |
| 40 | | | | | | | | | |
| 41 | | | | | 0 | | 0-60" brown, medium gravel with medium sand, compact, moist, tight | | |
| 42 | | | | 60 | | | | | |
| 43 | | | | | | | | | |
| 44 | | | | | | | | | |
| 45 | | | | | | | | | |

**NOTES:** SB-4(0-1) and SB-4(14-15) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-5*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval:* |
| *Weather: Hot, Humid, Mid 80's* | *Logged By: Dan Hulbert* *Date Started: 5/25/2012* | *Depth of Boring: 25'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/25/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Airknife to 5 ft. bgs. | SB-5(0-1) submitted for analysis | 0-1' bgs |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | 0 | | 0-39" brown, fine to medium sand dry, loose | | |
| 7 | | | | | 0 | | 39-46" brown, fine gravel with medium sand, dry, loose | | |
| 8 | | | | 46 | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | 0 | | 0-24" brown, fine gravel with medium sand and some silt, moist, loose | | |
| 12 | | | | | 0 | | 24-45" white, silty very fine sand, tight, dry | | |
| 13 | | | | 45 | | | | | |
| 14 | | | | | | | | SB-5(14-15) submitted for analysis | 14-15' bgs |
| 15 | | | | | | | | | |
| 16 | | | | | 0 | | 0-34" brown, fine to medium sand dry, loose | | |
| 17 | | | | | 0 | | 34-45" white, silty very fine sand, tight, dry | | |
| 18 | | | | 45 | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | 0 | | 0-20" white, clay, very tight, dry | | |
| 22 | | | | | 0 | | 20-50" brown, fine gravel with medium sand, moist | | |
| 23 | | | | 60 | 0 | | 50-60" white, clay, very tight, dry | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |

**NOTES:** SB-5(0-1) and SB-5(14-15) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-6*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval:* |
| *Weather: Hot, Humid, Mid 80's* | *Logged By: Dan Hulbert* *Date Started: 5/25/2012* | *Depth of Boring: 25'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/25/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Airknife to 5 ft. bgs. | SB-6(0-1) submitted for analysis | 0-1' bgs |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | 0-45" light brown fine to medium sand, Arundel sands, loose, dry | | |
| 7 | | | | | | | | | |
| 8 | | | | 45 | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | 0 | | 0-40" brown fine to medium sand, trace silt, loose, dry | | |
| 12 | | | | | 0 | | 40-60" white, silty clay with very find sands, tight, dry | SB-6(12.5-13.5) submitted for analysis | 12.5-13.5' bgs |
| 13 | | | | 60 | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | 0 | | 0-60" white, silty clay with very find sands, tight, dry<br>last 6" moist | | |
| 17 | | | | | | | | | |
| 18 | | | | 60 | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | 0 | | 0-45" brown, medium sand with small white clay lenses throughout, moist, loose | | |
| 22 | | | | | 0 | | 45-60" white, clay, very tight, dry | | |
| 23 | | | | 60 | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |

**NOTES:** SB-6(0-1) and SB-6(14-15) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-7*** |
| | *Project Number:* 60268768.1 | |
| | *Site Location:* BWI Airport | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method:* Direct Push/ GeoProbe | *Monitoring Well Installed:* No |
| | *Sample Type(s):* Grab *Boring Diameter:* | *Screened Interval:* N/A |
| *Weather:* low 80's, chance of thunderstorms | *Logged By:* Dan Hulbert *Date Started:* 5/24/2012 | *Depth of Boring:* 35' |
| *Drilling Contractor:* Connelly & Associates, Inc | *Ground Elevation:* *Date Finished:* 5/24/2012 | *Water Level:* N/A |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4<br>5 | | | | | | | Airknife to 5 ft. bgs. | SB-7(0-1) submitted for analysis | 0-1' bgs |
| 6<br>7<br>8<br>9<br>10 | | | | 60 | 0 | | 0-60" white, flaky, clay, very dry, brittle, hard | | |
| 11<br>12<br>13<br>14<br>15 | | | | 60 | 0<br>0 | | 0-50" brown/white mix, fine to medium sand, silt throughout, trace gravel, moist, tight<br>50-60" white, clay, tight, dry | SB-7(14-15) submitted for analysis | 14-15' bgs |
| 16<br>17<br>18<br>19<br>20 | | | | 60 | 0<br>0 | | 0-50" brown/white mix, fine to medium sand, silt throughout, trace gravel, moist, tight<br>50-60" white, clay, tight, dry | | |
| 21<br>22<br>23<br>24<br>25 | | | | 60 | 0 | | 0-36" white, clay, tight, dry<br>36-60" light brown, fine to medium sand, silt throughout, dry | | |
| 26<br>27<br>28<br>29<br>30 | | | | 60 | 0 | | 0-60" white, very fine sands, no silt or gravel, dry | | |
| 31<br>32<br>33<br>34<br>35 | | | | 60 | 0 | | 0-54" white, very fine sands, no silt or gravel, moist<br>54-60" tan, fine to medium sands staurated | | |

**NOTES:** SB-7(0-1) and SB-7(14-15) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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|---|---|---|
| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-8*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval: N/A* |
| *Weather: Hot, Humid, Mid 80's* | *Logged By: Dan Hulbert* *Date Started: 5/25/2012* | *Depth of Boring: 25'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/25/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Airknife to 5 ft. bgs. | SB-8(0-1) NOT submitted for analysis | 0-1' bgs |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | 0 | | 0-15" brown, fine to medium sand, dry, loose | | |
| 7 | | | | | | | 15-60" white, silty clay, tight, dry | | |
| 8 | | | | 60 | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | 0 | | 0-12" light brown, fine to medium sand, dry, loose | | |
| 12 | | | | | 0 | | 12-15" white clay lense | | |
| 13 | | | | 48 | 0 | | 15-20" light brown, fine to medium sand, dry, loose | | |
| 14 | | | | | 0 | | 20-25" white clay lense | | |
| 15 | | | | | 0 | | 25-48" brown, medium sand, trace gravel, loose, dry | SB-8(14-15) NOT submitted for analysis | 14-15' bgs |
| 16 | | | | | 0 | | 0-15" brown, medium sand, trace gravel, loose, dry | | |
| 17 | | | | | 0 | | 15-48" light tan, fine gravel with medium sand, dry, loose | | |
| 18 | | | | 48 | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | 0 | | 0-24" light tan, fine gravel with medium sand, dry, loose | | |
| 22 | | | | | | | 24-36" white clay, very tight, dry | | |
| 23 | | | | 48 | | | 36-48" light tan, fine gravel with medium sand, dry, loose | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-9*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval: N/A* |
| *Weather: low 80's, chance of thunderstorms* | *Logged By: Dan Hulbert* *Date Started: 5/24/2012* | *Depth of Boring: 20'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/24/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4<br>5 | | | | | | | Airknife to 5 ft. bgs. | SB-9(0-1)<br>NOT submitted<br>for analysis | 0-1' bgs |
| 6<br>7<br>8<br>9<br>10 | | | | 48 | 0 | | 0-48" light tan, very fine sand, soft, dry | | |
| 11<br>12<br>13<br>14<br>15 | | | | 60 | 0<br>0 | | 0-45" brown, fine to medium sand with silt, more compact, dry<br>45-60" light tan, very fine sand, soft, dry | SB-9(14-15)<br>NOT submitted<br>for analysis | 14-15' bgs |
| 16<br>17<br>18<br>19<br>20 | | | | 60 | 0<br>0<br>0 | | 0-15" light tan, very fine sand, soft, dry<br>15-48" brown, fine to medium sand with silt, more compact, moist<br>48-60" brown, fine to medium sand with silt and trace gravel, more compact, moist | | |

**NOTES:** SB-7(0-1) and SB-7(14-15) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-10*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval: N/A* |
| *Weather: low 80's, chance of thunderstorms* | *Logged By: Dan Hulbert* *Date Started: 5/24/2012* | *Depth of Boring: 25'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/24/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4<br>5 | | | | | | | Airknife to 5 ft. bgs. | SB-10(0-1)<br>NOT submitted<br>for analysis | 0-1' bgs |
| 6<br>7<br>8<br>9<br>10 | | | | 48 | 0 | | 0-48" light brown, fine to medium, well graded, Arundel sands, dry, loose | | |
| 11<br>12<br>13<br>14<br>15 | | | | 48 | 0 | | 0-15" light brown, fine to medium, well graded, Arundel sands, dry, loose<br>15-48" light brown, silty sand, gravel throughout, moist | | |
| 16<br>17<br>18<br>19<br>20 | | | | 52 | 0<br>0<br>0 | | 0-12" light brown, silty sand, gravel throughout, moist<br>12-24" white, very fine sands, dry, tight<br>24-52" light brown, silty sand, gravel throughout, moist | | |
| 21<br>22<br>23<br>24<br>25 | | | | 60 | 0 | | 0-54" light brown, silty sand, gravel throughout, saturated<br>54-60" white, clay, tight, dry | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-11*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval: No* |
| *Weather: low 80's, chance of thunderstorms* | *Logged By: Dan Hulbert* *Date Started: 5/24/2012* | *Depth of Boring: 25'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/24/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 2 3 4 5 | | | | | | | Airknife to 5 ft. bgs. | SB-11(0-1) NOT submitted for analysis | 0-1' bgs |
| 6 7 8 9 10 | | | | 46" | 0 | | 0-46" light brown, fine to medium sand, dry, loose, gravel in last 6" | | |
| 11 12 13 14 15 | | | | 40" | 0<br>0 | | 0-32" light brown, fine to medium sand with gravel, dry, loose<br>32-40" white/tan clay, tight, dry | SB-11(13-14) NOT submitted for analysis | 13-14' bgs |
| 16 17 18 19 20 | | | | 60 | 0<br>0 | | 0-45" white/tan clay, tight, dry<br>45-60" light brown, fine to medium sand, moist | | |
| 21 22 23 24 25 | | | | 60 | 0<br>0 | | 0-24" light brown, fine to medium sand, moist<br>24-60" white/tan clay, tight, dry | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-12*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed: Temporary* |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval: 28-38'* |

| | | | |
|---|---|---|---|
| *Weather: low 80's, chance of thunderstorms* | *Logged By: Dan Hulbert* | *Date Started: 5/24/2012* | *Depth of Boring: 38'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* | *Date Finished: 5/24/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 2 3 4 5 | | | | | | | Airknife to 5 ft. bgs. | SB-12(0-1) submitted for analysis | 0-1' bgs |
| 6 7 8 9 10 | | | | 46 | 0 | | 0-46" brown, fine to medium Arundel sand, dry, loose | | |
| 11 12 13 14 15 | | | | 60 | 0 | | 0-60" brown, fine to medium Arundel sand, dry, loose, band of silty sands from 13-14' bgs | SB-12(14-15) submitted for analysis | 14-15' bgs |
| 16 17 18 19 20 | | | | 60 | 0 | | 0-54" white/tan, silty clay, very tight, dry<br>54-60" whita/tan, fine, silty sands, soft | | |
| 21 22 23 24 25 | | | | 60 | 0 | | 0-60" white/tan, fine sands with silt, soft dry | | |
| 26 27 28 29 30 | | | | 60 | 0<br>0 | | 0-30" white/tan, silty clay, very tight, dry<br>30-60" tan, gravel with fine sands, loose<br>30-36" moist<br>36-60" saturated | | |
| 31 32 33 34 35 | | | | 60 | 0 | | 0-40" tan, gravel with fine sands, loose, saturated<br>40-55" white/tan, silty clay, very tight, dry<br>55-60" tan, gravel with fine sands, loose, saturated | | |
| 36 37 38 | | | | 36 | 0 | | 0-36" light brown, fine to medium sand with silt, trace gravel, loose, saturated<br>Refusal at 38' bgs | | |

**NOTES:** SB-12(0-1) and SB-12(14-15) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

Temporary well did not produce water.

Checked by _____ Date:_____

| Date | Time | Depth to groundwater while drilling |
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| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-13*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval:* |
| *Weather: Overcast, 60's chance of t-storms* | *Logged By: Dan Hulbert* *Date Started: 5/23/2012* | *Depth of Boring: 25'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/23/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Airknife to 5 ft. bgs. | SB-13(0-1) NOT submitted for analysis | 0-1' bgs |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | 0 | | 0-24" brown fine sand, loose, dry | | |
| 7 | | | | 55 | | | 24-55" light brown/white, very fine sands with silt, very tight, | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | 0 | | 0-48" light brown/white, very fine sands with silt, very tight, | | |
| 12 | | | | | 0 | | 48-60" brown, fine sand, loose, dry | | |
| 13 | | | | 60 | | | | | |
| 14 | | | | | | | | SB-13(14-15) NOT submitted for analysis | 14-15' bgs |
| 15 | | | | | | | | | |
| 16 | | | | | 0 | | 0-44" brown, fine sand with trace gravel throughout, loose, dry | | |
| 17 | | | | | 0 | | 44-60" white, tight clay dry | | |
| 18 | | | | 60 | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | 0 | | 0-60" white, tight clay, dry | | |
| 22 | | | | | | | | | |
| 23 | | | | 60 | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-14*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* Temporary |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval: 30-40'* |
| *Weather: low 80's, chance of thunderstorms* | *Logged By: Dan Hulbert* *Date Started: 5/24/2012* | *Depth of Boring: 40'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/24/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4<br>5 | | | | | | | Airknife to 5 ft. bgs. | SB-14(0-1) submitted for analysis | 0-1' bgs |
| 6<br>7<br>8<br>9<br>10 | | | | 36" | 0 | | 0-36" light brown, fine to medium sands, loose, moist<br>band of silt from 8-9' bgs | | |
| 11<br>12<br>13<br>14<br>15 | | | | 36" | 0<br>0<br>0 | | 0-6" light brown, fine to medium sands, loose, moist<br>6-30" white/tan, silty clay, tight, dry<br>30-36" light brown, fine to medium sands, moist | | |
| 16<br>17<br>18<br>19<br>20 | | | | 60 | 0<br>0<br>0 | | 0-18" light brown, fine to medium sands, moist<br>18-42" white/tan, clay, very tight, dry<br>42-60" light brown, fine to medium sands, moist | | |
| 21<br>22<br>23<br>24<br>25 | | | | 54 | 0 | | 0-54" light brown, fine to medium sands, well graded, silty sands mixed throughout, slightly moist, getting more dry | | |
| 26<br>27<br>28<br>29<br>30 | | | | 60 | 0<br>0 | | 0-54" light brown, fine to medium sands, well graded, silty sands mixed throughout, slightly moist<br>54-60" white/tan, clay very tight, dry | | |
| 31<br>32<br>33<br>34<br>35 | | | | 60 | 14.7<br>178<br>1.5 | | 0-42" light brown, fine to medium sand with silt, loose, moist, slight petroleum odor<br>42-54" grey/black, stained, fine to medium sands with silt, loose, moist, strong petroleum odor<br>54-60" brown silty sand, saturated, between loose and tight | SB-14(33.5-34.5) submitted for analysis | 33.5-34.5' bgs |
| 36<br>37<br>38<br>39<br>40 | | | | 60 | 102 | | 0-60" brown silty sand, saturated, between loose and tight<br>band of stained soil from 39.5-40.0' bgs | | |

**NOTES:** SB-14(0-1) and SB-14(33.5-34.5) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

Temporary well did not produce water.

Checked by _____ Date:_____

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
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| | | |
|---|---|---|
| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-15*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* Temporary |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval: 15-25'* |
| *Weather: Overcast, 60's chance of t-storms* | *Logged By: Dan Hulbert* *Date Started: 5/23/2012* | *Depth of Boring: 34'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/23/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 2 3 4 5 6 7 | | | | | | | Airknife to 7 ft. bgs. | SB-15(0-1) NOT submitted for analysis | 0-1' bgs |
| 8 9 10 | | | | 36 | 0.2 | | 0-36" tan/dark tan, fine to medium sands, loose, dry | | |
| 11 12 13 14 15 | | | | 45 | 0<br>0 | | 0-24" tan, fine to medium sands, loose, moist<br>24-45" tight white clay with red striations, confining layer | | |
| 16 17 18 19 20 | | | | 60 | 0<br>0 | | 0-50" tight white clay with red striations, confining layer<br>50-60" tan, medium sands, small gravel throughout, moist | | |
| 21 22 23 24 25 | | | | 60 | 0<br>0 | | 0-30" tan, medium sands, no gravel, loose, saturated<br>30-60" tight white clay with red striations, confining layer | SB-15(21-22) NOT submitted for analysis<br>collected within a saturated zone between two confining layers. Indicative of contamination in upper water table. | 21-22' bgs |
| 26 27 28 29 30 | | | | 60 | 0 | | 0-60" grey/tan, clay very tight, red striations, very dry, | | |
| 31 32 33 34 | | | | 48 | 0 | | 0-48" red, tight clay, dry<br>Refusal hit at 34' bgs | | |

**NOTES:** Temporary well did not produce water.

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | | ***BORING ID: SB-16*** |
| | *Project Number: 60268768.1* | | |
| | *Site Location: BWI Airport* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | | *Monitoring Well Installed:* Temporary |
| | *Sample Type(s): Grab* | *Boring Diameter:* | *Screened Interval: 23-33'* |
| *Weather: Overcast, 60's chance of t-storms* | *Logged By: Dan Hulbert* | *Date Started: 5/23/2012* | *Depth of Boring: 33'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* | *Date Finished: 5/23/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 2 3 4 5 | | | | | | | Airknife to 5ft. bgs. | SB-16(0-1) NOT submitted for analysis | 0-1' bgs |
| 6 7 8 9 10 | | | | 36 | 0<br>0 | | 0-26" light tan, fine to medium sands, dry, loose<br>26-36" tan, silty sand, tight, dry | | |
| 11 12 13 14 15 | | | | 48 | 0 | | 0-48" tan, fine sands with silty sands mixed throughout, dry | | |
| 16 17 18 19 20 | | | | 60 | 0 | | 0-60" tan, fine sands with silty sands mixed throughout, dry<br>moist at 18' bgs | SB-16(17-18) NOT submitted for analysis | 17-18' bgs |
| 21 22 23 24 25 | | | | 60 | 0<br>0 | | 0-8" tan, fine sands with silty sands mixed throughout, moist<br>8-60" white, clay very tight, dry | | |
| 26 27 28 29 30 | | | | 48 | 0 | | 0-48" tan/white very fine sands, tight, dry | | |
| 31 32 33 | | | | 30 | 0 | | 0-30" tan, fine to medium sands, saturated, loose<br>Refusal hit at 33' bgs | | |

**NOTES:** Temporary well did not produce water.

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
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Checked by _____ Date:_____

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|---|---|---|
| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-17*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed: No* |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval: N/A* |
| *Weather: Overcast, 60's chance of t-storms* | *Logged By: Dan Hulbert* *Date Started: 5/23/2012* | *Depth of Boring: 25'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/23/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1<br>2<br>3<br>4<br>5 | | | | | | | Airknife to 5ft. bgs. | SB-17(0-1)<br>NOT submitted<br>for analysis | 0-1' bgs |
| 6<br>7<br>8<br>9<br>10 | | | | 48 | 0 | | 0-48" tan, Arundel sands, dry, loose | SB-17(10-11) | |
| 11<br>12<br>13<br>14<br>15 | | | | 48 | 0<br>0 | | 0-12" tan, Arundel sands, dry, loose<br>12-48" tan, silty sand, barely moist | NOT submitted<br>for analysis | 10-11' bgs |
| 16<br>17<br>18<br>19<br>20 | | | | 60 | 0<br>0<br>0 | | 0-12" tan, silty sand, barely moist<br>12-55" tan, very fine silty sand with white clay throughout, very tight, moist to saturated<br>55-60" tan, medium sand with gravel, moist | | |
| 21<br>22<br>23<br>24<br>25 | | | | 60 | 0 | | 0-12" tan, medium sand with gravel, moist<br>12-50" tan, medium sand with trace gravel throughout, tight, moist<br>50-60" tan, very fine silty sand with white clay throughout, very tight, moist to saturated | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviation Administration | | ***BORING ID: SB-18*** |
| | *Project Number: 60268768.1* | | |
| | *Site Location: BWI Airport* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | | *Monitoring Well Installed:* Temporary |
| | *Sample Type(s): Grab* | *Boring Diameter:* | *Screened Interval: 27-37'* |
| *Weather: Overcast, 60's chance of t-storms* | *Logged By: Dan Hulbert* | *Date Started: 5/23/2012* | *Depth of Boring: 37'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* | *Date Finished: 5/23/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 2 3 4 5 | | | | | | | Airknife to 5 ft. bgs. | SB-18(0-1) submitted for analysis | 0-1' bgs |
| 6 7 8 9 10 | | | | 48 | 0 | | 0-48" brown, well-graded Arundel sands, dry, loose | | |
| 11 12 13 14 15 | | | | 55 | 0 | | 0-55 light brown, well-graded Arundel sands, trace silt, loose moist at 12' bgs. | SB-18(11-12) submitted for analysis | 11-12' bgs |
| 16 17 18 19 20 | | | | 60 | 0<br>0 | | 0-24" light brown, well-graded Arundel sands, trace silt, loose, moist<br>24-60" brown, Arundel sands with silt, moist, loose | | |
| 21 22 23 24 25 | | | | 60 | 0<br>0<br>0 | | 0-24" brown, Arundel sands with silt, moist, loose<br>24-30" brown, Arundel sands with silt, saturated, loose<br>30-60" light tan, very fine silty sand, tight, saturated | | |
| 26 27 28 29 30 | | | | 60 | 0 | | 0-60" light tan, very fine silty sand, white clayey sand throughout, tight, saturated | | |
| 31 32 33 34 35 | | | | 60 | 0 | | 0-60" light tan, very fine silty sand, white clayey sand throughout, tight, saturated | | |
| 36 37 | | | | 24 | 0 | | 0-24" white, clayey sands, very tigh<br>Refusal at 37' bgs. | | |

**NOTES:** SB-18(0-1) and SB-18(11-12) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

Temporary well did not produce water.

Checked by _____ Date:_____

| Date | Time | Depth to groundwater while drilling |
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|---|---|---|
| AECOM | *Client:* Maryland Aviation Administration | ***BORING ID: SB-19*** |
| | *Project Number: 60268768.1* | |
| | *Site Location: BWI Airport* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Direct Push/ GeoProbe* | *Monitoring Well Installed:* No |
| | *Sample Type(s): Grab* *Boring Diameter:* | *Screened Interval: N/A* |
| *Weather: Overcast, 60's chance of t-storms* | *Logged By: Dan Hulbert* *Date Started: 5/23/2012* | *Depth of Boring: 28.5'* |
| *Drilling Contractor: Connelly & Associates, Inc* | *Ground Elevation:* *Date Finished: 5/23/2012* | *Water Level: N/A* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Blows per 6" | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | Airknife to 5 ft. bgs. | SB-19(0-1) submitted for analysis | 0-1' bgs |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | 0 | | 0-30" light brown, fine to medium sands, loose dry | | |
| 7 | | | | | | | 30-42" light brown silty sands, dry | | |
| 8 | | | | 42 | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | | | | 0 | | 0-12" light brown silty sands, dry | | |
| 12 | | | | | 0 | | 12-34" white/tan, clay with very fine sand, tight, dry | | |
| 13 | | | | 60 | 0 | | 34-60" white/tan, fine sands, loose, dry | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | SB-19(14.5-15.5) submitted for analysis | 14.5-15.5' bgs |
| 16 | | | | | 0 | | 0-10" white/tan, fine sands, loose, dry | | |
| 17 | | | | | 0 | | 10-60" white/tan, clay with very fine sand, tight, moist | | |
| 18 | | | | 60 | | | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | 0 | | 0-24" light brown, clay with silt, soft, moist | | |
| 22 | | | | | 0 | | 24-60" white clay, tight, dry, red striations | | |
| 23 | | | | 60 | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | 0 | | 0-30" white clay, tight, dry, red striations | | |
| 27 | | | | 30 | | | | | |
| 28 | | | | | | | Refusal at 28.5' bgs | | |

**NOTES:** SB-19(0-1) and SB-19(14.5-15.5) were analyzed for VOCs plus oxygenates and TPH-DRO/ TPH-GRO

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

# ATTACHMENT 2

LABORATORY ANALYTICAL DATA

# Analytical Report for

## AECOM

## Certificate of Analysis No.: 12052509

**Project Manager: Scott Beatson**
**Project Name : MAA BWI Airport**
**Project Location: BWI Airport, MD**
**Project ID : 60268768**

**June 4, 2012**

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**
**Phone: (410) 747-8770**
**Fax: (410) 788-8723**

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800-932-9047
FAX 410-788-8723

# PHASE SEPARATION SCIENCE, INC.

June 4, 2012

**Scott Beatson**
**AECOM**
8320 Guilford Road, Ste. L
Columbia, MD 21046

Reference: PSS Work Order No: **12052509**
Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID.: 60268768

Dear Scott Beatson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order numbered **12052509**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on June 29, 2012. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

**Dan Prucnal**
Laboratory Manager

# Sample Summary

## Client Name: AECOM

## Project Name: MAA BWI Airport

**Project ID: 60268768**

**Work Order Number: 12052509**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 05/25/2012 at 01:20 pm

| Lab Sample Id | Sample Id | Matrix | Date/Time Collected |
|---|---|---|---|
| 12052509-001 | SB-14 (0-1) | SOIL | 05/24/2012 07:20 |
| 12052509-002 | SB-14 (33.5-34.5) | SOIL | 05/24/2012 08:45 |
| 12052509-003 | SB-12 (0-1) | SOIL | 05/23/2012 14:20 |
| 12052509-004 | SB-12 (14-15) | SOIL | 05/24/2012 07:20 |
| 12052509-005 | SB-18 (0-1) | SOIL | 05/23/2012 08:30 |
| 12052509-006 | SB-18 (11-12) | SOIL | 05/23/2012 09:00 |
| 12052509-007 | SB-6 (0-1) | SOIL | 05/24/2012 10:20 |
| 12052509-008 | SB-6 (12.5-13.5) | SOIL | 05/25/2012 07:40 |
| 12052509-009 | SB-5 (0-1) | SOIL | 05/24/2012 13:54 |
| 12052509-010 | SB-5 (14-15) | SOIL | 05/25/2012 08:10 |
| 12052509-011 | SB-1 (0-1) | SOIL | 05/24/2012 12:35 |
| 12052509-012 | SB-1 (9.5-10.5) | SOIL | 05/24/2012 14:30 |
| 12052509-013 | SB-4 (0-1) | SOIL | 05/24/2012 15:50 |
| 12052509-014 | SB-4 (14-15) | SOIL | 05/25/2012 10:00 |
| 12052509-015 | SB-19 (0-1) | SOIL | 05/23/2012 13:10 |
| 12052509-016 | SB-19 (14.5-15.5) | SOIL | 05/23/2012 14:50 |
| 12052509-017 | SB-7 (0-1) | SOIL | 05/23/2012 15:00 |
| 12052509-018 | SB-7 (14-15) | SOIL | 05/24/2012 10:15 |
| 12052509-019 | SB-2 (0-1) | SOIL | 05/24/2012 13:20 |
| 12052509-020 | SB-2 (14-15) | SOIL | 05/24/2012 15:05 |

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

**Notes:**

1. The presence of common laboratory contaminants such as acetone, methylene chloride and phthalates, may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

**Standard Flags/Abbreviations:**

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C Results Pending Final Confirmation.
E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J The target analyte was positively identified below the reporting limit but greater than the LOD.
LOD Limit of Detection. An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte and matrix specific.
ND Not Detected at or above the reporting limit.
RL PSS Reporting Limit.
U Not detected.

# Case Narrative Summary

## Client Name: AECOM

## Project Name: MAA BWI Airport

Project ID: 60268768 Work Order Number: 12052509

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

**Sample Receipt:**

All sample receipt conditions were acceptable.

**Analytical:**

**TCL Volatiles plus Oxygenates**

**Batch: 98558**
Surrogate exceedances identified; see surrogate summary form.

**Batch: 98568**
Laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) exceedances identified; see LCS summary form.

**NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.**

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-14 (0-1)** | **Date/Time Sampled: 05/24/2012 07:20** | **PSS Sample ID: 12052509-001** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 89** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **7.7** | mg/kg | 4.5 | DF | 1 | 05/29/12 | 05/29/12 16:18 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/29/12 | 05/29/12 22:43 | 1035 |

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## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

| | | |
|---|---|---|
| **Sample ID: SB-14 (0-1)** | **Date/Time Sampled: 05/24/2012 07:20** | **PSS Sample ID: 12052509-001** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 89** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Chloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Bromomethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Chloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Chloroform | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Benzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Trichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-14 (0-1)** **Date/Time Sampled: 05/24/2012 07:20** **PSS Sample ID: 12052509-001**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 89**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Toluene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 2-Hexanone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Bromoform | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Styrene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| o-Xylene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| Naphthalene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 21:14 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-14 (33.5-34.5)** | **Date/Time Sampled: 05/24/2012 08:45** | **PSS Sample ID: 12052509-002** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 86** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **64** | mg/kg | 4.6 | | 1 | 05/29/12 | 05/29/12 16:18 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | **16,000** | ug/kg | 580 | | 5 | 05/30/12 | 05/30/12 13:20 | 1035 |

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## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-14 (33.5-34.5)** **Date/Time Sampled: 05/24/2012 08:45** **PSS Sample ID: 12052509-002**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 86**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Chloromethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Vinyl Chloride | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 230 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Bromomethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Chloroethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Acetone | ND | ug/kg | 110 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Cyclohexane | ND | ug/kg | 110 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Methylene Chloride | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 110 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Bromochloromethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Chloroform | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Benzene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Carbon Disulfide | ND | ug/kg | 56 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Methylcyclohexane | ND | ug/kg | 110 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Trichloroethene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Methyl Acetate | ND | ug/kg | 110 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Bromodichloromethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-14 (33.5-34.5)** | **Date/Time Sampled: 05/24/2012 08:45** | **PSS Sample ID: 12052509-002** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 86** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 110 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Toluene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 2-Hexanone | ND | ug/kg | 110 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Dibromochloromethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 56 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 230 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Diisopropyl ether | ND | ug/kg | 56 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 230 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 230 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Bromoform | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Tetrachloroethene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Chlorobenzene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Ethylbenzene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| m,p-Xylenes | ND | ug/kg | 56 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Styrene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| o-Xylene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Isopropylbenzene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 230 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| Naphthalene | **36** | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 28 | | 1 | 06/02/12 | 06/02/12 08:57 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-12 (0-1)** | **Date/Time Sampled: 05/23/2012 14:20** | **PSS Sample ID: 12052509-003** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 89** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **9.7** | mg/kg | 4.5 | DF | 1 | 05/29/12 | 05/29/12 17:05 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/29/12 | 05/29/12 23:38 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-12 (0-1)** **Date/Time Sampled: 05/23/2012 14:20** **PSS Sample ID: 12052509-003**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 89**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Chloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Bromomethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Chloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Chloroform | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Benzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Trichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-12 (0-1)** | **Date/Time Sampled: 05/23/2012 14:20** | **PSS Sample ID: 12052509-003** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 89** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Toluene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 2-Hexanone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Bromoform | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Styrene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| o-Xylene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| Naphthalene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/01/12 22:13 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-12 (14-15)** | **Date/Time Sampled: 05/24/2012 07:20** | **PSS Sample ID: 12052509-004** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 94** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.2 | | 1 | 05/29/12 | 05/29/12 15:54 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 05/29/12 | 05/30/12 00:05 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-12 (14-15)** | **Date/Time Sampled: 05/24/2012 07:20** | **PSS Sample ID: 12052509-004** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 94** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Chloromethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 41 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Bromomethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Chloroethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Chloroform | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Benzene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Carbon Disulfide | ND | ug/kg | 10 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Trichloroethene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-12 (14-15)** | **Date/Time Sampled: 05/24/2012 07:20** | **PSS Sample ID: 12052509-004** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 94** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Toluene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 2-Hexanone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 10 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 41 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Diisopropyl ether | ND | ug/kg | 10 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 41 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 41 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Bromoform | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| m,p-Xylenes | ND | ug/kg | 10 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Styrene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| o-Xylene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 41 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| Naphthalene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.2 | | 1 | 06/01/12 | 06/01/12 22:42 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-18 (0-1)** | **Date/Time Sampled: 05/23/2012 08:30** | **PSS Sample ID: 12052509-005** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 97** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **110** | mg/kg | 40 | DF | 10 | 05/29/12 | 05/29/12 20:36 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 05/29/12 | 05/30/12 00:33 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-18 (0-1)** **Date/Time Sampled: 05/23/2012 08:30** **PSS Sample ID: 12052509-005**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 97**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Chloromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Bromomethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Chloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Chloroform | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Benzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Trichloroethene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-18 (0-1)** | **Date/Time Sampled: 05/23/2012 08:30** | **PSS Sample ID: 12052509-005** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 97** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Toluene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 2-Hexanone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Bromoform | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Styrene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| o-Xylene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| Naphthalene | **9.1** | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/01/12 23:12 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-18 (11-12)** | **Date/Time Sampled: 05/23/2012 09:00** | **PSS Sample ID: 12052509-006** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 90** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.4 | | 1 | 05/29/12 | 05/29/12 17:05 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/29/12 | 05/30/12 01:00 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

| | | |
|---|---|---|
| **Sample ID: SB-18 (11-12)** | **Date/Time Sampled: 05/23/2012 09:00** | **PSS Sample ID: 12052509-006** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 90** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Chloromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Bromomethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Chloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Chloroform | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Benzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Trichloroethene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-18 (11-12)** **Date/Time Sampled: 05/23/2012 09:00** **PSS Sample ID: 12052509-006**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 90**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Toluene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 2-Hexanone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Bromoform | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Styrene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| o-Xylene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| Naphthalene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/01/12 23:41 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-6 (0-1)** | **Date/Time Sampled: 05/24/2012 10:20** | **PSS Sample ID: 12052509-007** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 85** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.7 | | 1 | 05/29/12 | 05/29/12 17:28 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 590 | | 5 | 05/30/12 | 05/31/12 00:16 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-6 (0-1)** **Date/Time Sampled: 05/24/2012 10:20** **PSS Sample ID: 12052509-007**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 85**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Chloromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 47 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Bromomethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Chloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Acetone | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Cyclohexane | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Chloroform | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Benzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Carbon Disulfide | ND | ug/kg | 12 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Methylcyclohexane | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Trichloroethene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Methyl Acetate | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-6 (0-1)** | **Date/Time Sampled: 05/24/2012 10:20** | **PSS Sample ID: 12052509-007** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 85** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Toluene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 2-Hexanone | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 12 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 47 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Diisopropyl ether | ND | ug/kg | 12 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 47 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 47 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Bromoform | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| m,p-Xylenes | ND | ug/kg | 12 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Styrene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| o-Xylene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 47 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| Naphthalene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 00:10 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-6 (12.5-13.5)** | **Date/Time Sampled: 05/25/2012 07:40** | **PSS Sample ID: 12052509-008** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 93** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.3 | | 1 | 05/29/12 | 05/29/12 17:52 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/29/12 | 05/30/12 01:55 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-6 (12.5-13.5)** | **Date/Time Sampled: 05/25/2012 07:40** | **PSS Sample ID: 12052509-008** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 93** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Chloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Bromomethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Chloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Chloroform | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Benzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Trichloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-6 (12.5-13.5)** | **Date/Time Sampled: 05/25/2012 07:40** | **PSS Sample ID: 12052509-008** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 93** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Toluene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 2-Hexanone | ND | ug/kg | 22 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Bromoform | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Styrene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| o-Xylene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 44 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| Naphthalene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/01/12 | 06/02/12 00:40 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-5 (0-1)** | **Date/Time Sampled: 05/24/2012 13:54** | **PSS Sample ID: 12052509-009** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 93** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **7.2** | mg/kg | 4.3 | DF | 1 | 05/29/12 | 05/29/12 18:15 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/30/12 | 05/30/12 11:57 | 1035 |

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## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-5 (0-1)** **Date/Time Sampled: 05/24/2012 13:54** **PSS Sample ID: 12052509-009**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 93**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Chloromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Bromomethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Chloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Chloroform | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Benzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Trichloroethene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-5 (0-1)** | **Date/Time Sampled: 05/24/2012 13:54** | **PSS Sample ID: 12052509-009** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 93** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Toluene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 2-Hexanone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Bromoform | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Styrene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| o-Xylene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 43 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| Naphthalene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/01/12 | 06/02/12 01:09 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-5 (14-15)** | **Date/Time Sampled: 05/25/2012 08:10** | **PSS Sample ID: 12052509-010** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 86** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.6 | | 1 | 05/29/12 | 05/29/12 17:28 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/29/12 | 05/30/12 02:49 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

| | | |
|---|---|---|
| **Sample ID: SB-5 (14-15)** | **Date/Time Sampled: 05/25/2012 08:10** | **PSS Sample ID: 12052509-010** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 86** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Chloromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 48 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Bromomethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Chloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Acetone | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Cyclohexane | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Chloroform | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Benzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Carbon Disulfide | ND | ug/kg | 12 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Methylcyclohexane | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Trichloroethene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Methyl Acetate | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-5 (14-15)** **Date/Time Sampled: 05/25/2012 08:10** **PSS Sample ID: 12052509-010**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 86**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Toluene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 2-Hexanone | ND | ug/kg | 24 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 12 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 48 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Diisopropyl ether | ND | ug/kg | 12 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 48 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 48 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Bromoform | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| m,p-Xylenes | ND | ug/kg | 12 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Styrene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| o-Xylene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 48 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| Naphthalene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.9 | | 1 | 06/01/12 | 06/02/12 01:39 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-1 (0-1)** | **Date/Time Sampled: 05/24/2012 12:35** | **PSS Sample ID: 12052509-011** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 94** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.2 | | 1 | 05/29/12 | 05/29/12 18:15 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 05/29/12 | 05/30/12 03:17 | 1035 |

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## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-1 (0-1)** **Date/Time Sampled: 05/24/2012 12:35** **PSS Sample ID: 12052509-011**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 94**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Chloromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 42 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Bromomethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Chloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Chloroform | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Benzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Trichloroethene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |

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## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

| | | |
|---|---|---|
| **Sample ID: SB-1 (0-1)** | **Date/Time Sampled: 05/24/2012 12:35** | **PSS Sample ID: 12052509-011** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 94** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Toluene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 2-Hexanone | ND | ug/kg | 21 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 42 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 42 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 42 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Bromoform | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Styrene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| o-Xylene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 42 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| Naphthalene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/01/12 | 06/02/12 02:08 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-1 (9.5-10.5)** | **Date/Time Sampled: 05/24/2012 14:30** | **PSS Sample ID: 12052509-012** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 88** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.5 | | 1 | 05/29/12 | 05/29/12 19:02 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/29/12 | 05/30/12 03:44 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-1 (9.5-10.5)** | **Date/Time Sampled: 05/24/2012 14:30** | **PSS Sample ID: 12052509-012** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 88** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Chloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Bromomethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Chloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Acetone | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Chloroform | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Benzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Trichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-1 (9.5-10.5)** | **Date/Time Sampled: 05/24/2012 14:30** | **PSS Sample ID: 12052509-012** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 88** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Toluene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 2-Hexanone | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Bromoform | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Styrene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| o-Xylene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| Naphthalene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 09:26 | 1011 |

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**800-932-9047**
**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-4 (0-1)** | **Date/Time Sampled: 05/24/2012 15:50** | **PSS Sample ID: 12052509-013** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 95** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **6.7** | mg/kg | 4.2 | DF | 1 | 05/29/12 | 05/29/12 19:02 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 05/29/12 | 05/30/12 04:11 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-4 (0-1)** **Date/Time Sampled: 05/24/2012 15:50** **PSS Sample ID: 12052509-013**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 95**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Chloromethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 42 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Bromomethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Chloroethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Chloroform | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Benzene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Trichloroethene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-4 (0-1)** | **Date/Time Sampled: 05/24/2012 15:50** | **PSS Sample ID: 12052509-013** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 95** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 21 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Toluene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 2-Hexanone | ND | ug/kg | 21 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 42 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 42 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 42 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Bromoform | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Styrene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| o-Xylene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 42 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| Naphthalene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 06/02/12 | 06/02/12 10:55 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-4 (14-15)** | **Date/Time Sampled: 05/25/2012 10:00** | **PSS Sample ID: 12052509-014** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 94** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.2 | | 1 | 05/29/12 | 05/29/12 19:26 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/29/12 | 05/30/12 04:39 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-4 (14-15)** **Date/Time Sampled: 05/25/2012 10:00** **PSS Sample ID: 12052509-014**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 94**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Chloromethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 43 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Bromomethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Chloroethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Chloroform | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Benzene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Trichloroethene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-4 (14-15)** **Date/Time Sampled: 05/25/2012 10:00** **PSS Sample ID: 12052509-014**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 94**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Toluene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 2-Hexanone | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 43 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 43 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 43 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Bromoform | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Styrene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| o-Xylene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 43 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| Naphthalene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 06/02/12 | 06/02/12 11:24 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-19 (0-1)** | **Date/Time Sampled: 05/23/2012 13:10** | **PSS Sample ID: 12052509-015** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 88** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **9.8** | mg/kg | 4.5 | DF | 1 | 05/29/12 | 05/29/12 19:26 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/30/12 | 05/30/12 12:25 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-19 (0-1)** **Date/Time Sampled: 05/23/2012 13:10** **PSS Sample ID: 12052509-015**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 88**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Chloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Bromomethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Chloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Acetone | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Chloroform | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Benzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Trichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

**Sample ID: SB-19 (0-1)** **Date/Time Sampled: 05/23/2012 13:10** **PSS Sample ID: 12052509-015**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 88**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Toluene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 2-Hexanone | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Bromoform | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Styrene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| o-Xylene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| Naphthalene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 11:54 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-19 (14.5-15.5)** | **Date/Time Sampled: 05/23/2012 14:50** | **PSS Sample ID: 12052509-016** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 90** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.4 | | 1 | 05/29/12 | 05/29/12 19:49 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/29/12 | 05/30/12 05:34 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-19 (14.5-15.5)** **Date/Time Sampled: 05/23/2012 14:50** **PSS Sample ID: 12052509-016**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 90**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Chloromethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 45 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Bromomethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Chloroethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Chloroform | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Benzene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Trichloroethene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-19 (14.5-15.5)** **Date/Time Sampled: 05/23/2012 14:50** **PSS Sample ID: 12052509-016**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 90**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Toluene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 2-Hexanone | ND | ug/kg | 22 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 45 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 45 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 45 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Bromoform | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Styrene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| o-Xylene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 45 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| Naphthalene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.6 | | 1 | 06/02/12 | 06/02/12 12:23 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-7 (0-1)** | **Date/Time Sampled: 05/23/2012 15:00** | **PSS Sample ID: 12052509-017** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 90** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **35** | mg/kg | 4.4 | DF | 1 | 05/29/12 | 05/29/12 19:49 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/29/12 | 05/30/12 06:01 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

| | | |
|---|---|---|
| **Sample ID: SB-7 (0-1)** | **Date/Time Sampled: 05/23/2012 15:00** | **PSS Sample ID: 12052509-017** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 90** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Chloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Bromomethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Chloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Acetone | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Chloroform | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Benzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Trichloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-7 (0-1)** **Date/Time Sampled: 05/23/2012 15:00** **PSS Sample ID: 12052509-017**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 90**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Toluene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 2-Hexanone | ND | ug/kg | 23 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Bromoform | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Styrene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| o-Xylene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 46 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| Naphthalene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/02/12 | 06/02/12 12:53 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-7 (14-15)** | **Date/Time Sampled: 05/24/2012 10:15** | **PSS Sample ID: 12052509-018** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 91** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.3 | | 1 | 05/29/12 | 05/29/12 20:12 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/30/12 | 05/30/12 09:39 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-7 (14-15)** **Date/Time Sampled: 05/24/2012 10:15** **PSS Sample ID: 12052509-018**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 91**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Chloromethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 45 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Bromomethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Chloroethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Acetone | ND | ug/kg | 23 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Chloroform | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Benzene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Trichloroethene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

**Sample ID: SB-7 (14-15)** **Date/Time Sampled: 05/24/2012 10:15** **PSS Sample ID: 12052509-018**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 91**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 23 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Toluene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 2-Hexanone | ND | ug/kg | 23 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 45 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 45 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 45 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Bromoform | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Styrene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| o-Xylene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 45 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| Naphthalene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 06/03/12 | 06/03/12 11:56 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-2 (0-1)** | **Date/Time Sampled: 05/24/2012 13:20** | **PSS Sample ID: 12052509-019** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 92** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **14** | mg/kg | 4.3 | DF | 1 | 05/29/12 | 05/29/12 20:12 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 05/30/12 | 05/30/12 10:35 | 1035 |

**OFFICES:**
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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-2 (0-1)** | **Date/Time Sampled: 05/24/2012 13:20** | **PSS Sample ID: 12052509-019** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 92** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

*Pending Confirmation*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Chloromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 44 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Bromomethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Chloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Chloroform | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Benzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Trichloroethene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

**Sample ID: SB-2 (0-1)** **Date/Time Sampled: 05/24/2012 13:20** **PSS Sample ID: 12052509-019**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 92**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

*Pending Confirmation*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Toluene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 2-Hexanone | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 44 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 44 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 44 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Bromoform | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Styrene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| o-Xylene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 44 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| Naphthalene | **130** | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:24 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-2 (14-15)** | **Date/Time Sampled: 05/24/2012 15:05** | **PSS Sample ID: 12052509-020** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 88** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.5 | | 1 | 05/29/12 | 05/29/12 20:36 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 570 | | 5 | 05/30/12 | 05/31/12 00:43 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

DRAFT

**Sample ID: SB-2 (14-15)** **Date/Time Sampled: 05/24/2012 15:05** **PSS Sample ID: 12052509-020**
**Matrix: SOIL** **Date/Time Received: 05/25/2012 13:20** **% Solids: 88**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Chloromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 44 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Bromomethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Chloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Methylene Chloride | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Chloroform | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Benzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Trichloroethene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12052509
**AECOM, Columbia, MD**
June 4, 2012

Project Name: MAA BWI Airport
Project Location: BWI Airport, MD
Project ID: 60268768

D R A F T

| | | |
|---|---|---|
| **Sample ID: SB-2 (14-15)** | **Date/Time Sampled: 05/24/2012 15:05** | **PSS Sample ID: 12052509-020** |
| **Matrix: SOIL** | **Date/Time Received: 05/25/2012 13:20** | **% Solids: 88** |

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Toluene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 2-Hexanone | ND | ug/kg | 22 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 44 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 44 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 44 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Bromoform | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| m,p-Xylenes | ND | ug/kg | 11 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Styrene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| o-Xylene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 44 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| Naphthalene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 06/03/12 | 06/03/12 13:54 | 1011 |

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98492 **Sample:** 12052509-001 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 17.0 | 33.10 | 53 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-002 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 23.0 | 33.10 | 70 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-003 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 19.0 | 33.10 | 57 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-004 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 26.0 | 32.90 | 80 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-004 S / MS **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 23.6 | 33.30 | 71 | 10-189 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98492 **Sample:** 12052509-004 SD / MSD **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 22.9 | 33.30 | 69 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-005 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 22.0 | 32.70 | 67 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-006 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 19.0 | 33.10 | 57 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-007 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 19.0 | 33.00 | 57 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-008 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 24.0 | 33.00 | 71 | 10-189 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98492 **Sample:** 12052509-009 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 23.0 | 33.10 | 71 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-010 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 23.0 | 33.10 | 69 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-011 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 21.0 | 32.80 | 64 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-012 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 22.0 | 33.10 | 66 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-013 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 29.0 | 33.10 | 86 | 10-189 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98492 **Sample:** 12052509-014 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 26.0 | 33.00 | 78 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-015 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 18.0 | 33.00 | 55 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-016 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 21.0 | 32.90 | 65 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-017 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 18.0 | 33.20 | 56 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-018 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 18.0 | 32.70 | 54 | 10-189 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98492 **Sample:** 12052509-019 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 22.0 | 33.00 | 67 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 12052509-020 / SMP **Matrix:** Soil

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 20.0 | 32.70 | 62 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 41626-1-BKS / BKS **Matrix:** Solid

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 24.6 | 33.30 | 74 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 41626-1-BLK / BLK **Matrix:** Solid

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 29.3 | 33.30 | 88 | 10-189 | |

**Lab Batch #:** 98492 **Sample:** 41626-1-BSD / BSD **Matrix:** Solid

**Units:** mg/kg

| Total Petroleum Hydrocarbons - DRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| o-Terphenyl | 30.0 | 33.30 | 90 | 10-189 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98494 **Sample:** 12052509-001 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 91.0 | 100 | 91 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-003 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 91.0 | 100 | 91 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-004 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 94.0 | 100 | 94 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-005 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 87.0 | 100 | 87 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-006 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 93.0 | 100 | 93 | 51-122 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98494 **Sample:** 12052509-008 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 91.0 | 100 | 91 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-010 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 95.0 | 100 | 95 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-011 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 91.0 | 100 | 91 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-012 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 93.0 | 100 | 93 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-013 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 92.0 | 100 | 92 | 51-122 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98494 **Sample:** 12052509-014 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 92.0 | 100 | 92 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-014 S / MS **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 105 | 100 | 105 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-014 SD / MSD **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 102 | 100 | 102 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-016 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 94.0 | 100 | 94 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 12052509-017 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 88.0 | 100 | 88 | 51-122 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98494 **Sample:** 41640-2-BKS / BKS **Matrix:** Solid

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 102 | 100 | 102 | 51-122 | |

**Lab Batch #:** 98494 **Sample:** 41640-2-BLK / BLK **Matrix:** Solid

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 86.8 | 100 | 87 | 51-122 | |

**Lab Batch #:** 98515 **Sample:** 12052509-002 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 94.0 | 100 | 94 | 51-122 | |

**Lab Batch #:** 98515 **Sample:** 12052509-009 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 94.0 | 100 | 94 | 51-122 | |

**Lab Batch #:** 98515 **Sample:** 12052509-015 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 92.0 | 100 | 92 | 51-122 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98515 **Sample:** 12052509-018 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 90.0 | 100 | 90 | 51-122 | |

**Lab Batch #:** 98515 **Sample:** 12052509-019 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 92.0 | 100 | 92 | 51-122 | |

**Lab Batch #:** 98515 **Sample:** 12052511-007 S / MS **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 100 | 100 | 100 | 51-122 | |

**Lab Batch #:** 98515 **Sample:** 12052511-007 SD / MSD **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 103 | 100 | 103 | 51-122 | |

**Lab Batch #:** 98515 **Sample:** 41654-2-BKS / BKS **Matrix:** Solid

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 99.3 | 100 | 99 | 51-122 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98515 **Sample:** 41654-2-BLK / BLK **Matrix:** Solid

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 90.5 | 100 | 90 | 51-122 | |

**Lab Batch #:** 98517 **Sample:** 12052509-007 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 90.0 | 100 | 90 | 51-122 | |

**Lab Batch #:** 98517 **Sample:** 12052509-020 / SMP **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 92.0 | 100 | 92 | 51-122 | |

**Lab Batch #:** 98517 **Sample:** 12053008-003 S / MS **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 99.0 | 100 | 99 | 51-122 | |

**Lab Batch #:** 98517 **Sample:** 12053008-003 SD / MSD **Matrix:** Soil

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| a,a,a-Trifluorotoluene | 105 | 100 | 105 | 51-122 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98517 **Sample:** 41655-2-BKS / BKS **Matrix:** Solid

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| a,a,a-Trifluorotoluene | 97.1 | 100 | 97 | 51-122 | |

**Lab Batch #:** 98517 **Sample:** 41655-2-BLK / BLK **Matrix:** Solid

**Units:** ug/kg

| Total Petroleum Hydrocarbons-GRO Analytes | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| | Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
| a,a,a-Trifluorotoluene | 87.1 | 100 | 87 | 51-122 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98558 **Sample:** 12052504-001 S / MS **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 48.5 | 50.00 | 97 | 89-116 | |
| Toluene-D8 | 50.7 | 50.00 | 101 | 89-106 | |
| 4-Bromofluorobenzene | 52.8 | 50.00 | 106 | 76-114 | |

**Lab Batch #:** 98558 **Sample:** 12052504-001 SD / MSD **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 49.2 | 50.00 | 98 | 89-116 | |
| Toluene-D8 | 49.5 | 50.00 | 99 | 89-106 | |
| 4-Bromofluorobenzene | 52.7 | 50.00 | 105 | 76-114 | |

**Lab Batch #:** 98558 **Sample:** 12052509-001 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 49.0 | 50.00 | 99 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 99 | 89-106 | |
| 4-Bromofluorobenzene | 56.0 | 50.00 | 112 | 76-114 | |

**Lab Batch #:** 98558 **Sample:** 12052509-003 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 47.0 | 50.00 | 94 | 89-116 | |
| Toluene-D8 | 51.0 | 50.00 | 101 | 89-106 | |
| 4-Bromofluorobenzene | 54.0 | 50.00 | 108 | 76-114 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98558 **Sample:** 12052509-004 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 49.0 | 50.00 | 99 | 89-116 | |
| Toluene-D8 | 50.0 | 50.00 | 100 | 89-106 | |
| 4-Bromofluorobenzene | 56.0 | 50.00 | 112 | 76-114 | |

**Lab Batch #:** 98558 **Sample:** 12052509-005 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 67.0 | 50.00 | 134 | 89-116 | * |
| Toluene-D8 | 40.0 | 50.00 | 81 | 89-106 | * |
| 4-Bromofluorobenzene | 44.0 | 50.00 | 89 | 76-114 | |

**Lab Batch #:** 98558 **Sample:** 12052509-006 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 48.0 | 50.00 | 97 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 99 | 89-106 | |
| 4-Bromofluorobenzene | 56.0 | 50.00 | 113 | 76-114 | |

**Lab Batch #:** 98558 **Sample:** 12052509-007 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 49.0 | 50.00 | 97 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 98 | 89-106 | |
| 4-Bromofluorobenzene | 56.0 | 50.00 | 113 | 76-114 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98558 **Sample:** 12052509-008 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 49.0 | 50.00 | 97 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 99 | 89-106 | |
| 4-Bromofluorobenzene | 57.0 | 50.00 | 113 | 76-114 | |

**Lab Batch #:** 98558 **Sample:** 12052509-009 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 49.0 | 50.00 | 97 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 99 | 89-106 | |
| 4-Bromofluorobenzene | 57.0 | 50.00 | 113 | 76-114 | |

**Lab Batch #:** 98558 **Sample:** 12052509-010 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 55.0 | 50.00 | 111 | 89-116 | |
| Toluene-D8 | 59.0 | 50.00 | 117 | 89-106 | * |
| 4-Bromofluorobenzene | 57.0 | 50.00 | 113 | 76-114 | |

**Lab Batch #:** 98558 **Sample:** 12052509-011 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 49.0 | 50.00 | 98 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 99 | 89-106 | |
| 4-Bromofluorobenzene | 56.0 | 50.00 | 113 | 76-114 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98558 **Sample:** 41674-1-BKS / BKS **Matrix:** Solid

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 50.2 | 50.00 | 100 | 89-116 | |
| Toluene-D8 | 49.1 | 50.00 | 98 | 89-106 | |
| 4-Bromofluorobenzene | 52.6 | 50.00 | 105 | 76-114 | |

**Lab Batch #:** 98558 **Sample:** 41674-1-BLK / BLK **Matrix:** Solid

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 49.5 | 50.00 | 99 | 89-116 | |
| Toluene-D8 | 49.6 | 50.00 | 99 | 89-106 | |
| 4-Bromofluorobenzene | 55.5 | 50.00 | 111 | 76-114 | |

**Lab Batch #:** 98559 **Sample:** 12052509-002 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 46.0 | 50.00 | 92 | 89-116 | |
| Toluene-D8 | 51.0 | 50.00 | 102 | 89-106 | |
| 4-Bromofluorobenzene | 53.0 | 50.00 | 107 | 76-114 | |

**Lab Batch #:** 98559 **Sample:** 12052509-012 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 50.0 | 50.00 | 99 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 99 | 89-106 | |
| 4-Bromofluorobenzene | 53.0 | 50.00 | 106 | 76-114 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98559 **Sample:** 12052509-012 S / MS **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 48.2 | 50.00 | 96 | 89-116 | |
| Toluene-D8 | 50.0 | 50.00 | 100 | 89-106 | |
| 4-Bromofluorobenzene | 53.4 | 50.00 | 107 | 76-114 | |

**Lab Batch #:** 98559 **Sample:** 12052509-012 SD / MSD **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 47.8 | 50.00 | 96 | 89-116 | |
| Toluene-D8 | 49.7 | 50.00 | 99 | 89-106 | |
| 4-Bromofluorobenzene | 54.3 | 50.00 | 109 | 76-114 | |

**Lab Batch #:** 98559 **Sample:** 12052509-013 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 48.0 | 50.00 | 95 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 97 | 89-106 | |
| 4-Bromofluorobenzene | 57.0 | 50.00 | 115 | 76-114 | * |

**Lab Batch #:** 98559 **Sample:** 12052509-014 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 47.0 | 50.00 | 95 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 98 | 89-106 | |
| 4-Bromofluorobenzene | 57.0 | 50.00 | 115 | 76-114 | * |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98559 **Sample:** 12052509-015 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 48.0 | 50.00 | 96 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 97 | 89-106 | |
| 4-Bromofluorobenzene | 58.0 | 50.00 | 117 | 76-114 | * |

**Lab Batch #:** 98559 **Sample:** 12052509-016 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 47.0 | 50.00 | 95 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 98 | 89-106 | |
| 4-Bromofluorobenzene | 57.0 | 50.00 | 114 | 76-114 | |

**Lab Batch #:** 98559 **Sample:** 12052509-017 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 48.0 | 50.00 | 95 | 89-116 | |
| Toluene-D8 | 49.0 | 50.00 | 98 | 89-106 | |
| 4-Bromofluorobenzene | 58.0 | 50.00 | 116 | 76-114 | * |

**Lab Batch #:** 98559 **Sample:** 41676-1-BKS / BKS **Matrix:** Solid

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 47.5 | 50.00 | 95 | 89-116 | |
| Toluene-D8 | 49.5 | 50.00 | 99 | 89-106 | |
| 4-Bromofluorobenzene | 56.4 | 50.00 | 113 | 76-114 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98559 **Sample:** 41676-1-BLK / BLK **Matrix:** Solid

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 47.5 | 50.00 | 95 | 89-116 | |
| Toluene-D8 | 48.5 | 50.00 | 97 | 89-106 | |
| 4-Bromofluorobenzene | 57.2 | 50.00 | 114 | 76-114 | |

**Lab Batch #:** 98568 **Sample:** 12052509-018 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 49.0 | 50.00 | 99 | 89-116 | |
| Toluene-D8 | 50.0 | 50.00 | 100 | 89-106 | |
| 4-Bromofluorobenzene | 50.0 | 50.00 | 100 | 76-114 | |

**Lab Batch #:** 98568 **Sample:** 12052509-018 S / MS **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 45.2 | 50.00 | 90 | 89-116 | |
| Toluene-D8 | 50.5 | 50.00 | 101 | 89-106 | |
| 4-Bromofluorobenzene | 47.5 | 50.00 | 95 | 76-114 | |

**Lab Batch #:** 98568 **Sample:** 12052509-018 SD / MSD **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 50.9 | 50.00 | 102 | 89-116 | |
| Toluene-D8 | 48.5 | 50.00 | 97 | 89-106 | |
| 4-Bromofluorobenzene | 46.9 | 50.00 | 94 | 76-114 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Form 2 - Surrogate Recoveries

## Project Name: MAA BWI Airport

06/04/2012

**Work Order #:** 12052509 **Project ID:** 60268768

**Lab Batch #:** 98568 **Sample:** 12052509-019 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 74.0 | 50.00 | 148 | 89-116 | * |
| Toluene-D8 | 45.0 | 50.00 | 91 | 89-106 | |
| 4-Bromofluorobenzene | 64.0 | 50.00 | 128 | 76-114 | * |

**Lab Batch #:** 98568 **Sample:** 12052509-020 / SMP **Matrix:** Soil

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 51.0 | 50.00 | 102 | 89-116 | |
| Toluene-D8 | 48.0 | 50.00 | 97 | 89-106 | |
| 4-Bromofluorobenzene | 49.0 | 50.00 | 99 | 76-114 | |

**Lab Batch #:** 98568 **Sample:** 41677-1-BKS / BKS **Matrix:** Solid

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 48.2 | 50.00 | 96 | 89-116 | |
| Toluene-D8 | 48.5 | 50.00 | 97 | 89-106 | |
| 4-Bromofluorobenzene | 46.6 | 50.00 | 93 | 76-114 | |

**Lab Batch #:** 98568 **Sample:** 41677-1-BLK / BLK **Matrix:** Solid

**Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [C] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| Dibromofluoromethane | 50.6 | 50.00 | 101 | 89-116 | |
| Toluene-D8 | 46.1 | 50.00 | 92 | 89-106 | |
| 4-Bromofluorobenzene | 48.6 | 50.00 | 97 | 76-114 | |

* Surrogate outside of Laboratory QC limits

Surrogate Recovery [C] = 100 * A / B

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

# Blank Spike Recovery

## Project Name: MAA BWI Airport

**Work Order #:** 12052509 **Project ID:** 60268768

**Prep Batch #:** 41640 **Date Prepared:** 05/29/2012 **Sample ID:** 41640-2-BKS **Matrix:** Solid
**Lab Batch ID:** 98494 **Date Analyzed:** 05/29/2012 **Analyst:** 1035
**Reporting Units:** ug/kg

**BLANK /BLANK SPIKE RECOVERY STUDY**

| Total Petroleum Hydrocarbons-GRO Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | <98.23 | 4912 | 3889 | 79 | 56-100 | |

**Prep Batch #:** 41654 **Date Prepared:** 05/30/2012 **Sample ID:** 41654-2-BKS **Matrix:** Solid
**Lab Batch ID:** 98515 **Date Analyzed:** 05/30/2012 **Analyst:** 1035
**Reporting Units:** ug/kg

**BLANK /BLANK SPIKE RECOVERY STUDY**

| Total Petroleum Hydrocarbons-GRO Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | <98.43 | 4921 | 4019 | 82 | 56-100 | |

**Prep Batch #:** 41655 **Date Prepared:** 05/30/2012 **Sample ID:** 41655-2-BKS **Matrix:** Solid
**Lab Batch ID:** 98517 **Date Analyzed:** 05/30/2012 **Analyst:** 1035
**Reporting Units:** ug/kg

**BLANK /BLANK SPIKE RECOVERY STUDY**

| Total Petroleum Hydrocarbons-GRO Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | <99.40 | 4970 | 3645 | 73 | 56-100 | |

Blank Spike Recovery [D] = 100*(([C]-[A])/[B])

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

# Blank Spike Recovery

## Project Name: MAA BWI Airport

**Work Order #:** 12052509 **Project ID:** 60268768

**Prep Batch #:** 41674 **Date Prepared:** 06/01/2012 **Sample ID:** 41674-1-BKS **Matrix:** Solid

**Lab Batch ID:** 98558 **Date Analyzed:** 06/01/2012 **Analyst:** 1011

**Reporting Units:** ug/kg

**BLANK /BLANK SPIKE RECOVERY STUDY**

| TCL Volatiles plus Oxygenates<br>Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags | Marginal Exceedance Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <5.092 | 61.10 | 51.62 | 84 | 38-157 | | 18-177 |
| Chloromethane | <5.092 | 61.10 | 50.46 | 83 | 64-116 | | 55-125 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <5.092 | 61.10 | 50.07 | 82 | 55-142 | | 40-157 |
| Vinyl Chloride | <5.092 | 61.10 | 50.71 | 83 | 62-120 | | 52-130 |
| tert-Butyl alcohol | <40.73 | 61.10 | 52.19 | 85 | 67-112 | | 59-120 |
| Bromomethane | <5.092 | 61.10 | 53.26 | 87 | 57-141 | | 44-155 |
| Chloroethane | <5.092 | 61.10 | 53.13 | 87 | 68-123 | | 59-132 |
| Acetone | <20.37 | 61.10 | 49.31 | 81 | 57-124 | | 45-136 |
| Cyclohexane | <20.37 | 61.10 | 47.46 | 78 | 62-109 | | 54-117 |
| Trichlorofluoromethane | <5.092 | 61.10 | 54.06 | 88 | 52-149 | | 36-166 |
| 1,1-Dichloroethene | <5.092 | 61.10 | 49.14 | 80 | 60-136 | | 47-149 |
| Methylene Chloride | <5.092 | 61.10 | 48.73 | 80 | 71-107 | | 65-113 |
| trans-1,2-Dichloroethene | <5.092 | 61.10 | 49.31 | 81 | 65-126 | | 55-136 |
| Methyl-t-butyl ether | <5.092 | 61.10 | 52.22 | 85 | 71-107 | | 65-113 |
| 1,1-Dichloroethane | <5.092 | 61.10 | 48.27 | 79 | 67-107 | | 60-114 |
| 2-Butanone (MEK) | <20.37 | 61.10 | 51.50 | 84 | 70-121 | | 62-130 |
| cis-1,2-Dichloroethene | <5.092 | 61.10 | 49.76 | 81 | 61-128 | | 49-140 |
| Bromochloromethane | <5.092 | 61.10 | 49.97 | 82 | 43-154 | | 24-173 |
| Chloroform | <5.092 | 61.10 | 47.71 | 78 | 67-112 | | 60-119 |
| 1,1,1-Trichloroethane | <5.092 | 61.10 | 49.41 | 81 | 63-120 | | 54-129 |
| 1,2-Dichloroethane | <5.092 | 61.10 | 50.66 | 83 | 68-107 | | 61-113 |
| Carbon Tetrachloride | <5.092 | 61.10 | 48.30 | 79 | 58-126 | | 47-137 |
| Benzene | <5.092 | 61.10 | 47.64 | 78 | 69-108 | | 63-114 |
| 1,2-Dichloropropane | <5.092 | 61.10 | 47.03 | 77 | 66-104 | | 60-110 |
| Carbon Disulfide | <10.18 | 61.10 | 47.65 | 78 | 67-120 | | 58-129 |
| Methylcyclohexane | <20.37 | 61.10 | 47.13 | 77 | 65-113 | | 56-121 |
| Trichloroethene | <5.092 | 61.10 | 48.57 | 79 | 64-117 | | 55-126 |
| Methyl Acetate | <20.37 | 61.10 | 53.59 | 88 | 69-119 | | 61-127 |
| Bromodichloromethane | <5.092 | 61.10 | 47.40 | 78 | 70-106 | | 65-112 |
| cis-1,3-Dichloropropene | <5.092 | 61.10 | 47.51 | 78 | 71-105 | | 65-111 |
| 4-Methyl-2-Pentanone | <20.37 | 61.10 | 52.74 | 86 | 65-126 | | 55-136 |
| trans-1,3-Dichloropropene | <5.092 | 61.10 | 47.53 | 78 | 71-102 | | 66-107 |
| 1,1,2-Trichloroethane | <5.092 | 61.10 | 47.92 | 78 | 71-108 | | 65-114 |
| Toluene | <5.092 | 61.10 | 46.50 | 76 | 68-109 | | 61-116 |
| 2-Hexanone | <20.37 | 61.10 | 53.07 | 87 | 62-114 | | 54-123 |

Blank Spike Recovery [D] = 100*(([C]-[A])/[B])

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

# Blank Spike Recovery

## Project Name: MAA BWI Airport

**Work Order #:** 12052509 **Project ID:** 60268768

**Prep Batch #:** 41674 **Date Prepared:** 06/01/2012 **Sample ID:** 41674-1-BKS **Matrix:** Solid

**Lab Batch ID:** 98558 **Date Analyzed:** 06/01/2012 **Analyst:** 1011

**Reporting Units:** ug/kg

| TCL Volatiles plus Oxygenates<br>Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags | Marginal Exceedance Limits |
|---|---|---|---|---|---|---|---|
| | | BLANK /BLANK SPIKE RECOVERY STUDY | | | | | |
| 1,2-Dibromoethane (EDB) | <5.092 | 61.10 | 51.74 | 85 | 71-110 | | 64-116 |
| Dibromochloromethane | <5.092 | 61.10 | 47.36 | 78 | 67-114 | | 59-122 |
| tert-Butyl ethyl ether | <10.18 | 61.10 | 49.54 | 81 | 68-104 | | 62-110 |
| tert-Amyl methyl ether | <40.73 | 61.10 | 50.59 | 83 | 70-106 | | 64-111 |
| Diisopropyl ether | <10.18 | 61.10 | 48.84 | 80 | 59-106 | | 52-114 |
| tert-Amyl ethyl ether | <40.73 | 61.10 | 46.76 | 77 | 67-103 | | 61-109 |
| tert-Amyl alcohol | <40.73 | 61.10 | 54.91 | 90 | 56-117 | | 46-127 |
| Bromoform | <5.092 | 61.10 | 48.32 | 79 | 69-113 | | 62-120 |
| Tetrachloroethene | <5.092 | 61.10 | 45.39 | 74 | 48-143 | | 32-159 |
| Chlorobenzene | <5.092 | 61.10 | 46.44 | 76 | 65-109 | | 58-117 |
| Ethylbenzene | <5.092 | 61.10 | 47.87 | 78 | 65-108 | | 57-115 |
| m,p-Xylenes | <10.18 | 122.2 | 95.63 | 78 | 66-109 | | 59-116 |
| Styrene | <5.092 | 61.10 | 47.40 | 78 | 67-108 | | 61-115 |
| 1,1,2,2-Tetrachloroethane | <5.092 | 61.10 | 50.30 | 82 | 62-122 | | 51-132 |
| o-Xylene | <5.092 | 61.10 | 47.29 | 77 | 66-109 | | 59-116 |
| Isopropylbenzene | <5.092 | 61.10 | 48.53 | 79 | 64-121 | | 54-130 |
| 1,3-Dichlorobenzene | <5.092 | 61.10 | 44.50 | 73 | 58-117 | | 48-126 |
| 1,4-Dichlorobenzene | <5.092 | 61.10 | 44.53 | 73 | 58-114 | | 49-124 |
| 1,2-Dichlorobenzene | <5.092 | 61.10 | 44.69 | 73 | 59-115 | | 50-124 |
| 1,2-Dibromo-3-Chloropropane | <40.73 | 61.10 | 51.19 | 84 | 59-124 | | 49-134 |
| 1,2,4-Trichlorobenzene | <5.092 | 61.10 | 42.60 | 70 | 50-128 | | 37-141 |
| Naphthalene | <5.092 | 61.10 | 46.69 | 76 | 55-126 | | 43-138 |
| 1,2,3-Trichlorobenzene | <5.092 | 61.10 | 44.45 | 73 | 50-123 | | 38-135 |

Blank Spike Recovery [D] = 100*(([C]-[A])/[B])

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

# Blank Spike Recovery

## Project Name: MAA BWI Airport

**Work Order #:** 12052509 **Project ID:** 60268768

**Prep Batch #:** 41676 **Date Prepared:** 06/02/2012 **Sample ID:** 41676-1-BKS **Matrix:** Solid

**Lab Batch ID:** 98559 **Date Analyzed:** 06/02/2012 **Analyst:** 1011

**Reporting Units:** ug/kg

**BLANK /BLANK SPIKE RECOVERY STUDY**

| TCL Volatiles plus Oxygenates<br>Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags | Marginal Exceedance Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <4.950 | 59.41 | 72.56 | 122 | 38-157 | | 18-177 |
| Chloromethane | <4.950 | 59.41 | 67.56 | 114 | 64-116 | | 55-125 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <4.950 | 59.41 | 73.32 | 123 | 55-142 | | 40-157 |
| Vinyl Chloride | <4.950 | 59.41 | 71.72 | 121 | 62-120 | H | 52-130 |
| tert-Butyl alcohol | <39.60 | 59.41 | 71.35 | 120 | 67-112 | H | 59-120 |
| Bromomethane | <4.950 | 59.41 | 76.98 | 130 | 57-141 | | 44-155 |
| Chloroethane | <4.950 | 59.41 | 76.47 | 129 | 68-123 | H | 59-132 |
| Acetone | <19.80 | 59.41 | 64.54 | 109 | 57-124 | | 45-136 |
| Cyclohexane | <19.80 | 59.41 | 64.22 | 108 | 62-109 | | 54-117 |
| Trichlorofluoromethane | <4.950 | 59.41 | 85.57 | 144 | 52-149 | | 36-166 |
| 1,1-Dichloroethene | <4.950 | 59.41 | 74.60 | 126 | 60-136 | | 47-149 |
| Methylene Chloride | <4.950 | 59.41 | 65.41 | 110 | 71-107 | H | 65-113 |
| trans-1,2-Dichloroethene | <4.950 | 59.41 | 72.58 | 122 | 65-126 | | 55-136 |
| Methyl-t-butyl ether | <4.950 | 59.41 | 67.33 | 113 | 71-107 | H | 65-113 |
| 1,1-Dichloroethane | <4.950 | 59.41 | 67.82 | 114 | 67-107 | H | 60-114 |
| 2-Butanone (MEK) | <19.80 | 59.41 | 67.54 | 114 | 70-121 | | 62-130 |
| cis-1,2-Dichloroethene | <4.950 | 59.41 | 66.45 | 112 | 61-128 | | 49-140 |
| Bromochloromethane | <4.950 | 59.41 | 61.09 | 103 | 43-154 | | 24-173 |
| Chloroform | <4.950 | 59.41 | 65.65 | 111 | 67-112 | | 60-119 |
| 1,1,1-Trichloroethane | <4.950 | 59.41 | 74.07 | 125 | 63-120 | H | 54-129 |
| 1,2-Dichloroethane | <4.950 | 59.41 | 69.63 | 117 | 68-107 | H | 61-113 |
| Carbon Tetrachloride | <4.950 | 59.41 | 66.91 | 113 | 58-126 | | 47-137 |
| Benzene | <4.950 | 59.41 | 67.77 | 114 | 69-108 | H | 63-114 |
| 1,2-Dichloropropane | <4.950 | 59.41 | 64.76 | 109 | 66-104 | H | 60-110 |
| Carbon Disulfide | <9.901 | 59.41 | 63.09 | 106 | 67-120 | | 58-129 |
| Methylcyclohexane | <19.80 | 59.41 | 65.47 | 110 | 65-113 | | 56-121 |
| Trichloroethene | <4.950 | 59.41 | 70.90 | 119 | 64-117 | H | 55-126 |
| Methyl Acetate | <19.80 | 59.41 | 72.93 | 123 | 69-119 | H | 61-127 |
| Bromodichloromethane | <4.950 | 59.41 | 67.76 | 114 | 70-106 | H | 65-112 |
| cis-1,3-Dichloropropene | <4.950 | 59.41 | 65.32 | 110 | 71-105 | H | 65-111 |
| 4-Methyl-2-Pentanone | <19.80 | 59.41 | 78.38 | 132 | 65-126 | H | 55-136 |
| trans-1,3-Dichloropropene | <4.950 | 59.41 | 65.22 | 110 | 71-102 | H | 66-107 |
| 1,1,2-Trichloroethane | <4.950 | 59.41 | 65.50 | 110 | 71-108 | H | 65-114 |
| Toluene | <4.950 | 59.41 | 68.81 | 116 | 68-109 | H | 61-116 |
| 2-Hexanone | <19.80 | 59.41 | 71.84 | 121 | 62-114 | H | 54-123 |

Blank Spike Recovery [D] = 100*(([C]-[A])/[B])

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

# Blank Spike Recovery

## Project Name: MAA BWI Airport

**Work Order #:** 12052509 **Project ID:** 60268768

**Prep Batch #:** 41676 **Date Prepared:** 06/02/2012 **Sample ID:** 41676-1-BKS **Matrix:** Solid

**Lab Batch ID:** 98559 **Date Analyzed:** 06/02/2012 **Analyst:** 1011

**Reporting Units:** ug/kg

**BLANK /BLANK SPIKE RECOVERY STUDY**

| TCL Volatiles plus Oxygenates<br>Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags | Marginal Exceedance Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane (EDB) | <4.950 | 59.41 | 73.51 | 124 | 71-110 | H | 64-116 |
| Dibromochloromethane | <4.950 | 59.41 | 66.50 | 112 | 67-114 | | 59-122 |
| tert-Butyl ethyl ether | <9.901 | 59.41 | 64.23 | 108 | 68-104 | H | 62-110 |
| tert-Amyl methyl ether | <39.60 | 59.41 | 65.55 | 110 | 70-106 | H | 64-111 |
| Diisopropyl ether | <9.901 | 59.41 | 67.29 | 113 | 59-106 | H | 52-114 |
| tert-Amyl ethyl ether | <39.60 | 59.41 | 61.49 | 104 | 67-103 | H | 61-109 |
| tert-Amyl alcohol | <39.60 | 59.41 | 73.29 | 123 | 56-117 | H | 46-127 |
| Bromoform | <4.950 | 59.41 | 66.78 | 112 | 69-113 | | 62-120 |
| Tetrachloroethene | <4.950 | 59.41 | 63.50 | 107 | 48-143 | | 32-159 |
| Chlorobenzene | <4.950 | 59.41 | 64.84 | 109 | 65-109 | | 58-117 |
| Ethylbenzene | <4.950 | 59.41 | 72.45 | 122 | 65-108 | H | 57-115 |
| m,p-Xylenes | <9.901 | 118.8 | 140.8 | 119 | 66-109 | H | 59-116 |
| Styrene | <4.950 | 59.41 | 65.57 | 110 | 67-108 | H | 61-115 |
| 1,1,2,2-Tetrachloroethane | <4.950 | 59.41 | 76.98 | 130 | 62-122 | H | 51-132 |
| o-Xylene | <4.950 | 59.41 | 69.65 | 117 | 66-109 | H | 59-116 |
| Isopropylbenzene | <4.950 | 59.41 | 74.19 | 125 | 64-121 | H | 54-130 |
| 1,3-Dichlorobenzene | <4.950 | 59.41 | 59.02 | 99 | 58-117 | | 48-126 |
| 1,4-Dichlorobenzene | <4.950 | 59.41 | 57.72 | 97 | 58-114 | | 49-124 |
| 1,2-Dichlorobenzene | <4.950 | 59.41 | 59.61 | 100 | 59-115 | | 50-124 |
| 1,2-Dibromo-3-Chloropropane | <39.60 | 59.41 | 83.85 | 141 | 59-124 | H | 49-134 |
| 1,2,4-Trichlorobenzene | <4.950 | 59.41 | 59.59 | 100 | 50-128 | | 37-141 |
| Naphthalene | <4.950 | 59.41 | 67.95 | 114 | 55-126 | | 43-138 |
| 1,2,3-Trichlorobenzene | <4.950 | 59.41 | 63.22 | 106 | 50-123 | | 38-135 |

Blank Spike Recovery [D] = 100*(([C]-[A])/[B])

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

# Blank Spike Recovery

## Project Name: MAA BWI Airport

**Work Order #:** 12052509 **Project ID:** 60268768

**Prep Batch #:** 41677 **Date Prepared:** 06/03/2012 **Sample ID:** 41677-1-BKS **Matrix:** Solid

**Lab Batch ID:** 98568 **Date Analyzed:** 06/03/2012 **Analyst:** 1011

**Reporting Units:** ug/kg

**BLANK /BLANK SPIKE RECOVERY STUDY**

| TCL Volatiles plus Oxygenates<br>Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags | Marginal Exceedance Limits |
|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | <5.010 | 60.12 | 60.51 | 101 | 38-157 | | 18-177 |
| Chloromethane | <5.010 | 60.12 | 55.57 | 92 | 64-116 | | 55-125 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | <5.010 | 60.12 | 60.53 | 101 | 55-142 | | 40-157 |
| Vinyl Chloride | <5.010 | 60.12 | 57.86 | 96 | 62-120 | | 52-130 |
| tert-Butyl alcohol | <40.08 | 60.12 | 57.68 | 96 | 67-112 | | 59-120 |
| Bromomethane | <5.010 | 60.12 | 63.73 | 106 | 57-141 | | 44-155 |
| Chloroethane | <5.010 | 60.12 | 60.68 | 101 | 68-123 | | 59-132 |
| Acetone | <20.04 | 60.12 | 47.80 | 80 | 57-124 | | 45-136 |
| Cyclohexane | <20.04 | 60.12 | 57.44 | 96 | 62-109 | | 54-117 |
| Trichlorofluoromethane | <5.010 | 60.12 | 63.25 | 105 | 52-149 | | 36-166 |
| 1,1-Dichloroethene | <5.010 | 60.12 | 60.50 | 101 | 60-136 | | 47-149 |
| Methylene Chloride | <5.010 | 60.12 | 56.84 | 95 | 71-107 | | 65-113 |
| trans-1,2-Dichloroethene | <5.010 | 60.12 | 58.18 | 97 | 65-126 | | 55-136 |
| Methyl-t-butyl ether | <5.010 | 60.12 | 52.83 | 88 | 71-107 | | 65-113 |
| 1,1-Dichloroethane | <5.010 | 60.12 | 55.68 | 93 | 67-107 | | 60-114 |
| 2-Butanone (MEK) | <20.04 | 60.12 | 52.51 | 87 | 70-121 | | 62-130 |
| cis-1,2-Dichloroethene | <5.010 | 60.12 | 58.29 | 97 | 61-128 | | 49-140 |
| Bromochloromethane | <5.010 | 60.12 | 56.89 | 95 | 43-154 | | 24-173 |
| Chloroform | <5.010 | 60.12 | 54.88 | 91 | 67-112 | | 60-119 |
| 1,1,1-Trichloroethane | <5.010 | 60.12 | 58.34 | 97 | 63-120 | | 54-129 |
| 1,2-Dichloroethane | <5.010 | 60.12 | 53.92 | 90 | 68-107 | | 61-113 |
| Carbon Tetrachloride | <5.010 | 60.12 | 56.81 | 94 | 58-126 | | 47-137 |
| Benzene | <5.010 | 60.12 | 58.04 | 97 | 69-108 | | 63-114 |
| 1,2-Dichloropropane | <5.010 | 60.12 | 55.98 | 93 | 66-104 | | 60-110 |
| Carbon Disulfide | <10.02 | 60.12 | 51.56 | 86 | 67-120 | | 58-129 |
| Methylcyclohexane | <20.04 | 60.12 | 59.65 | 99 | 65-113 | | 56-121 |
| Trichloroethene | <5.010 | 60.12 | 59.33 | 99 | 64-117 | | 55-126 |
| Methyl Acetate | <20.04 | 60.12 | 58.76 | 98 | 69-119 | | 61-127 |
| Bromodichloromethane | <5.010 | 60.12 | 53.38 | 89 | 70-106 | | 65-112 |
| cis-1,3-Dichloropropene | <5.010 | 60.12 | 54.68 | 91 | 71-105 | | 65-111 |
| 4-Methyl-2-Pentanone | <20.04 | 60.12 | 56.26 | 94 | 65-126 | | 55-136 |
| trans-1,3-Dichloropropene | <5.010 | 60.12 | 52.60 | 87 | 71-102 | | 66-107 |
| 1,1,2-Trichloroethane | <5.010 | 60.12 | 54.82 | 91 | 71-108 | | 65-114 |
| Toluene | <5.010 | 60.12 | 57.64 | 96 | 68-109 | | 61-116 |
| 2-Hexanone | <20.04 | 60.12 | 49.97 | 83 | 62-114 | | 54-123 |

Blank Spike Recovery [D] = 100*(([C]-[A])/[B])

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

# Blank Spike Recovery

## Project Name: MAA BWI Airport

**Work Order #:** 12052509 **Project ID:** 60268768

**Prep Batch #:** 41677 **Date Prepared:** 06/03/2012 **Sample ID:** 41677-1-BKS **Matrix:** Solid

**Lab Batch ID:** 98568 **Date Analyzed:** 06/03/2012 **Analyst:** 1011

**Reporting Units:** ug/kg

**BLANK /BLANK SPIKE RECOVERY STUDY**

| TCL Volatiles plus Oxygenates<br>Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags | Marginal Exceedance Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane (EDB) | <5.010 | 60.12 | 58.87 | 98 | 71-110 | | 64-116 |
| Dibromochloromethane | <5.010 | 60.12 | 57.41 | 95 | 67-114 | | 59-122 |
| tert-Butyl ethyl ether | <10.02 | 60.12 | 47.96 | 80 | 68-104 | | 62-110 |
| tert-Amyl methyl ether | <40.08 | 60.12 | 48.32 | 80 | 70-106 | | 64-111 |
| Diisopropyl ether | <10.02 | 60.12 | 52.39 | 87 | 59-106 | | 52-114 |
| tert-Amyl ethyl ether | <40.08 | 60.12 | <40.08 | 0 | 67-103 | L | 61-109 |
| tert-Amyl alcohol | <40.08 | 60.12 | 57.63 | 96 | 56-117 | | 46-127 |
| Bromoform | <5.010 | 60.12 | 58.47 | 97 | 69-113 | | 62-120 |
| Tetrachloroethene | <5.010 | 60.12 | 59.79 | 99 | 48-143 | | 32-159 |
| Chlorobenzene | <5.010 | 60.12 | 59.20 | 98 | 65-109 | | 58-117 |
| Ethylbenzene | <5.010 | 60.12 | 58.61 | 97 | 65-108 | | 57-115 |
| m,p-Xylenes | <10.02 | 120.2 | 121.9 | 101 | 66-109 | | 59-116 |
| Styrene | <5.010 | 60.12 | 58.92 | 98 | 67-108 | | 61-115 |
| 1,1,2,2-Tetrachloroethane | <5.010 | 60.12 | 56.36 | 94 | 62-122 | | 51-132 |
| o-Xylene | <5.010 | 60.12 | 59.88 | 100 | 66-109 | | 59-116 |
| Isopropylbenzene | <5.010 | 60.12 | 56.62 | 94 | 64-121 | | 54-130 |
| 1,3-Dichlorobenzene | <5.010 | 60.12 | 58.53 | 97 | 58-117 | | 48-126 |
| 1,4-Dichlorobenzene | <5.010 | 60.12 | 58.91 | 98 | 58-114 | | 49-124 |
| 1,2-Dichlorobenzene | <5.010 | 60.12 | 58.09 | 97 | 59-115 | | 50-124 |
| 1,2-Dibromo-3-Chloropropane | <40.08 | 60.12 | 55.27 | 92 | 59-124 | | 49-134 |
| 1,2,4-Trichlorobenzene | <5.010 | 60.12 | 63.62 | 106 | 50-128 | | 37-141 |
| Naphthalene | <5.010 | 60.12 | 61.43 | 102 | 55-126 | | 43-138 |
| 1,2,3-Trichlorobenzene | <5.010 | 60.12 | 64.58 | 107 | 50-123 | | 38-135 |

Blank Spike Recovery [D] = 100*(([C]-[A])/[B])

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**

H= Recovery of BS,BSD or both exceeded the laboratory control limits
F = RPD exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

## PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) *CLIENT: AECOM *OFFICE LOC. Columbia MD

PSS Work Order #: 12052509 PAGE 1 OF 2

*PROJECT MGR: Scott Beatson *PHONE NO.: (410) 565-0501

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

EMAIL: scott.beatson@aecom.com FAX NO.: ( )

*PROJECT NAME: MAA BWI Airport PROJECT NO.: 6026 05768

SITE LOCATION: BWI Airport, MD P.O. NO.:

SAMPLER(S): Dan Hulbert, Jeremy Steiner DW CERT NO.:

(2)

| LAB NO. | *SAMPLE IDENTIFICATION | *DATE (SAMPLED) | *TIME (SAMPLED) | MATRIX (See Codes) | No. CONTAINERS | SAMPLE TYPE C = COMP G = GRAB | Preservatives Used | Analysis/ Method Required (3) * TPH-DRO SW-8410 | TCL VOCs + oxy SW-8260 B/C | and TPH-GRO SW-8260 B | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | SB-14 (0-1) | 5/24/12 | 0720 | S | 2 | | | / | / | | |
| | SB-14 (33.5-34.5) | 5/24/12 | 0845 | S | 2 | | | / | / | | |
| | SB-12 (0-1) | 5/23/12 | 1420 | S | 2 | | | / | / | | |
| | SB-12 (14-15) | 5/24/12 | 0720 | S | 2 | | | / | / | | |
| | SB-18 (0-1) | 5/23/12 | 0830 | S | 2 | | | / | / | | |
| | SB-18 (11-12) | 5/23/12 | 0900 | S | 2 | | | / | / | | |
| | SB-6 (0-1) | 5/24/12 | 1020 | S | 2 | | | / | / | | |
| | SB-6 (12.5-13.5) | 5/25/12 | 0740 | S | 2 | | | / | / | | |
| | SB-5 (0-1) | 5/24/12 | 1354 | S | 2 | | | / | / | | |
| | SB-5 (14-15) | 5/25/12 | 0810 | S | 2 | | | / | / | | |

(5)

| Relinquished By: (1) | Date | Time | Received By: |
|---|---|---|---|
| [signature] | 5/25/12 | 1320 | [signature] |
| Relinquished By: (2) | Date | Time | Received By: |
| Relinquished By: (3) | Date | Time | Received By: |
| Relinquished By: (4) | Date | Time | Received By: |

(4) *Requested TAT (One TAT per COC): ☐ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER ____

Special Instructions:

DW COMPLIANCE? YES ☐ EDD FORMAT TYPE ____ STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER ____

# of Coolers: 1

Custody Seal: ABS

Ice Present: PRES Temp: 6°C

Shipping Carrier: CLIENT

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

## PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1)

CLIENT: AECOM OFFICE LOC. Columbia MD

PROJECT MGR: Scott Bratson PHONE NO.: (240) 565-6541

EMAIL: scott.bratson@aecom.com FAX NO.: ( )

PROJECT NAME: MAA BWI Airport PROJECT NO.: 60268768

SITE LOCATION: BWI Airport, MD P.O. NO.:

SAMPLERS: Dan Hubert, Jeremy Jaiger

PSS Work Order #: 12052509 PAGE 2 OF 2

Matrix Codes:
SW=Surface Wtr DW=Drinking Wrt GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

| LAB NO. | SAMPLE IDENTIFICATION | DATE | TIME | MATRIX (See Codes) | No. CONTAINERS | SAMPLE TYPE C = COMP G = GRAB | Preservatives Used | | | | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Analysis/ Method Required (3) | TPH - DRO SW-846 8015C | TCL Vols + oxy ind TPH-GRO SW-846 8260B | | | | | | | | | | |
| | SB-1(0-1) | 5/24/12 | 1235 | S | 2 | | | / | / | | | | | | | | | | |
| | SB-1(9.5-10.5) | 5/24/12 | 1430 | S | 2 | | | / | / | | | | | | | | | | |
| | SB-4(0-1) | 5/24/12 | 1550 | S | 2 | | | / | / | | | | | | | | | | |
| | SB-4(14-15) | 5/25/12 | 1006 | S | 2 | | | / | / | | | | | | | | | | |
| | SB-19(0-1) | 5/23/12 | 1310 | S | 2 | | | / | / | | | | | | | | | | |
| | SB-19(14.5-15.5) | 5/23/12 | 1450 | S | 2 | | | / | / | | | | | | | | | | |
| | SB-7(0-1) | 5/23/12 | 1500 | S | 2 | | | / | / | | | | | | | | | | |
| | SB-7(14-15) | 5/24/12 | 1015 | S | 2 | | | / | / | | | | | | | | | | |
| | SB-2(0-1) | 5/24/12 | 1320 | S | 2 | | | / | / | | | | | | | | | | |
| | SB-2(14-15) | 5/24/12 | 1505 | S | 2 | | | / | / | | | | | | | | | | |

(5)

| Relinquished By: | Date | Time | Received By: |
|---|---|---|---|
| (1) [signature] | 5/25/12 | 1320 | [signature] |
| (2) | | | |
| (3) | | | |
| (4) | | | |

(4)

Requested Turnaround Time
☐ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:

Special Instructions:

# of Coolers: 1
Custody Seal: ABS
Ice Present: PRES Temp: 6°C
Shipping Carrier: CLIENT

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

# Phase Separation Science, Inc

## Sample Receipt Checklist

| | | | |
|---|---|---|---|
| **Work Order #** | 12052509 | **Received By** | Rachel Davis |
| **Client Name** | AECOM | **Date Received** | 05/25/2012 01:20:00 PM |
| **Project Name** | MAA BWI Airport | **Delivered By** | Client |
| **Project Number** | 60268768 | **Tracking No** | Not Applicable |
| **Disposal Date** | 06/29/2012 | **Logged In By** | Rachel Davis |

**Shipping Container(s)**

| | | | |
|---|---|---|---|
| No. of Coolers | 1 | Ice | Present |
| | | Temp (deg C) | 6 |
| Custody Seal(s) Intact? | N/A | Temp Blank Present | No |
| Seal(s) Signed / Dated? | N/A | | |

**Documentation**

| | | | |
|---|---|---|---|
| | | Sampler Name | Dan Hulbert |
| | | MD DW Cert. No. | N/A |
| COC agrees with sample labels? | Yes | | |
| Chain of Custody | Yes | | |

**Sample Container**

| | | | |
|---|---|---|---|
| | | Custody Seal(s) Intact? | Not Applicable |
| Appropriate for Specified Analysis? | Yes | Seal(s) Signed / Dated | Not Applicable |
| Intact? | Yes | | |
| Labeled and Labels Legible? | Yes | | |

Total No. of Samples Received 20

Total No. of Containers Received 40

**Preservation**

| | | |
|---|---|---|
| Metals | (pH<2) | N/A |
| Cyanides | (pH>12) | N/A |
| Sulfide | (pH>9) | N/A |
| TOC, COD, Phenols | (ph<2) | N/A |
| TOX, TKN, NH3, Total Phos | (pH<2) | N/A |
| VOC, BTEX (VOA Vials Rcvd Preserved) | (pH<2) | N/A |
| Do VOA vials have zero headspace? | | N/A |

**Comments: (Any "No" response must be detailed in the comments section below.)**

**For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.**

Samples Inspected/Checklist Completed By: Rachel Davis — Date: 05/25/2012

PM Review and Approval: Lynn Moran — Date: 05/25/2012

# ATTACHMENT G (Cont.)

# Supplemental Phase II Environmental Assessment

# Supplemental Phase II Environmental Assessment

# BWI Thurgood Marshall Airport Future Hotel Site

# BWI Thurgood Marshall Airport, MD 21240

Prepared for:

Maryland Aviation Administration (MAA)
BWI Thurgood Marshall Airport Employee Parking Lot

February 2013

Prepared by:

AECOM
Columbia, MD 21046

Scott Beatson
Project Manager

Gary Grinstead
Operations Manager

# Contents

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1 Site Location Map

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1 Soil Analytical Results
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**Attachments:**

1 Geophysical Survey Report
2 Boring Logs
3 Laboratory Analytical Data
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## 1.0 BACKGROUND AND PURPOSE

The subject property is an approximate 4.5 acre land parcel located north-west of Building 160 the hourly parking garage at the main terminal facility as detailed in **Figure 1**. The property is asphalt and concrete paved with a recently laid asphalt seal coating and currently used as an employee parking lot. The purpose of the assessment is to evaluate the current environmental conditions of the property in anticipation of development of the property as a hotel. AECOM had previously performed an environmental investigation on the adjoining portion of the parking lot to the southeast as documented in our report entitled Environmental Site Assessment dated August 27, 2012.

Based on new airport planning information, the Maryland Aviation Administration (MAA) desired to expand the previous assessment to encompass a larger potential footprint for hotel development. The overall purpose of the work is to identify existing environmental issues on the property that might impact the planned future development of the property.

The work completed was based on a limited amount of data including conversations with MAA personnel, historical data provided in an e-mail, a site visit, and knowledge obtained during the previous investigation. Based on the limited information provided, AECOM understands that the subject property has partially been historically used for fuel storage, gasoline retail operations and rental car facilities which included automobile fueling and maintenance services. Historical maps of the property identify the presence of underground storage tanks (USTs), pump islands and fuel piping associated with the fuel storage and rental car servicing facilities that were located on the eastern portion of the current subject property.

Additionally, AECOM is aware that documented releases of petroleum hydrocarbons have occurred on the property. Dames and Moore conducted a modified Phase I Environmental Assessment in August of 1991 on the “Quick Turn Around” (QTA) property, located on the eastern portion of the current subject site. Their report identified a former large aircraft fuel storage area located between Oak and Cedar roads on the south side of Elm road, a reported UST leak at the former Chevron retail gasoline location and a fuel line leak at the former Dollar Rental Car facility. To evaluate these areas of concern Dames and Moore collected 190 soil samples from 29 soil borings and installed seven (7) groundwater monitoring wells. The aircraft fuel storage area and Dollar Rental Car locations are located on the current subject site location. The former Chevron retail petroleum site is located to the southwest of the current subject site. Overall conclusions of the study were that petroleum impacts did exist on the subject property location.

AECOM was also provided three separate groundwater monitoring and assessment reports from R.E. Wright Associates Inc. dated November 1992, October 1993 and September 1995. These reports outline R.E. Wright’s investigation of the area containing the former Chevron retail gasoline location and former Dollar Car Rental location and associated MDE case numbers 91-0812-AA and 9-0277-AA. The reports detail the installation and monitoring of 22 soil boring and 13 monitoring wells in areas west and southwest of the current subject site in response to a leaking underground fuel line at the former Dollar Rental Car location, and the report of leaking USTs at the former Chevron retail gasoline location. Overall project findings are elevated petroleum constituent concentrations within the groundwater and soil samples collected with the suspected source being the underground leaks. More recent studies or analytical data was not provided to AECOM for review.

# 2.0 METHODS

The following paragraphs provide detail of the methods employed to conduct this work. Section 3.0 provides a review of the findings of the investigation.

## 2.1 Health and Safety Plan

AECOM developed a Health and Safety Plan that was specific to the subject property. The development of this plan is required by the Occupational Safety and Health Administration (OSHA) under Hazardous Waste Operations & Emergency Response 29 CFR 1910.120. The site Health and Safety Plan is designed to reduce the risk of physical or chemical exposures that may affect workers in the proposed work area. The site Health and Safety Plan includes information about potential chemicals on the site, health and safety procedures for working on-site and emergency response procedures. The Health and Safety plan is on file at AECOM and was implemented during the field activities.

## 2.2 Utility Markout and Clearance

AECOM retained Harford Electrical Testing Co., Inc (Harford) of Joppa, MD, to conduct a utility survey of the subject property prior to commencement of drilling activities. On Thursday, December 13, 2012, Harford identified and clearly marked out the locations of a subsurface 60 Hz electric utility, sewer lines and a communication utility at the subject property. Harford signed off on the MAA Utility Modification/ Digging Authorization permit which must be acquired prior to any drilling. AECOM also retained Connelly Drilling Associates air-knifing services for the purpose of clearing all proposed drilling locations of utilities utilizing “soft dig” technology. The air-knife utilizes compressed air and a vacuum hose to loosen and remove soils without damaging any subsurface structures. The air-knife was used to clear a hole approximately 120% larger than the anticipated drilling diameter (approximately 10-inches) to a depth of 5 feet below ground surface (bgs). All boring locations were cleared prior to drilling using the air-knife technique.

## 2.3 Geophysical Survey

AECOM reviewed historical data provided by Environmental Data Resources (EDR) of Milford, CT, including historical aerial photographs, topographic maps, city directories, and applicable environmental databases. Through this research it was found that the site historically contained a number of fueling facilities. A figure from 1948 provided to AECOM by MAA includes locations for Texaco, Esso (Exxon), Texaco Jet Fuel and locations for numerous “oil tank vaults”. A former Chevron retail gasoline site was reported to have been located to the south of the current subject site and a former boiler facility building was located to the southeast of the site. A former “Quick Turn Around” (QTA) car rental area was located along the eastern portion of the current subject site. This area appears to have operated seven different bays facilitating different car rental company’s fleets.

AECOM subcontractor, Enviroscan Inc. of Lancaster, PA (Enviroscan), used Ground Penetrating Radar (GPR) and Electromagnetic (EM) techniques specifically within the QTA area. Based on historical maps and figures, this area was targeted as having the highest likelihood of remnant subsurface structures such as USTs and associated piping based on its use and associated need for underground structures.

A geophysical study was completed on Tuesday and Wednesday December 11-12, 2012 by Enviroscan to check for the presence of USTs, vaults and associated piping. GPR was used in combination with EM techniques to check for the presence of subsurface structures. GPR systems produce cross-sectional images of subsurface features and layers. Since electrical properties of metallic tanks, pipes and waste produce

dramatic reflections, EM can be used with GPR to discriminate between subsurface anomalies. The lithology beneath the subject property consists mainly of fine to medium Arundel Sands which allowed the GPR to penetrate to depths greater than 20ft. below grade surface (bgs). Enviroscan found no subsurface anomalies that would be indicative of the presence of tanks or product piping within the scanned areas. Identified underground utility lines including storm sewer and electrical lines were identified, as well as several runs of an unidentified suspected utility line. The Enviroscan Geophysical Report is included as **Attachment 1.**

## 2.4 Soil Investigation

To determine existing soil conditions and potential impacts from historical operations, AECOM retained Connelly & Associates and Green Services Inc. to perform a Geoprobe™ soil sampling survey. The exact locations of the test soil borings were based on information obtained during the site records review and during the geophysical survey.

From December 17-21, AECOM advanced thirty (30) soil borings (E-1 through E-30) to depths ranging from 20 ft bgs to 30 ft bgs. A total of sixty (60) soil samples were collected from the borings: a shallow/surface soil sample from 0-1 foot, and a subsurface sample collected at depth based on field observations and photo-ionization detector (PID) readings. Sample locations were spread throughout the entire subject site, with a higher concentration in the eastern portion where historical QTA operations were located. Based on field observations and delineation efforts, thirty geoprobe investigation soil samples were sent to the laboratory for analysis. Surface and subsurface soil samples from 25 of the 30 boring locations were submitted to the lab for testing. The boring locations are depicted on **Figure 1.**

Prior to the advancement of each soil boring, sample equipment was decontaminated in accordance with industry standards. Any soil cuttings generated were temporarily staged on plastic sheeting for inspection prior to sampling and boring back-fill. Upon sample removal from the ground, collected soils were inspected for visual and olfactory indications of potential impacts and physical soil parameters including lithology, soil type, density, color, moisture content and sample recovery. Boring logs are included as **Attachment 2**.

Soil samples were collected and placed in laboratory-supplied containers and packed with ice for transport to Phase Separation Science Laboratory of Catonsville, MD, under chain-of-custody protocol. Soil samples were submitted for analysis of Volatile Organic Compounds (VOCs) by EPA Method 8260 and total petroleum hydrocarbons (TPH) gasoline and diesel range organics (TPH-GRO and TPH-DRO) via Method 8015B. Refer to **Table 1** for a summary of soil analytical results. The laboratory analytical reports and chain of custody documentation are presented in **Attachment 3**.

## 2.5 Groundwater Investigation

AECOM installed and sampled five groundwater monitoring wells (MW-EMP01 through MW-EMP05) on the subject site. AECOM retained Connelley and Associates Inc. (Connelley), a Maryland licensed driller, to conduct the drilling and well installations at the property. Connelley obtained all required local and state permits associated with these installations. The monitoring well positions were selected based upon field observations during the geoprobe investigation, and were advanced through the same boring holes as the geoprobe investigation. Monitoring well locations correspond to the following GeoProbe investigation locations:

**Monitoring Wells Locations**

| Monitoring Well | GeoProbe Location |
|---|---|
| MW-EMP01 | E-07 |
| MW-EMP02 | E-18 |
| MW-EMP03 | E-28 |
| MW-EMP04 | E-25 |
| MW-EMP05 | E-03 |

Groundwater was encountered at approximately 38-45 ft. below ground surface (bgs) under surficial, unconfined conditions. Monitoring well boreholes were advanced to approximately 50 feet bgs and wells were set between 49-50 feet bgs. Split spoon soil samples were collected from 30-32, 40-42 and 48-50 feet bgs intervals. In general, monitoring wells were completed with 30 feet of 0.020-slot screen and 20 feet of solid riser, #2 sand pack to 2 feet above screened interval and bentonite to one foot below top of casing. Well depths and completion details are included in the monitoring well construction logs in **Attachment 4**. On January 3, 2013 all monitoring wells were developed using a submersible pump to remove a minimum of 5 well volumes until the purge water ran clear, then surveyed to obtain relative top of casing (TOC) elevations for each well.

On January 4, 2013, the new monitoring well network was gauged and sampled. Water level gauging was conducted using an oil-water interface probe (OWIP) to obtain depth to water or liquid phase product (LPH) measurements. No LPH was detected during the January 4, 2013 sampling event. Groundwater sampling was conducted by purging each monitoring well of three well volumes and allowing water levels to recharge to 80% or more of original volume, then using a dedicated plastic bailer to collect a representative sample. Groundwater samples were placed in laboratory supplied glassware, then immediately placed on ice and transported to Phase Separation Science Laboratory of Baltimore, Maryland for analysis of full suite VOCs via EPA method 8260B and, TPH-GRO/ TPH-DRO via EPA method 8015C.

# 3.0 Results and Findings

## 3.1 Site Lithology

The lithology present in the vicinity of the borings consisted primarily of fine to medium grained sands with trace amounts of silts and gravels. A confining layer of very low permeability, white clay was identified beneath the entire investigation area at depths ranging from 10 to 40 ft bgs. A zone of perched water was often present just above the clay. Bedrock refusal was not encountered during boring activities. Soil descriptions are included in the boring logs in **Attachment 2.**

Geologic description of the area from the Maryland Geologic Survey describes the underlying deposits as composites of the Potomac Group, the Raritan and Patapsco Formations, the Arundel Clay (present only in Baltimore-Washington area); and the Patuxent Formation; all of which are composed of interbedded layers of silty sands and clays.

## 3.2 Soil Quality

The soil analytical results are summarized in **Table 1.** No constituents analyzed for, including common fuel constituents, were detected above the Maryland Department of Environment (MDE) Non-Residential Clean-Up Standards in any of the soil samples submitted. Various constituents were detected at trace to low concentrations and are summarized below.

Analysis of the surface soil samples (0-1 foot) collected at the site revealed concentrations of TPH-DRO in samples E-16 and E-17 at 11 and 9.6 milligrams per kilogram (mg/kg) respectively. Diesel range organics are composed of larger chains of hydrocarbons and their presence in the soil samples could also indicate the presence of jet fuel or fuel oil which are composed of similar length (heavier) hydrocarbon chains. None of the concentrations detected in the surface soil samples exceed MDE Non-Residential Cleanup Standards.

Of the subsurface soil samples submitted for analysis, various samples detected concentrations of TPH-GRO, TPH-DRO, Naphthalene, and total benzene, toluene, ethyl benzene, and xylene (BTEX), at levels below the MDE Non-Residential Cleanup Standards:

- TPH-GRO detected in E-18 (7-8') and E-25 (27-28') at 4.5 and 290 mg/kg respectively. MDE Standard is 620 mg/kg.
- TPH-DRO detected in E-24 (1.5-2.5'), E-25 (2.5-3.5'), E-25 (27-28'), E-26 (2.5-3.5'), E-27 (21-22') and E-28 (26-27') at 20, 24, 19, 36, 16 and 52 mg/kg respectively. MDE Standard is 620 mg/kg.
- Naphthalene detected in E-18 (7-8') and E-25 (27-28') at 0.023 and 9.0 mg/kg respectively. MDE Standard is 2,000 mg/kg.
- Total BTEX detected in E-18 (7-8') and E-25 (27-28') at 0.446 and 20.21 mg/kg respectively. MDE standards are variable per constituent; all concentrations are respectively below the standard.

The levels detected suggest residual historical impacts from previous site use. Although the concentrations detected do not exceed a standard, the possibility exists of a source area in locations not evaluated (between boring locations), that may contain higher concentrations which do exceed a standard.

## 3.3 Groundwater Quality

The groundwater analytical results for the five monitoring wells sampled are summarized in **Table 2.** Each well sampled showed concentrations of at least one constituent that exceeded the MDE groundwater standard. The following constituents were detected in at least one well that exceeded a groundwater standard: TPH-DRO, TPH-GRO, benzene, MTBE, naphthalene, 1,2-dichloroethane, and 1,2-dibromoethane. Other constituents detected below a regulatory standard included: toluene, ethyl benzene, xylenes, trichloroethene, tert-butyl alcohol, cyclohexane, and chloroform. A summary of the results is provided below.

- TPH-DRO was detected in each well ranging from 140-3,500 micrograms per liter (ug/l) (MDE groundwater standard is 47 ug/l).
- TPH-GRO was detected in MW-EMP02, MW-EMP04, and MW-EMP-05 ranging from 530-9,000 ug/l (MDE groundwater standard is 47 ug/l).
- Benzene was detected in MW-EMP02, MW-EMP04, and MW-EMP-05 ranging from 2.3-310 ug/l (MDE groundwater standard is 5 ug/l).
- MTBE was detected in MW-EMP01, MW-EMP02, and MW-EMP-04 ranging from 15-330 ug/l (MDE groundwater standard is 20 ug/l).
- Naphthalene was detected in MW-EMP02, MW-EMP04, and MW-EMP-05 ranging from 28-200 ug/l (MDE groundwater standard is 0.65 ug/l).
- 1,2-Dichloroethane was detected in MW-EMP04 at 69 ug/l (MDE groundwater standard is 5 ug/l).
- 1,2-Dibromoethane was detected in MW-EMP-04 at 16 ug/l (MDE groundwater standard is 0.05 ug/l).

As noted above, TPH-DRO constituents were detected in each monitoring well, suggesting a widespread impacted groundwater area from historical site use. Monitoring well MW-EMP02 and MW-EMP04 contained the majority of other analytical detections and values exceeding MDE standards. These locations correlate with the elevated soil concentrations discussed above and further support the suspicion that a potential source area may exist on the southern portion of the subject site and/or the impacts detected are from historical residual site use.

## 4.0 CONCLUSIONS

Various low-level concentrations of primarily petroleum related constituents were detected below regulatory standards in select soil boring locations across the study area. Additionally, based on the geophysical investigations, no remnant subsurface anomalies/USTs/etc were identified in the areas surveyed. The detected soil impacts were primarily identified within the central to southern portions of the investigation area; but based on MDE standards, and planned land development, the material evaluated does not pose a significant risk. Although the concentrations detected do not exceed a standard, the possibility exists of a source area in locations not evaluated (between boring locations), that may contain higher concentrations which do exceed a standard. Any future developer/contractor should be made aware of its presence and plan accordingly for proper soils management and site worker safety.

There is a prevalence of petroleum hydrocarbon constituents in groundwater across the subject site, likely resultant from past land use. Based on groundwater depth, these findings should not impact construction activities. However, if future activities do result in contact with groundwater or facilitate dewatering of a location, additional evaluations would be recommended and treatment of the water would likely be required prior to disposal.

# FIGURES

**Figure 1 - BWI Airport Expanded Investigation Area**

**Drilling and Monitoring Well Locations**

= soil boring

= soil boring/monitoring well

# TABLES

**Table 1 - Soil Analytical Results**
BWI Airport - Expanded Parking Lot Phase II ESA
Maryland Aviation Administration
December 2012

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Soil Standards |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample ID** | **E-1** | **E-3** | **E-5** | **E-6** | **E-8** | **E-9** | **E-10** | **E-11** | **E-13** | **E-14** | **E-15** | **E-16** | **E-16** | **E-17** | **E-17** | **E-18** | **E-19** | **E-20** | **E-21** | **E-22** | **E-23** | **E-24** | **E-24** | **E-25** | **E-25** | **E-26** | **E-26** | **E-27** | **E-28** | **MW-EMP04 (E-28)** | **E-30** | |
| **Date** | 12/21/2012 | 12/21/2012 | 12/21/2012 | 12/21/2012 | 12/21/2012 | 12/21/2012 | 12/21/2012 | 12/21/2012 | 12/21/2012 | 12/21/2012 | 12/20/2012 | 12/20/2012 | 12/20/2012 | 12/20/2012 | 12/20/2012 | 12/19/2012 | 12/19/2012 | 12/19/2012 | 12/19/2012 | 12/19/2012 | 12/19/2012 | 12/18/2012 | 12/20/2012 | 12/19/2012 | 12/20/2012 | 12/19/2012 | 12/20/2012 | 12/20/2012 | 12/20/2012 | 1/2/2013 | 12/19/2012 | **Non-Residential Clean-up Standard** |
| **Sample Depth (feet)** | 13-14 | 15 | 17 | 23 | 27 | 13 | 16 | 29-30 | 19-20 | 29-30 | 29-30 | 0-1 | 28-29 | 0-1 | 29-30 | 7-8 | 27.5-28 | 26-27 | 29-30 | 29-30 | 28-29 | 1.5-2.5 | 26-28 | 2.5-3.5 | 27-28 | 2.5-3.5 | 28.5 | 21-22 | 26-27 | 30-32 | 24-25 | |
| **Units** | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | **(mg/kg)** |
| **Volatile Organic Compounds (VOCs)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Benzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.011 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 52 |
| Ethylbenzene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.17 | ND | ND | ND | ND | ND | ND | ND | ND | 0.31 | ND | ND | ND | ND | ND | ND | 10,000 |
| Toluene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.015 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 8,200 |
| Xylenes | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.25 | ND | ND | ND | ND | ND | ND | ND | ND | 19.9 | ND | ND | ND | ND | 220 | ND | 20,000 |
| MTBE | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 720 |
| 1,2-Dichloroethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 31 |
| Trichloroethene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 7 |
| Chloroform | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 100 |
| 1,2-Dibromoethane | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 1 |
| **Semi-Volatile Organic Compounds (VOCs)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Naphthalene | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 0.23 | ND | ND | ND | ND | ND | ND | ND | ND | 9 | ND | ND | ND | ND | 1.5 | ND | 2,000 |
| **TPH-DRO** | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 11 | ND | 9.6 | ND | ND | ND | ND | ND | ND | ND | 20 | ND | 24 | 19 | 36 | ND | 16 | 52 | 20 | ND | 620 |
| **TPH-GRO** | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | 4.5 | ND | ND | ND | ND | ND | ND | ND | ND | 290 | ND | ND | ND | ND | 36 | ND | 620 |

**Notes:**
Soil Standards - June 2008 State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater
MDE = State of Maryland Department of the Environment
mg/kg: milligrams per kilogram
ND- Not detected at or above the reporting limit

**Table 2 - Groundwater Analytical Results**
BWI Airport - Expanded Parking Lot Investigation
Maryland Aviation Administration
January 2013

| Sample ID | MW-EMP01 | MW-EMP02 | MW-EMP03 | MW-EMP04 | MW-EMP05 | |
|---|---|---|---|---|---|---|
| **Date** | 1/4/2013 | 1/4/2013 | 1/4/2013 | 1/4/2013 | 1/4/2013 | |
| **Units** | µg/L | µg/L | µg/L | µg/L | µg/L | |
| **Top of Casing Elevation** | 96.14 | 93.44 | 89.35 | 93.90 | 100.00 | |
| **Depth to Water** | 41.48 | 38.60 | 34.38 | 38.98 | 45.00 | |
| **Groundwater Elevation** | 54.66 | 54.84 | 54.97 | 54.92 | 55.00 | **MDE Groundwater Standards (µg/L)** |
| **Volatile Organic Compounds (VOCs)** | | | | | | |
| Benzene | ND | **43** | ND | **310** | 2.3 | 5.0 |
| 1,2-Dibromoethane (EDB) | ND | ND | ND | **16** | ND | 0.05 |
| 1,2-Dichloroethane | ND | ND | ND | 69 | ND | 90 |
| Tert-butyl alcohol | ND | ND | ND | 78 | ND | NS |
| Ethylbenzene | ND | 20 | ND | 140 | 34 | 700 |
| Toluene | ND | 1.5 | 12 | 120 | 3.3 | 1000 |
| Xylenes | ND | 31 | 11 | 2330 | 190 | 10000 |
| MTBE | **21** | **330** | ND | 15 | ND | 20 |
| Trichloroethene | ND | ND | ND | 1.9 | ND | 5.0 |
| Chloroform | ND | ND | ND | 2.5 | ND | 80 |
| **Semi-Volatile Organic Compounds (VOCs)** | | | | | | |
| Cyclohexane | ND | ND | ND | 15 | ND | NS |
| Naphthalene | ND | **28** | ND | **200** | **50** | 0.65 |
| | | | | | | |
| **TPH-DRO** | **260** | **1900** | **180** | **3500** | **140** | 47 |
| | | | | | | |
| **TPH-GRO** | ND | **740** | ND | **9000** | **530** | 47 |

**Notes:**

Groundwater Standards - June 2008 State of Maryland Department of the Environment Cleanup Standards for Soil and Groundwater

**BOLD** - denotes a concentration in exceedence of a groundwater standard

MDE = State of Maryland Department of the Environment

µg/kg- micrograms per liter

ND- Not detected at or above the reporting limit

Top of casing and groundwater elevations are in relation to the onsite wells with MW-EMP05 being set at an arbitrary 100.00 mark. Elevations are not set to mean sea level.

# ATTACHMENT 1

Geophysical Survey Report

# Final Report
# Geophysical Survey
# Subsurface UST and Utility Detection/Delineation
# Employee Parking Area
# BWI Airport
# Linthicum, MD
# Enviroscan Project Number 111252

**Prepared For: AECOM**
**Prepared By: Enviroscan, Inc.**
**January 9, 2013**

1051 Columbia Avenue ● Lancaster, PA 17603 ● 717.396.8922 ● Fax 717.396.8746 ● email@enviroscan.com ● www.enviroscan.com

January 9, 2013

Mr. Jeremy Joiner
**AECOM**
8320 Guilford Road
Suite L
Columbia, MD 21046

**RE:** Geophysical Survey
Subsurface UST and Utility Detection/Delineation
Employee Parking Area
BWI Airport
Linthicum, MD
Enviroscan Project Number 111252

Dear Mr. Joiner:

Pursuant to the our proposal, dated November 30, 2012, Enviroscan, Inc. conducted a multi-technique geophysical survey at the above-referenced site on December 11, and 12, 2012. The purpose of the survey was to determine whether there is evidence of buried metallic underground storage tanks (USTs) and locate any buried utilities beneath client-designated portions of an employee parking area at Baltimore Washington International airport in Linthicum, MD.

The site consists of an asphalt parking lot with areas of reinforced concrete. The site is an active parking lot and several cars were in the survey area during the survey. Data coverage was limited in these areas, which are depicted in Figure 1 as white-shaded polygons.

A subsurface scan for possible USTs and utilities was completed on December 11, and 12, 2012. The extents of scanned area are labeled on Figure 1. Scanning was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology including;

- a Geonics, Ltd. EM-61 MK2;
- a Radiodetection C.A.T. and Genny pipe and cable locator and tracer; and
- a GSSI SIR-2000 ground penetrating radar (GPR) system.

The principles of these techniques are detailed below.

# Methods

***EM-61 MK2***

The EM-61 MK2 uses a one-meter by ½-meter coil to transmit 150 electromagnetic pulses per second into the ground at each measurement station. During the off-time between transmitted pulses, a receiver coil measures the decay of transient electrical currents induced by the transmitted pulses. The decay is characterized by recording the strength of the transient electrical currents (in milliVolts) at four different delays or time gates following shut-off of the applied field. Electrical currents in moderately conductive earth materials (e.g. electrolytic soils) dissipate rapidly, leaving the more prolonged currents due to buried metallic objects. The EM-61 MK2 measures the surficial electrical potential due to the prolonged subsurface currents, providing a digital read-out of the relative metallic content of the subsurface.

To complete the EM-61 MK2 survey, a system of profiles (at approximately 5-foot intervals) was scanned by hand-towing the EM-61 MK2 in the survey area. Data were collected at a rate of five readings per second (for an average station spacing of approximately one foot). Location control was maintained using a Topcon GMS-110 global positioning system (GPS) receiver. The GPS positions were collected with real-time differential correction, using the WAAS satellite based augmentation system corrections. The resulting differential GPS (DGPS) positions have an accuracy of better than three feet. GPS and EM data were fed simultaneously to a Juniper System Allegro data logger running Trackmaker 61 software by Geomar, Inc. This software allows display of the data coverage in real time to ensure complete site coverage. The EM-61 survey data points are displayed as blue dots on a base map created by Enviroscan's DGPS survey (see Figure 1).

The EM-61 MK2 survey results are depicted as contours (in milliVolts, or mV) of the individual EM-61 MK2 station measurements. The EM-61 MK2 records four measurements spaced by time (time gates) after the initial transmit pulse. Gate 1 reads responses from metal targets of all depths and size within the range and sensitivity of the instrument. Gate 2 filters out the smallest targets. Gates 3 and 4 read responses from large targets, with Gate 4 showing the least interference from smaller targets. The purpose of this survey was to detect and delineate potential buried underground storage tanks; therefore, Gate 4 was selected for the best display of possible targets of interest. The Gate 4 data were gridded and contoured using Golden Software's Surfer 11™ for Windows with a kriging grid algorithm (see Figure 2).

***C.A.T. and Genny***

The survey area was also scanned with a Radiodetection C.A.T. and Genny pipe and cable locator and tracer. Scanning was conducted in both Power and Radio modes. In Power mode, the C.A.T. detects the 50 to 60 Hertz (Hz) electromagnetic field generated by live power cables and other metallic utilities to which a live line is grounded. In Radio mode, the C.A.T. detects buried conductors (cables or metallic pipes) as they conduct and re-transmit commercial broadcast radio energy.

***GPR***

GPR systems produce cross-sectional images of subsurface features and layers by continuously emitting pulses of radar-frequency energy from a scanning antenna as it is towed along a survey profile. The radar pulses are reflected by interfaces between materials with differing dielectric properties. The reflections return to the antenna and are displayed on a video monitor as a continuous cross section in real time. Since the electrical properties of metal are distinctly different from soil and backfill materials, metallic pipes and other structures commonly produce dramatic and characteristic reflections. Fiberglass, plastic, concrete, and terra cotta pipes and structures also produce recognizable, but less dramatic reflections. Scanning was performed using a GSSI SIR 2000 GPR controller with an internal hard drive and a color display, and a high-frequency, high-resolution 400 megaHertz (MHz) antenna or transducer.

Initial setup and calibration of the GPR system indicated an approximate depth of investigation of approximately 10 feet below grade.

## Results Summary

The buried metal detection survey results are displayed in Figure 2. The figure displays the color-contoured data (in mV) from the fourth time gate of the EM-61 readings. Enviroscan determined that the fourth time gate was the most suitable (as described above) to detect targets associated with USTs. The contours are shaded from green to light blue to yellow to red to magenta with increasing Gate 4 responses.

The EM-61 data (Figure 2) display several metallic anomalies. The anomalies include any area of the EM-61 survey area that displays a color contour shaded yellow to red to magenta. Green contours represent areas clear of metal. Several large red rectangular anomalies are displayed in Figure 2, and represent areas of reinforced concrete described above. The linear yellow anomaly oriented southwest to northeast near the middle of the survey area is a likely a buried utility. Other large red and magenta targets along the western edge of the survey area are from several manhole covers located within the survey area. The remaining anomalies are too small and non-linear to represent USTs or buried utilities.

The GPR data were collected across the site in profiles oriented northwest to southeast and southwest to northeast. The beginning and end of each profile was recorded with DGPS and the profiles were gridded at ten-foot intervals to allow for accurate scaling of the GPR data. The GPR data were examined in the field in real time for the presence of USTs and utilities. An anomalous area was discovered with GPR, and five profiles were collected in this area. The selected profiles are displayed in Figure 3 as black lines and are labeled as Profiles A to E. The GPR reflections are displayed on the right panel of Figure 3 with identified anomalies labeled. It was determined that the anomalous area consisted of disturbed soils, and that it was not representative of USTs. The location of this area of disturbed soils is shown on Figure 4 as a magenta-dashed polygon.

Note that Enviroscan collected a large amount of GPR data and has the data on file which is available at the client's request. For the purpose of this survey, however, only the five profiles were presented. None of the other GPR profiles revealed any anomalies consistent with USTs.

The survey area was also scanned the Radiodetection C.A.T. and Genny pipe and cable locator and tracer. Several utilities were detected and their locations and descriptions are displayed on Figure 4. Many of the detected utilities were listed as unknowns because their origin and type could not be determined.

## Limitations

The above-referenced geophysical survey was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology. Enviroscan does not accept responsibility for survey limitations due to inherent technological limitations or unforeseen site-specific conditions. However, we make every effort to identify and notify the client of such limitations or conditions.

As always, we appreciate this opportunity to have worked with you. If you have any questions, please do not hesitate to contact me.

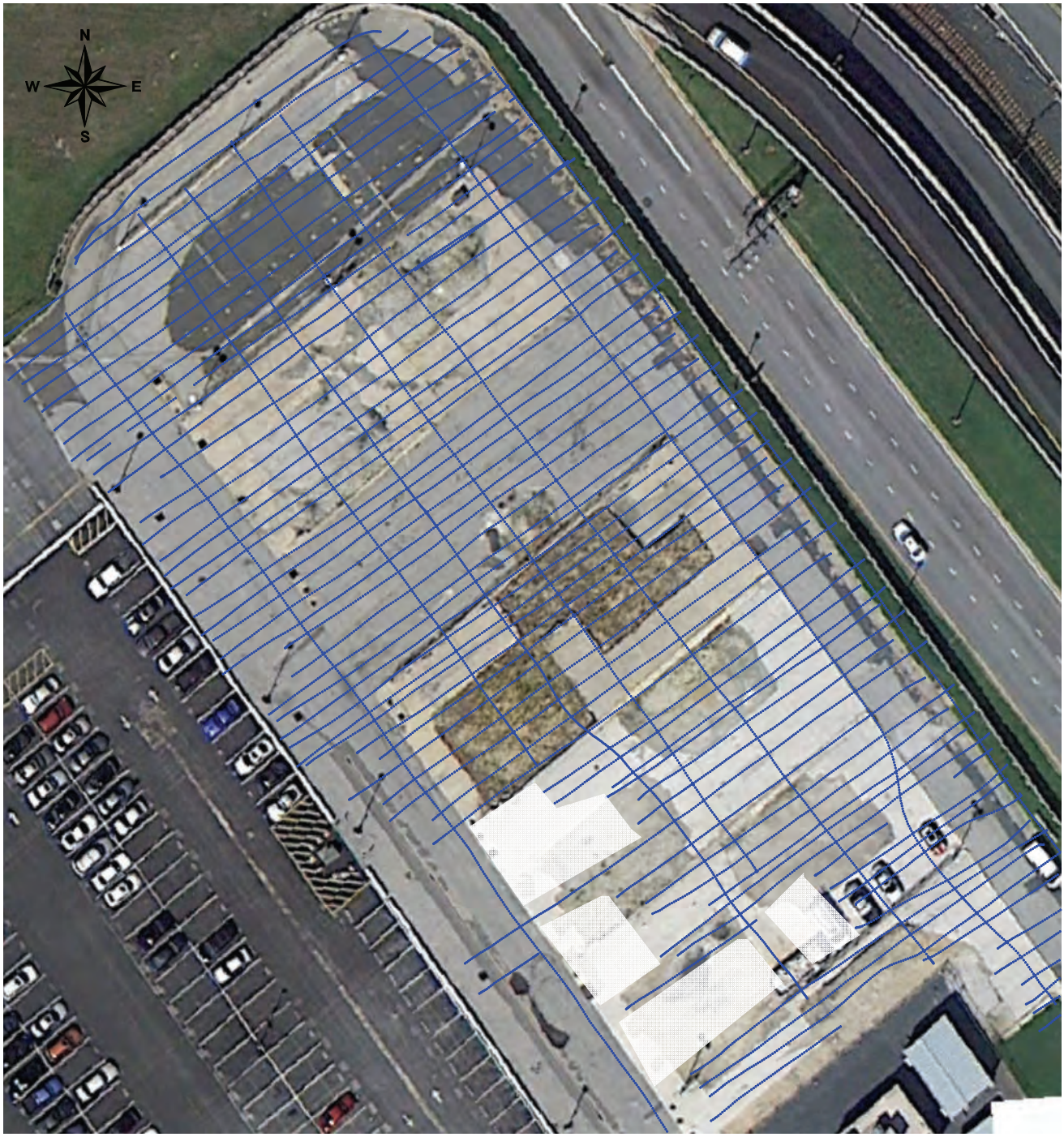
Sincerely,
**Enviroscan, Inc.**

Christopher Lash
Geophysics Project Manager

Technical Review By:
**Enviroscan, Inc.**

Felicia Kegel Bechtel, M.Sc., P.G.
President

enc.: Figure 1: EM-61 Survey Data Coverage
Figure 2: EM-61 Data Survey Results
Figure 3: Selected GPR Profiles
Figure 4: Geophysical and Utility Survey Results




Notes:

Basemap features from DGPS Survey by Enviroscan.

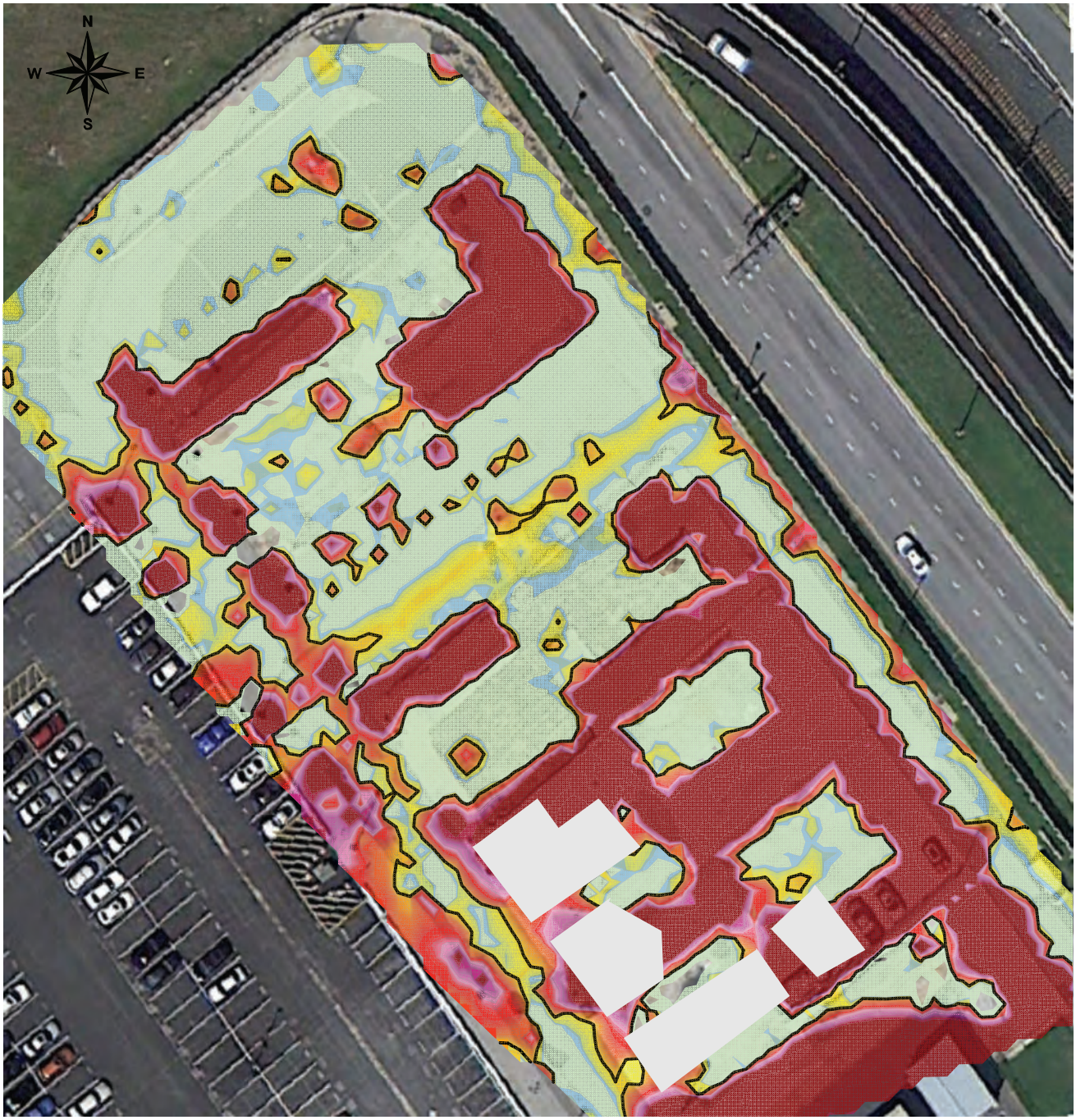
Basemap Image from Google Maps
Google Maps - ©2012 Google Inc.

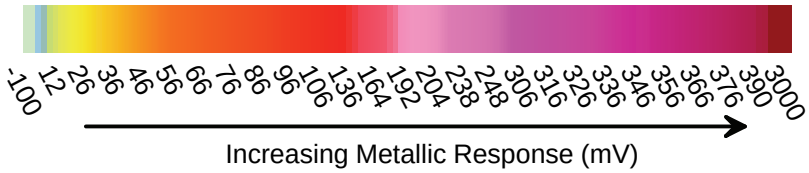
EM-61 Data Survey Point

Scale (feet)

0 50 100

| Prepared by: | Title: | Project Location: | | Figure |
|---|---|---|---|---|
| **Enviroscan, Inc.**<br>1051 Columbia Ave.<br>Lancaster PA 17603<br>717-396-8922<br>www.enviroscan.com | **EM61 Data Coverage Map** | Employee Parking Lot<br>Baltimore Washington<br>International Airport<br>Linthicum, MD | | **1** |
| | | Project Number<br>111252 | Revision/Issue<br>01.04.2013 | |
| | | Original Scale<br>1" = 50' | Survey Ending Date<br>12.12.2012 | Drawn by: CLL<br>Approved by: FKB |




Notes:

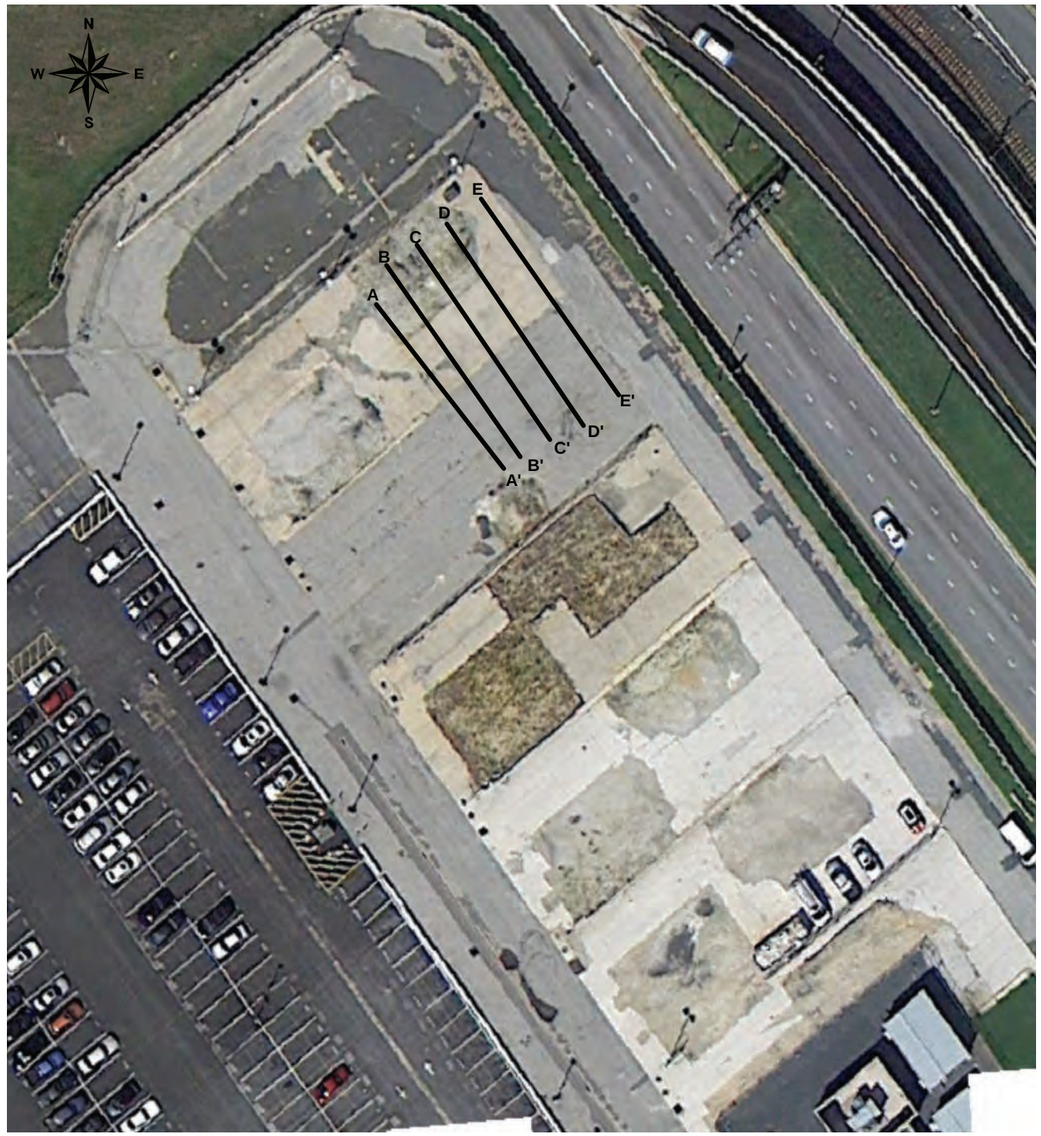
Basemap features from DGPS Survey by Enviroscan.

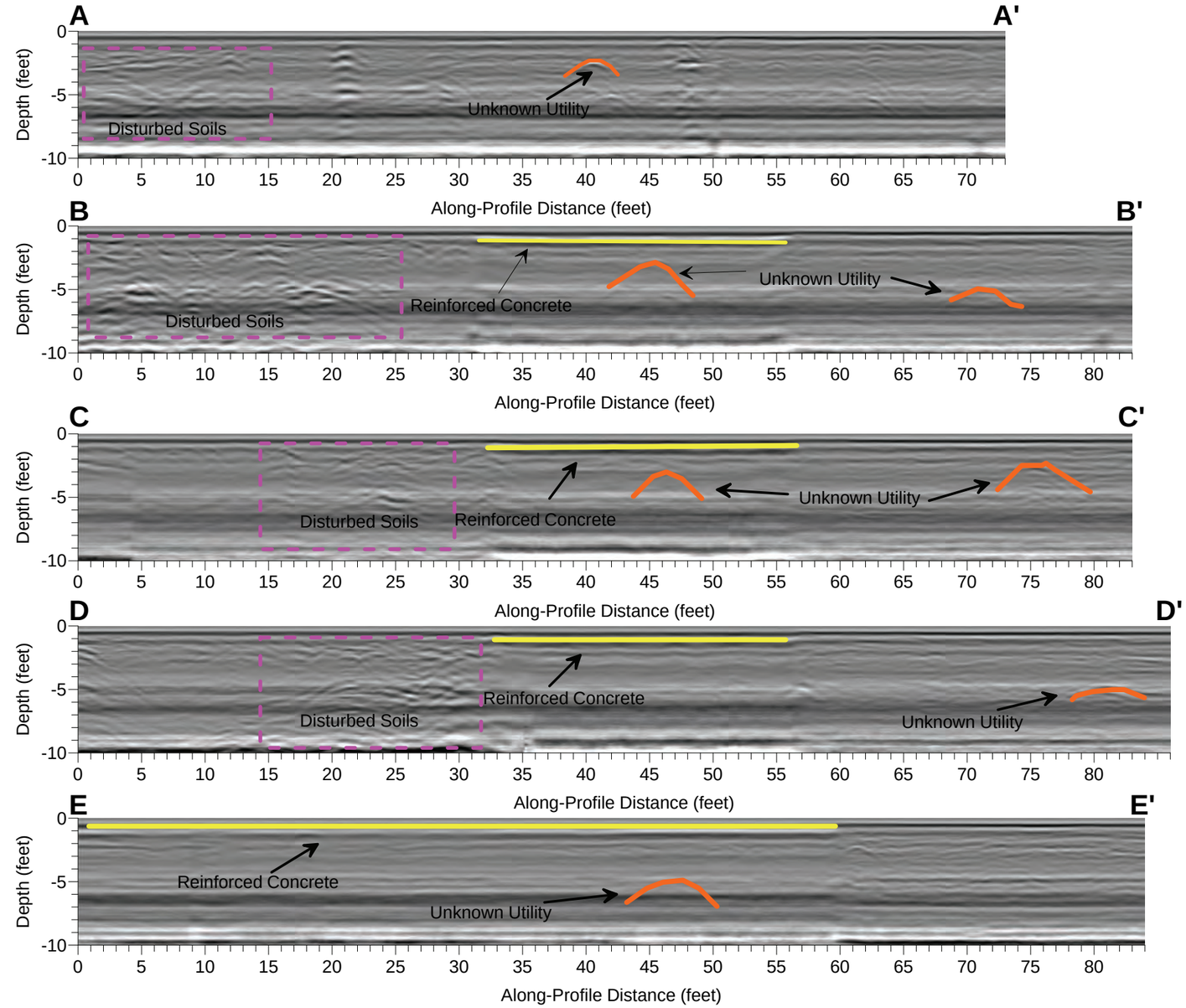
Basemap Image from Google Maps
Google Maps - ©2012 Google Inc.

Scale (feet)

0 50 100

| Prepared by: | Title: | Project Location: | | Figure |
|---|---|---|---|---|
| Enviroscan, Inc.<br>1051 Columbia Ave.<br>Lancaster PA 17603<br>717-396-8922<br>www.enviroscan.com | **EM-61 Data Contour Map** | Employee Parking Lot<br>Baltimore Washington<br>International Airport<br>Linthicum, MD | | **2** |
| | | Project Number<br>111252 | Revision/Issue<br>01.04.2013 | |
| | | Original Scale<br>1" = 50' | Survey Ending Date<br>12.12.2012 | Drawn by: CLL<br>Approved by: FKB |




Notes:

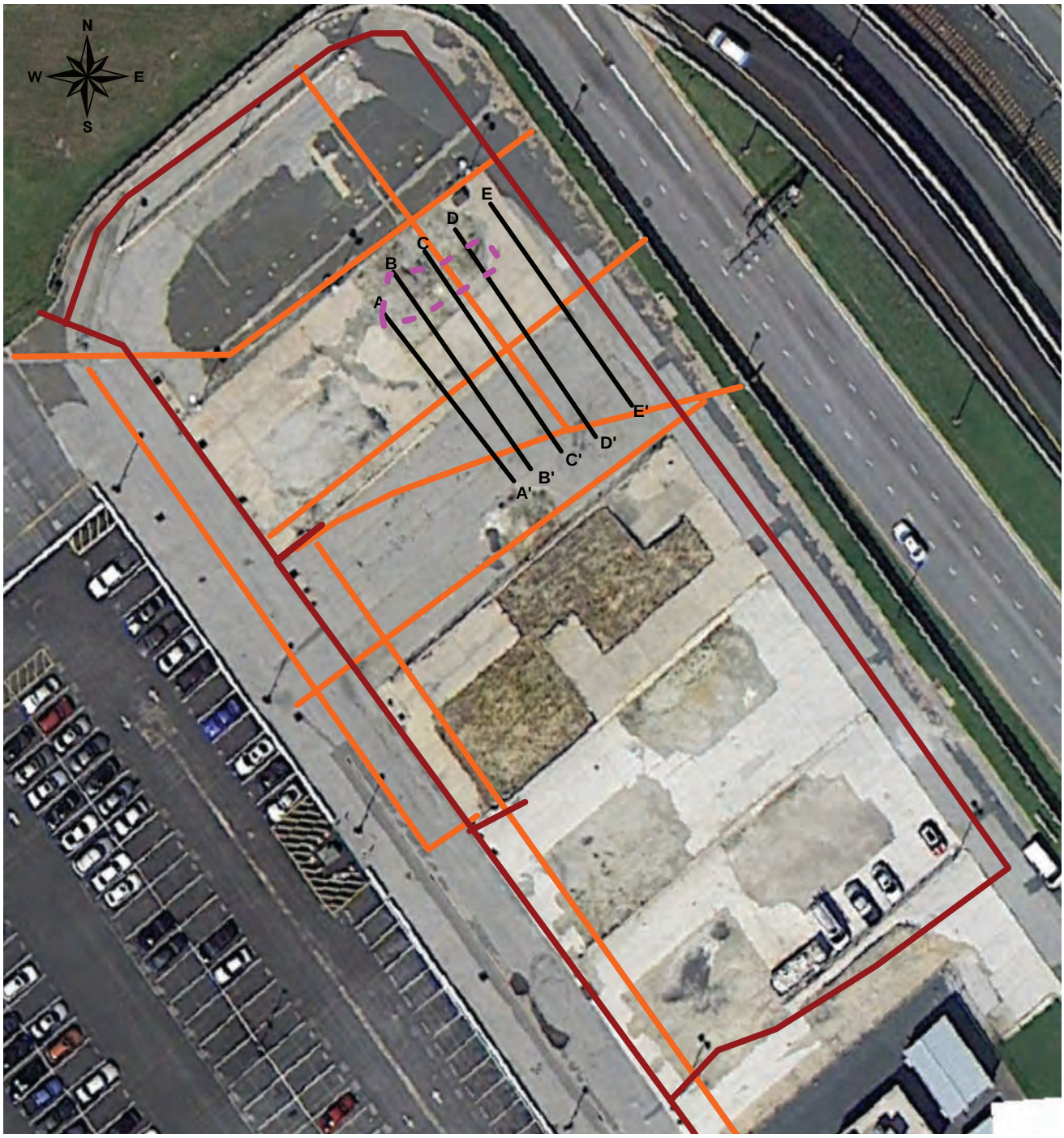
Basemap features from DGPS Survey by Enviroscan.

Basemap Image from Google Maps
Google Maps - ©2012 Google Inc.

GPR Profile

Scale (feet)
0 50 100

| Prepared by: | Title: | Project Location: | Figure |
|---|---|---|---|
| Enviroscan, Inc.<br>1051 Columbia Ave.<br>Lancaster PA 17603<br>717-396-8922<br>www.enviroscan.com | **Selected GPR Profiles** | Employee Parking Lot<br>Baltimore Washington<br>International Airport<br>Linthicum, MD | **3** |
| | | Project Number: 111252 / Revision/Issue: 01.04.2013 | |
| | | Original Scale: 1" = 50' / Survey Ending Date: 12.12.2012 | Drawn by: CLL / Approved by: FKB |




## Legend

(GPR Detected) Disturbed Soils

Electric

Unknown Utility

Storm System

Notes:

Basemap features from DGPS Survey by Enviroscan.

Basemap Image from Google Maps
Google Maps - ©2012 Google Inc.

Scale (feet)

0 50 100

| Prepared by: | Title: | Project Location: | Figure |
|---|---|---|---|
| Enviroscan, Inc.<br>1051 Columbia Ave.<br>Lancaster PA 17603<br>717-396-8922<br>www.enviroscan.com | **Geophysical and Utility Survey Results** | Employee Parking Lot<br>Baltimore Washington<br>International Airport<br>Linthicum, MD | **4** |
| | | Project Number: 111252 / Revision/Issue: 01.04.2013 | |
| | | Original Scale: 1" = 50' / Survey Ending Date: 12.12.2012 | Drawn by: CLL / Approved by: FKB |

# ATTACHMENT 2

Soil Boring Logs

| | | |
|---|---|---|
| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | ***BORING ID: E01*** |
| | *Project Number: 60268768* | |
| | *Site Location: BWI Thurgood Marshall Airport TO-10* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* *Date Started: 12/21/12* | *Depth of Boring: 25ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* *Date Finished: 12/21/12* | *Water Level: Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6-inches asphalt | | |
| 1 | | | | 0.0 | | 3-inches stone subgrade | | |
| | | | | | | Reddish brown silty SAND, moist, no odor. | | |
| 2 | | | | 0.0 | | | | |
| 3 | | | | 0.0 | | | | |
| 4 | | | | 0.0 | | | | |
| 5 | | | | 0.0 | | | | |
| | | | | | | Reddish brown silty SAND, coarse to medium grained, well graded, moist, no odor. | | |
| 6 | | | | 0.0 | | | | |
| 7 | | | | 0.0 | | | | |
| 8 | | | | 0.0 | | | | |
| 9 | | | | 0.0 | | | | |
| 10 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 11 | | | | 0.0 | | | | |
| 12 | | | | 0.0 | | | | |
| 13 | | | | 0.0 | | Reddish-brown SAND, coarse grain, poorly graded, very moist, no odor. | E-01 | 13'-14' |
| 14 | | | | 0.0 | | White CLAY, little silt, no plasticity, stiff, moist, no odor. | | |
| 15 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 16 | | | | 0.0 | | | | |
| 17 | | | | 0.0 | | | | |
| 18 | | | | 0.0 | | White sandy CLAY, trace silt, very moist, no odor. | | |
| 19 | | | | 0.0 | | | | |
| 20 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 21 | | | | 0.0 | | | | |
| 22 | | | | 0.0 | | Reddish-brown SAND, few gravels, coarse grained, poorly graded, little silt, firm, very moist, no odor. | | |
| 23 | | | | 0.0 | | | | |
| 24 | | | | 0.0 | | | | |
| 25 | | | | 0.0 | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
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Checked by _____ Date:_____

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|---|---|---|---|
| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-02*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* | *Date Started: 12/21/12* | *Depth of Boring: 30ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6-inches asphalt | | |
| 1 | | | | 0.0 | | 3-inches stone subgrade | | |
| | | | | | | Brown silty SAND, moist, no odor. | | |
| 2 | | | | 0.0 | | | | |
| 3 | | | | 0.0 | | | | |
| 4 | | | | 0.0 | | | | |
| 5 | | | | 0.0 | | | | |
| | | | | | | Brown/White sandy SILT, some clay, trace gravels, no plasticity, firm, moist, no odor | | |
| 6 | | | | 0.0 | | | | |
| 7 | | | | 0.0 | | | | |
| 8 | | | | 0.0 | | | | |
| 9 | | | | 0.0 | | | | |
| 10 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 11 | | | | 0.0 | | Reddish-brown clayey SAND, little silt, trace gravels, moist, no odor. | | |
| 12 | | | | 0.0 | | | | |
| 13 | | | | 0.0 | | | | |
| 14 | | | | 0.0 | | | | |
| 15 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 16 | | | | 0.0 | | White sandy CLAY, no plasticity, moist, firm, no odor. | E-02 | 16' |
| 17 | | | | 0.0 | | | | |
| 18 | | | | 0.0 | | | | |
| 19 | | | | 0.0 | | | | |
| 20 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 21 | | | | 0.0 | | Reddish-brown SAND, trace gravels and silt, poorly graded, very moist, no odor. | | |
| 22 | | | | 0.0 | | | | |
| 23 | | | | 0.0 | | | | |
| 24 | | | | 0.0 | | | | |
| 25 | | | | 0.0 | | | | |
| | | | | | | -same-, more clay | | |
| 26 | | | | 0.0 | | | | |
| 27 | | | | 0.0 | | | | |
| 28 | | | | 0.0 | | | | |
| 29 | | | | 0.0 | | | | |
| 30 | | | | 0.0 | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
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Checked by _____ Date:_____

| | | |
|---|---|---|
| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | ***BORING ID: E-03*** |
| | *Project Number: 60268768* | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* *Date Started: 12/21/12* | *Depth of Boring: 25ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6-inches grass and topsoil | | |
| 1 | | | | 0.0 | | Brown sitly SAND, moist, no odor. | | |
| 2 | | | | 0.0 | | | | |
| 3 | | | | 0.0 | | | | |
| 4 | | | | 0.0 | | | | |
| 5 | | | | 0.0 | | | | |
| | | | | | | Reddish-brown gravelly SILT, little sand, wet, no odor. | | |
| 6 | | | | 0.0 | | | | |
| 7 | | | | 0.0 | | | | |
| 8 | | | | 0.0 | | | | |
| 9 | | | | 0.0 | | | | |
| 10 | | | | 0.0 | | | | |
| | | | | | | White clayey SILT, no plasticity, moist, no odor. | | |
| 11 | | | | 0.0 | | | | |
| 12 | | | | 0.0 | | | | |
| 13 | | | | 0.0 | | | | |
| 14 | | | | 0.0 | | | | |
| 15 | | | | 0.0 | | | E-03 | 15' |
| | | | | | | -same- | | |
| 16 | | | | 0.0 | | | | |
| 17 | | | | 0.0 | | White CLAY, little silt, no plasticity, stiff, moist, no odor. | | |
| 18 | | | | 0.0 | | | | |
| 19 | | | | 0.0 | | | | |
| 20 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 21 | | | | 0.0 | | | | |
| 22 | | | | 0.0 | | Reddish-brown silty SAND, poorly graded, little clay, moist, no odor. | | |
| 23 | | | | 0.0 | | | | |
| 24 | | | | 0.0 | | | | |
| 25 | | | | 0.0 | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
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Checked by _____ Date:_____

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|---|---|---|---|
| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-04*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* | *Date Started: 12/21/12* | *Depth of Boring: 30ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | 0.0 | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown silty SAND, moist, no odor. | | |
| 2 | | | | 0.0 | | | | |
| 3 | | | | 0.0 | | | | |
| 4 | | | | 0.0 | | | | |
| 5 | | | | 0.0 | | | | |
| 6 | | | | 0.0 | | Reddish-brown sandy SILT, some gravel, moist, no odor. | | |
| 7 | | | | 0.0 | | | | |
| 8 | | | | 0.0 | | | | |
| 9 | | | | 0.0 | | | | |
| 10 | | | | 0.0 | | | | |
| 11 | | | | 0.0 | | Gray clayey SILT, trace gravels, moist, no odor. | | |
| 12 | | | | 0.0 | | | | |
| 13 | | | | 0.0 | | | | |
| 14 | | | | 0.0 | | Reddish-brown SAND, medium to coarse grained, well graded, some silt, trace gravels, moist, no odor. | E-04 | 14' |
| 15 | | | | 0.0 | | | | |
| 16 | | | | 0.0 | | -same-, poorly graded, moist, no odor. | | |
| 17 | | | | 0.0 | | | | |
| 18 | | | | 0.0 | | | | |
| 19 | | | | 0.0 | | | | |
| 20 | | | | 0.0 | | | | |
| 21 | | | | 0.0 | | -same- | | |
| 22 | | | | 0.0 | | | | |
| 23 | | | | 0.0 | | | | |
| 24 | | | | 0.0 | | | | |
| 25 | | | | 0.0 | | | | |
| 26 | | | | 0.0 | | -same- | | |
| 27 | | | | 0.0 | | | | |
| 28 | | | | 0.0 | | | | |
| 29 | | | | 0.0 | | | | |
| 30 | | | | 0.0 | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
| | | |
| | | |
| | | |

Checked by _____ Date:_____

| | | |
|---|---|---|
| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | ***BORING ID: E-05*** |
| | *Project Number: 60268768* | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* *Date Started: 12/21/12* | *Depth of Boring: 30ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | 0.0 | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown silty SAND, moist, no odor. | | |
| 2 | | | | 0.0 | | | | |
| 3 | | | | 0.0 | | | | |
| 4 | | | | 0.0 | | | | |
| 5 | | | | 0.0 | | | | |
| 6 | | | | 0.0 | | Brown and White clayey SILT, some sand, no plasticity, moist, no odor. | | |
| 7 | | | | 0.0 | | Brown SAND, coarse to medium grained, well graded, moist, no odor. | | |
| 8 | | | | 0.0 | | Brown and White clayey SILT, some sand, no plasticity, moist, no odor. | | |
| 9 | | | | 0.0 | | | | |
| 10 | | | | 0.0 | | | | |
| 11 | | | | 0.0 | | -same- | | |
| 12 | | | | 0.0 | | | | |
| 13 | | | | 0.0 | | White SAND, fine to medium grained, poorly graded, little silt, trace clay and gravels, moist, no odor. | | |
| 14 | | | | 0.0 | | | | |
| 15 | | | | 0.0 | | | | |
| 16 | | | | 0.0 | | -same- | | |
| 17 | | | | 0.0 | | White CLAY, no plasticity, moist, no odor. | E-5 | 17' |
| 18 | | | | 0.0 | | | | |
| 19 | | | | 0.0 | | | | |
| 20 | | | | 0.0 | | | | |
| 21 | | | | 0.0 | | -same- | | |
| 22 | | | | 0.0 | | | | |
| 23 | | | | 0.0 | | | | |
| 24 | | | | 0.0 | | | | |
| 25 | | | | 0.0 | | | | |
| 26 | | | | 0.0 | | -same- | | |
| 27 | | | | 0.0 | | | | |
| 28 | | | | 0.0 | | | | |
| 29 | | | | 0.0 | | | | |
| 30 | | | | 0.0 | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-06*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* | *Date Started: 12/21/12* | *Depth of Boring: 30ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6-inches asphalt | | |
| 1 | | | | 0.0 | | 3-inches stone subgrade | | |
| | | | | | | Brown silty SAND, moist, no odor | | |
| 2 | | | | 0.0 | | | | |
| 3 | | | | 0.0 | | | | |
| 4 | | | | 0.0 | | | | |
| 5 | | | | 0.0 | | | | |
| | | | | | | Brown silty CLAY, some sand, no plasticity, moist, no odor. | | |
| 6 | | | | 0.0 | | | | |
| 7 | | | | 0.0 | | Reddish-brown to black clayey SAND, fine to medium grain, well graded, no plasticity, moist, no odor. | | |
| 8 | | | | 0.0 | | | | |
| 9 | | | | 0.0 | | | | |
| 10 | | | | 0.0 | | | | |
| | | | | | | White sandy CLAY, no plasticity, stiff, moist, no odor. | | |
| 11 | | | | 0.0 | | | | |
| 12 | | | | 0.0 | | | | |
| 13 | | | | 0.0 | | | | |
| 14 | | | | 0.0 | | | | |
| 15 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 16 | | | | 0.0 | | | | |
| 17 | | | | 0.0 | | Reddish-brown SAND, little silt, trace clay, moist, no odor. | | |
| 18 | | | | 0.0 | | | | |
| 19 | | | | 0.0 | | | | |
| 20 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 21 | | | | 0.0 | | | | |
| 22 | | | | 0.0 | | | E-6 | 22' |
| 23 | | | | 0.0 | | White CLAY, some gravels, little sand, poorly graded, no plasticity, moist, no odor. | | |
| 24 | | | | 0.0 | | | | |
| 25 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 26 | | | | 0.0 | | | | |
| 27 | | | | 0.0 | | | | |
| 28 | | | | 0.0 | | | | |
| 29 | | | | 0.0 | | | | |
| 30 | | | | 0.0 | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | ***BORING ID: E-07*** |
| | *Project Number: 60268768* | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* *Date Started: 12/21/12* | *Depth of Boring: 25ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6-inches asphalt | | |
| 1 | | | | 0.0 | | 3-inches stone subgrade | | |
| | | | | | | Brown silty SAND, moist, no odor. | | |
| 2 | | | | 0.0 | | | | |
| 3 | | | | 0.0 | | | | |
| 4 | | | | 0.0 | | | | |
| 5 | | | | 0.0 | | | | |
| | | | | | | Dark brown sandy SILT, firm, moist, no odor. | | |
| 6 | | | | 0.0 | | | | |
| 7 | | | | 0.0 | | | | |
| 8 | | | | 0.0 | | | | |
| 9 | | | | 0.0 | | | | |
| 10 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 11 | | | | 0.0 | | Dark brown silty SAND and GRAVEL, medium to coarse grained, poorly graded, | | |
| | | | | | | moist, no odor. | | |
| 12 | | | | 0.0 | | White CLAY, little silt, trace gravels, no plasticity, moist, no odor. | | |
| 13 | | | | 0.0 | | Reddish-brown silty SAND, loose, moist, no odor. | | |
| 14 | | | | 0.0 | | | | |
| 15 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 16 | | | | 0.0 | | | | |
| 17 | | | | 0.0 | | | | |
| 18 | | | | 0.0 | | | | |
| 19 | | | | 0.0 | | | | |
| 20 | | | | 0.0 | | | E-07 | 20' |
| | | | | | | -same- | | |
| 21 | | | | 0.0 | | White CLAY, no plasticity, moist, no odor. | | |
| 22 | | | | 0.0 | | | | |
| 23 | | | | 0.0 | | Brown SAND, medium to fine graine, poorly graded, moist, no odor. | | |
| 24 | | | | 0.0 | | | | |
| 25 | | | | 0.0 | | Refusal | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | ***BORING ID: E-08*** |
| | *Project Number: 60268768* | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* *Date Started: 12/21/12* | *Depth of Boring: 30ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* *Date Finished: 12/21/12* | *Water Level:28 ft* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6-inches asphalt | | |
| 1 | | | | | 0.0 | 3-inches stone subgrade | | |
| | | | | | | Brown silty SAND, loose, moist, no odor. | | |
| 2 | | | | | 0.0 | | | |
| 3 | | | | | 0.0 | | | |
| 4 | | | | | 0.0 | | | |
| 5 | | | | | 0.0 | | | |
| | | | | | | Dark brown/Black sandy SILT, some gravels, loose, moist, no odor. | | |
| 6 | | | | | 0.0 | | | |
| 7 | | | | | 0.0 | | | |
| 8 | | | | | 0.0 | | | |
| 9 | | | | | 0.0 | | | |
| 10 | | | | | 0.0 | | | |
| | | | | | | -same- | | |
| 11 | | | | | 0.0 | | | |
| 12 | | | | | 0.0 | Reddish-brown silty SAND, medium to coarse grain, poorly graded, moist, no odor. | | |
| 13 | | | | | 0.0 | | | |
| 14 | | | | | 0.0 | | | |
| 15 | | | | | 0.0 | | | |
| | | | | | | -same- | | |
| 16 | | | | | 0.0 | | | |
| 17 | | | | | 0.0 | | | |
| | | | | | | White CLAY, no plasticity, moist, no odor. | | |
| 18 | | | | | 0.0 | | | |
| 19 | | | | | 0.0 | | | |
| 20 | | | | | 0.0 | | | |
| | | | | | | Reddish-brown silty SAND, coarse to fine grain, well graded, medium stiff, moist, | | |
| 21 | | | | | 0.0 | no odor. | | |
| 22 | | | | | 0.0 | | | |
| 23 | | | | | 0.0 | | | |
| 24 | | | | | 0.0 | | | |
| 25 | | | | | 0.0 | | | |
| | | | | | | -same- | | |
| 26 | | | | | 0.0 | | | |
| 27 | | | | | 0.0 | | E-8 | 27' |
| 28 | | | | | 0.0 | -same-, wet. | | |
| 29 | | | | | 0.0 | | | |
| 30 | | | | | 0.0 | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | ***BORING ID: E-09*** |
| | *Project Number: 60268768* | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* *Date Started: 12/21/12* | *Depth of Boring: 30ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6-inches asphalt | | |
| 1 | | | | 0.0 | | 3-inches stone subgrade | | |
| | | | | | | Reddish-brown silty SAND, few gravels, moist, no odor. | | |
| 2 | | | | 0.0 | | | | |
| 3 | | | | 0.0 | | | | |
| 4 | | | | 0.0 | | | | |
| 5 | | | | 0.0 | | | | |
| | | | | | | Dark brown silty SAND, medium grain, poorly graded, very moist, no odor. | | |
| 6 | | | | 0.0 | | | | |
| 7 | | | | 0.0 | | | | |
| 8 | | | | 0.0 | | | | |
| 9 | | | | 0.0 | | | | |
| 10 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 11 | | | | 0.0 | | | | |
| 12 | | | | 0.0 | | | | |
| 13 | | | | 0.0 | | | E-9 | 13' |
| 14 | | | | 0.0 | | Gray CLAY, little sand, no plasticity, moist, no odo | | |
| 15 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 16 | | | | 0.0 | | | | |
| 17 | | | | 0.0 | | | | |
| 18 | | | | 0.0 | | Reddish-brown clayey SAND, medium to fine grain, poorly graded, no plasticity, | | |
| | | | | | | moist, no odor. | | |
| 19 | | | | 0.0 | | | | |
| 20 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 21 | | | | 0.0 | | | | |
| 22 | | | | 0.0 | | | | |
| 23 | | | | 0.0 | | | | |
| 24 | | | | 0.0 | | | | |
| 25 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 26 | | | | 0.0 | | | | |
| 27 | | | | 0.0 | | | | |
| 28 | | | | 0.0 | | | | |
| 29 | | | | 0.0 | | | | |
| 30 | | | | 0.0 | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | ***BORING ID: E-10*** |
| | *Project Number: 60268768* | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* *Date Started: 12/21/12* | *Depth of Boring: 25ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* *Date Finished: 12/21/12* | *Water Level:15 ft* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6-inches asphalt | | |
| 1 | | | | 0.0 | | 3-inches stone subgrade | | |
| | | | | | | Brown sitly SAND, medium to fine grain, well graded, moist, no odor. | | |
| 2 | | | | 0.0 | | | | |
| 3 | | | | 0.0 | | | | |
| 4 | | | | 0.0 | | | | |
| 5 | | | | 0.0 | | | | |
| | | | | | | Brown clayey SAND, medium to fine grain, well graded, no plasticity, moist, | | |
| 6 | | | | 0.0 | | no odor. | | |
| 7 | | | | 0.0 | | | | |
| 8 | | | | 0.0 | | | | |
| 9 | | | | 0.0 | | | | |
| 10 | | | | 0.0 | | -same-, less clay, saturated | | |
| 11 | | | | 0.0 | | | | |
| 12 | | | | 0.0 | | | | |
| 13 | | | | 0.0 | | Dark gray silty SAND, coarse to medium grain, well graded, firm, wet, no odor. | | |
| 14 | | | | 0.0 | | Reddish-brown, same, poorly graded, few gravels, moist, no odor. | | |
| 15 | | | | 0.0 | | | | |
| | | | | | | -same-, saturated. | | |
| 16 | | | | 0.0 | | | E-10 | 16' |
| 17 | | | | 0.0 | | White CLAY, no plasticity, moist, no odor. | | |
| 18 | | | | 0.0 | | Tan SAND, little silt, trace gravels, poorly graded, moist, no odor. | | |
| 19 | | | | 0.0 | | | | |
| 20 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 21 | | | | 0.0 | | | | |
| 22 | | | | 0.0 | | | | |
| 23 | | | | 0.0 | | | | |
| 24 | | | | 0.0 | | | | |
| 25 | | | | 0.0 | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | | ***BORING ID: E-11*** |
|---|---|---|---|---|
| | *Project Number: 60268768* | | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | | |
| | *Coordinates:* | *Elevation:* | | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/21/12* | | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown sitly SAND, mosit, no odor. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 60 | 22.6 | 22.6 | White/Brown silty clay, wet. | | |
| 7 | | | | 8.7 | 8.7 | Dark brown SAND, fine grain, moist. | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | 36 | 24.6 | 24.6 | Brown silty SAND, moist. | | |
| 12 | | | | | | | | |
| 13 | | | | 9.2 | 9.2 | White clay, slightly moist to dry, no odor. | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | 60 | 0.3 | 0.3 | -same-, high plasticity | | |
| 17 | | | | 3.2 | 3.2 | Brown SAND, fine grain, moist. | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 48 | 8.9 | 8.9 | Brown SAND, loose. | | |
| 22 | | | | 2.8 | 2.8 | Tan SAND, coarse grained. | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | 36 | 1.1 | 1.1 | -same- | | |
| 27 | | | | | | | | |
| 28 | | | | | | | | |
| 29 | | | | 0.0 | 0.0 | Brown SAND/GRAVEL. | E-11 | 29'-30' |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-12*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Jeremy Joiner* | *Date Started: 12/21/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6-inches asphalt | | |
| 1 | | | | 0.0 | | 3-inches stone subgrade | | |
| | | | | | | Brown silty SAND, some gravels, poorly graded, moist, no odor. | | |
| 2 | | | | 0.0 | | | | |
| 3 | | | | 0.0 | | | | |
| 4 | | | | 0.0 | | | | |
| 5 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 6 | | | | 0.0 | | | | |
| 7 | | | | 0.0 | | | | |
| 8 | | | | 0.0 | | -same-, gray/black, no gravels, moist, no odor. | | |
| 9 | | | | 0.0 | | | | |
| 10 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 11 | | | | 0.0 | | | | |
| 12 | | | | 0.0 | | | | |
| 13 | | | | 0.0 | | | | |
| 14 | | | | 0.0 | | | | |
| 15 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 16 | | | | 0.0 | | | | |
| 17 | | | | 0.0 | | White clayey GRAVEL, no plasticity, moist, no odor. | | |
| 18 | | | | 0.0 | | | | |
| 19 | | | | 0.0 | | | | |
| 20 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 21 | | | | 0.0 | | Reddish-brown silty SAND, coarse to fine grain, well graded, firm, moist, no odor. | E-12 | 21' |
| 22 | | | | 0.0 | | | | |
| 23 | | | | 0.0 | | | | |
| 24 | | | | 0.0 | | | | |
| 25 | | | | 0.0 | | | | |
| | | | | | | -same- | | |
| 26 | | | | 0.0 | | | | |
| 27 | | | | 0.0 | | | | |
| 28 | | | | 0.0 | | | | |
| 29 | | | | 0.0 | | | | |
| 30 | | | | 0.0 | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | ***BORING ID: E-13*** |
| | *Project Number: 60268768* | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | |
| | *Coordinates:* *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* *Date Started: 12/21/12* | *Depth of Boring: 20ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown sitly SAND, moist, no odor. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 24 | 0.0 | | -same- | | |
| 7 | | | | | | | | |
| 8 | | | | 0.0 | | Gray gravelly SILT, fine grain, poorly graded, dry, no odor. | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | 54 | 4.6 | | Dark brown silty, SAND, dry, no odor. | | |
| 12 | | | | | | | | |
| 13 | | | | 3.7 | | -same-, medium to coarse grained | | |
| 14 | | | | 1.3 | | Brown SAND, fine grain, dry, no odor. | | |
| 15 | | | | | | | | |
| 16 | | | 60 | 0.8 | | -same- | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | E-13 | 19'-20' |
| 20 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-14*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/21/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown silty SAND, moist, no odor. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 36 | 0.0 | | Brown SAND, fine grain, wet, no odor. | | |
| 7 | | | | | | | | |
| 8 | | | | 0.0 | | -same- | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | 48 | 0.0 | | -same- | | |
| 12 | | | | | | | | |
| 13 | | | | 0.0 | | White CLAY, high plasticity, dry. | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | 42 | 0.0 | | Brown SAND, coarse grain, few gravels, dry, no odor. | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 48 | 0.0 | | -same- | | |
| 22 | | | | 0.0 | | Tan SAND, coarse grain, dry, no odor. | | |
| 23 | | | | 0.0 | | -same-, more gravels. | | |
| 24 | | | | 0.0 | | -same- | | |
| 25 | | | | 0.0 | | -same- | | |
| 26 | | | 36 | 0.0 | | Brown SAND, fine grained, moist, no odor | | |
| 27 | | | | | | | | |
| 28 | | | | 0.0 | | Brown sandy SILT, wet, no odor. | | |
| 29 | | | | | | | E-14 | 29'-30' |
| 30 | | | | 0.0 | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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|---|---|---|---|
| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-15*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/21/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown silty SAND, moist, no odor. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 60 | 0.8 | | -same-, fine grain, dry, no odor. | | |
| 7 | | | | 0.0 | | White CLAY, high plasticity, no odor. | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | 0.0 | | -same- | | |
| 11 | | | 48 | 0.0 | | Black sandy GRAVEL, poorly graded, dry, no odor. | | |
| 12 | | | | 0.7 | | Tan SAND, fine grain, dry, no odor. | | |
| 13 | | | | 0.0 | | -same-, moist, no odor. | | |
| 14 | | | | 0.0 | | -same-, brown | | |
| 15 | | | | 0.0 | | -same- | | |
| 16 | | | 60 | 0.0 | | Light brown gravelly SAND, fine to medium grain, well graded, dry, no odor. | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 60 | 3.5 | | Tan GRAVEL, some sand, dry, no odor. | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | 0.6 | | -same- | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 2.3 | | -same- | | |
| 27 | | | | | | | | |
| 28 | | | | 4.9 | | -same- | | |
| 29 | | | | | | | E-15 | 29'-30' |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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|---|---|---|---|
| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-16*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/21/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown silty SAND, moist, no odor. | E-16 | 0-1 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 60 | 2.7 | | Brown SAND, few gravels, dry, no odor. | | |
| 7 | | | | 3.0 | | White CLAY, high plasticity, dry, no odor. | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | 48 | 3.3 | | White sandy CLAY, low plasticity, dry, no odor. | | |
| 12 | | | | 0.0 | | -same, high plasticity | | |
| 13 | | | | | | | | |
| 14 | | | | 0.0 | | -same-, large gravels | | |
| 15 | | | | | | | | |
| 16 | | | 60 | 0.0 | | White SAND, fine grained, dry, no odor. | | |
| 17 | | | | 0.0 | | Brown gravelly SAND, medium to fine grain, well graded, dry, no odor. | | |
| 18 | | | | | | | | |
| 19 | | | | 2.1 | | Brown SAND, moist, no odor. | | |
| 20 | | | | | | | | |
| 21 | | | 60 | 1.3 | | Brown gravelly SAND, dry, no odor. | | |
| 22 | | | | | | | | |
| 23 | | | | 4.6 | | -same-, moist. | | |
| 24 | | | | 14 | | White CLAY, high plasticity, moist | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 3.7 | | -same-, brown | | |
| 27 | | | | | | Brown silty SAND, well graded, moist, no odor. | | |
| 28 | | | | | | | E-16 | 28'-29 |
| 29 | | | | | | | | |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-17*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/21/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown sitly SAND, moist, no odor. | E-17 | 0-1 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 36 | 0.0 | | Brown SAND, some gravel, well graded, dry, no odor. | | |
| 7 | | | | | | | | |
| 8 | | | | 0.0 | | -same-, fine grain. | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | 60 | 0.0 | | -same- | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | 60 | 0.8 | | -same- | | |
| 17 | | | | | | | | |
| 18 | | | | 4.6 | | | | |
| 19 | | | | | | | | |
| 20 | | | | 0.0 | | White CLAY, moist, no plasticity. | | |
| 21 | | | 60 | 0.0 | | Brown silty SAND, few gravels, moist, no odor. | | |
| 22 | | | | 2.3 | | Brown silty SAND, coarse grain, moist, no odor | | |
| 23 | | | | | | | | |
| 24 | | | | 2.5 | | White SAND, fine grain, moist, no odor. | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 3.7 | | Brown SAND, fine to medium grain, well graded, moist, no odor. | | |
| 27 | | | | | | | | |
| 28 | | | | | | Brown silty SAND, moist, no odor. | | |
| 29 | | | | | | | E-17 | 29-30 |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-18*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/19/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/19/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown silty SAND, moist, no odor. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 48 | 93.6 | | Dark brown sitly SAND, few gravels, loose, moist, petroleum odor present. | | |
| 7 | | | | 153.6 | | -same | E-18 | 7-8' |
| 8 | | | | | | | | |
| 9 | | | | 67.4 | | -same- | | |
| 10 | | | | | | | | |
| 11 | | | 42 | 23.7 | | Brown gravelly SAND, moist, petroleum odor present. | | |
| 12 | | | | | | | | |
| 13 | | | | 20.9 | | light brown, -same- | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | 48 | 9.4 | | Brown SAND, moist. | | |
| 17 | | | | 53.7 | | Light brown SAND, loose, moist, odor present. | | |
| 18 | | | | 10.7 | | -same, little clay and gravels | | |
| 19 | | | | 5.6 | | -same- | | |
| 20 | | | | | | | | |
| 21 | | | 60 | 5.2 | | Light brown silty CLAY, no plasticity, moist, no odor. | | |
| 22 | | | | 2.5 | | White CLAY, no plasticity, moist, no odor. | | |
| 23 | | | | 0.4 | | -same- | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | 54 | 4.6 | | Light brown SAND, loose, moist, no odor. | | |
| 27 | | | | 7.6 | | -same- | | |
| 28 | | | | 3.5 | | -same- | | |
| 29 | | | | | | | | |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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|---|---|---|---|
| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-19*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/19/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/19/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown silty SAND, moist, no odor. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 36 | 16.1 | | Dark brown sandy CLAY, moist, no odor | | |
| 7 | | | | | | | | |
| 8 | | | | 0.0 | | Whiite CLAY, no plasticity, moist, no odor. | | |
| 9 | | | | 16.8 | | Black clayey SAND, moist, no odor. | | |
| 10 | | | | | | | | |
| 11 | | | 48 | 0.2 | | White/red silty CLAY, no plasticity, moist, no odor | | |
| 12 | | | | | | | | |
| 13 | | | | 0.0 | | White and Tan sandy CLAY, moist, no odor. | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | 48 | 0.8 | | Dark brown silty CLAY, moist, no odor. | | |
| 17 | | | | | | | | |
| 18 | | | | 0.2 | | -same- | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 60 | 0.0 | | White, same | | |
| 22 | | | | | | | | |
| 23 | | | | 0.0 | | Light brown SAND, no odor. | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 0.0 | | White silty CLAY | | |
| 27 | | | | | | | E-19 | 27.5'-28' |
| 28 | | | | 4.4 | | Brown SAND, moist, no odor | | |
| 29 | | | | 0.9 | | -same-, loose | | |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-20*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/19/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/19/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 48 | 0.0 | | Dark brown SAND, loose, moist, no odor | | |
| 7 | | | | 0.0 | | Dark brown silty SAND, little clay, moist, no odor | | |
| 8 | | | | | | | | |
| 9 | | | | 0.0 | | Dark brown organics lens. | | |
| 10 | | | | | | | | |
| 11 | | | 36 | | | -same- | | |
| 12 | | | | | | | | |
| 13 | | | | 0.0 | | Brown sitly CLAY,moist, no odor. | | |
| 14 | | | | 0.0 | | Dark brown SAND, loose, moist, no odor | | |
| 15 | | | | | | | | |
| 16 | | | 36 | | | -same- | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | 0.2 | | Sandy GRAVEL, loose, moist, no odor | | |
| 20 | | | | 0.0 | | -same- | | |
| 21 | | | 36 | 0.0 | | Light brown SAND, some gravels, loose, moist, no odor. | | |
| 22 | | | | 0.0 | | -same- | | |
| 23 | | | | 0.0 | | Brown SAND, mosit, no odor. | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 0.0 | | Light brown CLAY, no plasticity, moist, no odor. | E-20 | 26'-27' |
| 27 | | | | 4.1 | | Dark brown SAND, moist, no odor. | | |
| 28 | | | | | | | | |
| 29 | | | | 0.0 | | -same- | | |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-21*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/18/12* | *Depth of Boring: 35 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/18/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown silty SAND, moist, no odor. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 6 | 0.8 | | Light brown silty SAND, firm, moist, no odor. | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | 36 | 0.0 | | -same- | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | 55 | 0.0 | | -same- | | |
| 17 | | | | 0.2 | | | | |
| 18 | | | | 0.3 | | Light brown gravelly SAND, moist, no odor. | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 48 | 2.1 | | Dark brown silty SAND, moist, no odor | | |
| 22 | | | | 0.7 | | light brown, same | | |
| 23 | | | | | | | | |
| 24 | | | | 0.0 | | Light brown SAND, moist, no odor. | | |
| 25 | | | | | | | | |
| 26 | | | 60 | | | | | |
| 27 | | | | 3.1 | | -same- | | |
| 28 | | | | | | | | |
| 29 | | | | | | | E-21 | 29'-30' |
| 30 | | | | | | Light brown GRAVEL, little silt, moist, no odor. | | |
| 31 | | | | 4.2 | | Light brown SAND, trace gravels, moist, slight petroleum odor present. | | |
| 32 | | | | | | | | |
| 34 | | | | | | | | |
| 35 | | | | 3.1 | | -same- | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | | |
|---|---|---|---|---|
| | *Project Number: 60268768* | | | ***BORING ID: E-22*** |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | | |
| | *Coordinates:* | *Elevation:* | | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/18/12* | | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/18/12* | | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 36 | 0.0 | | Dark brown SAND, few white gravels, loose, poorly graded, moist, no odor. | | |
| 7 | | | | 0.7 | | -same- | | |
| 8 | | | | 0.0 | | -same- | | |
| 9 | | | | 0.0 | | -same- | | |
| 10 | | | | 0.0 | | -same- | | |
| 11 | | | 48 | 0.0 | | -same- | | |
| 12 | | | | 0.0 | | White gravelly SAND, loose, poorly graded, moist, no odor. | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | 60 | 0.0 | | Dark brown SAND, coarse grain | | |
| 17 | | | | | | | | |
| 18 | | | | 0.0 | | -same- | | |
| 19 | | | | | | | | |
| 20 | | | | 0.0 | | Light brown sandy GRAVEL, loose, moist, no odor. | | |
| 21 | | | 60 | 0.0 | | -same- | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 0.0 | | -same- | | |
| 27 | | | | | | | | |
| 28 | | | | 0.0 | | Light brown CLAY, moist, no odor. | | |
| 29 | | | | | | | E-22 | 29'-30' |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
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Checked by _____ Date:_____

| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | | |
|---|---|---|---|---|
| | *Project Number: 60268768* | | | ***BORING ID: E-23*** |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | | |
| | *Coordinates:* | *Elevation:* | | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/19/12* | | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/19/12* | | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown sitly SAND, moist, no recovery. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 0 | | | No Recovery | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | 48 | 0.0 | | Red/White sandy CLAY, no plasticity, moist, no odor. | | |
| 12 | | | | | | | | |
| 13 | | | | 0.0 | | -same- | | |
| 14 | | | | 0.0 | | -same- | | |
| 15 | | | | | | | | |
| 16 | | | 60 | 0.0 | | Light brown SAND, loose, moist, no odor. | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 60 | 0.0 | | -same- | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 0.0 | | -same- | | |
| 27 | | | | | | | | |
| 28 | | | | | | | E-23 | 28'-29' |
| 29 | | | | | | | | |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-24*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/20/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/20/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown sitly SAND, moist, no recovery. | E-24 | 1.5'-2.5' |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 60 | 0.0 | | Black SAND, some gravel, moist, no odor. | | |
| 7 | | | | 0.0 | | Brown/White clayey SAND, moist, no odor. | | |
| 8 | | | | | | | | |
| 9 | | | | 0.0 | | Brown silty SAND, mosit, no odor. | | |
| 10 | | | | | | | | |
| 11 | | | 48 | 0.0 | | Black SAND, few gravels, moist, no odor. | | |
| 12 | | | | 0.5 | | Tan, same | | |
| 13 | | | | | | | | |
| 14 | | | | 0.0 | | Brown silty SAND, moist, no odor | | |
| 15 | | | | | | | | |
| 16 | | | 48 | 0.0 | | Tan gravelly SAND, loose, moist, no odor. | | |
| 17 | | | | 0.0 | | White CLAY, no plasticity, moist, no odor. | | |
| 18 | | | | 0.0 | | Brown SAND, loose, moist, no odor. | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 48 | 1.7 | | Dark brown silty SAND, some gravels, little black staining, moist, no door. | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | 48 | 9.4 | | White SAND, moist, no odor. | E-24 | 26'-28' |
| 27 | | | | 0.0 | | -same- | | |
| 28 | | | | | | | | |
| 29 | | | | | | | | |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-25*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/21/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown sitly SAND, moist, no recovery. | | |
| 2 | | | | | | | E-25 | 2.5'-3.5' |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 36 | 0.0 | | Dark brown SAND, few gravels, moist, no odor | | |
| 7 | | | | 10.7 | | -same- | | |
| 8 | | | | 13.9 | | Brown silty SAND, moist, no odor. | | |
| 9 | | | | 18.9 | | Light brown, same, loose | | |
| 10 | | | | | | | | |
| 11 | | | 60 | 18.2 | | Dark brown SAND, few gravels, moist, no odor | | |
| 12 | | | | 8.7 | | -same- | | |
| 13 | | | | 9.6 | | White CLAY, moist, no odor. | | |
| 14 | | | | 1.2 | | White sandy CLAY, some gravels, moist, no odor | | |
| 15 | | | | 50.2 | | White sandy gravel, fine to medium grain, poorly graded, moist, no odor. | | |
| 16 | | | 60 | | | | | |
| 17 | | | | 7.7 | | Orange gravelly SAND, coarse grain, moist, no odor. | | |
| 18 | | | | | | | | |
| 19 | | | | 13.4 | | -same- | | |
| 20 | | | | 11.5 | | -same- | | |
| 21 | | | 60 | 82.9 | | Dark brown SAND, mosit, petroleum odor present. | | |
| 22 | | | | 336 | | Tan sandy GRAVEL, fine grain sand, poorly graded, moist, petroleum odor present. | | |
| 23 | | | | 792 | | -same- | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 906 | | Dark brown/Black SAND, petroleum odor present. | | |
| 27 | | | | 3,206 | | White SAND, odor present | E-25 | 27-28 |
| 28 | | | | | | | | |
| 29 | | | | 2,400 | | -same, dark brown | | |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-26*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/21/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 6-inches asphalt | | |
| 1 | | | | | | 3-inches stone subgrade | | |
| | | | | | | Brown sitly SAND, moist, no recovery. | | |
| 2 | | | | | | | | |
| | | | | | | | E-26 | 2.5'-3.5' |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| | | | 60 | 0.0 | | Asphalt millings | | |
| 6 | | | | | | | | |
| 7 | | | | 0.0 | | Gray SAND, moist, no odor | | |
| 8 | | | | | | | | |
| 9 | | | | 0.0 | | Brown SILT, moist, no odor. | | |
| 10 | | | | 0.0 | | | | |
| | | | 60 | | | | | |
| 11 | | | | 0.0 | | Gray SAND, moist, no odor | | |
| 12 | | | | | | | | |
| 13 | | | | 0.0 | | Gray silty CLAY, moist, no odor. | | |
| 14 | | | | | | | | |
| 15 | | | | 0.0 | | Tan, same | | |
| | | | 60 | | | | | |
| 16 | | | | 1.2 | | Gray SAND, loose, moist, no odor. | | |
| 17 | | | | | | | | |
| 18 | | | | 0.0 | | White CLAY, no plasticity, moist, no odor. | | |
| 19 | | | | | | | | |
| 20 | | | | 5.0 | | Brown SAND, some gravel, moist, no odor. | | |
| | | | 60 | | | | | |
| 21 | | | | | | | | |
| 22 | | | | 17.6 | | Gray sandy CLAY, no plasticity, moist, no odor. | | |
| 23 | | | | | | | | |
| 24 | | | | 6.5 | | White, Dark Gray and Brown CLAY, no plasticity, moist, no odor. | | |
| 25 | | | | | | | | |
| | | | 60 | | | | | |
| 26 | | | | 15.0 | | Gray SAND, moist, slight odor. | | |
| 27 | | | | | | | | |
| 28 | | | | 13.5 | | Brown/Black, same | E-26 | 28'-28.5' |
| 29 | | | | 22.3 | | same | | |
| 30 | | | | 2.3 | | White CLAY, moist, no odor. | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-27*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/21/12* | *Depth of Boring: 30ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/21/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown sitly SAND, moist, no recovery. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 36 | 0.0 | | Dark brown sandy SILT, moist, no odor | | |
| 7 | | | | 0.0 | | White CLAY, firm, no plasticity, moist, no odor. | | |
| 8 | | | | | | | | |
| 9 | | | | 0.0 | | Brown SAND, moist, no odor. | | |
| 10 | | | | | | | | |
| 11 | | | 54 | 0.0 | | Brown gravelly SAND, loose, moist, no odor. | | |
| 12 | | | | | | | | |
| 13 | | | | 0.0 | | -same- | | |
| 14 | | | | 0.0 | | White/Brown CLAY, no plasticity, moist, no odo | | |
| 15 | | | | | | | | |
| 16 | | | 48 | 0.0 | | Brown SAND, few gravels, mosit, no odor. | | |
| 17 | | | | | | | | |
| 18 | | | | 0.0 | | -same- | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 48 | 1.8 | | -same- | E-27 | 21'-22' |
| 22 | | | | 0.0 | | White CLAY, moist, no odor. | | |
| 23 | | | | | | | | |
| 24 | | | | 0.0 | | Brown SAND, moist, no odor. | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 0.0 | | White CLAY, moist, no plasticity, no odor. | | |
| 27 | | | | | | | | |
| 28 | | | | 0.9 | | Brown SAND, moist, no odor. | | |
| 29 | | | | 0.0 | | White/Brown CLAY, moist, no odor. | | |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | | **BORING ID: *E-28*** |
|---|---|---|---|---|
| | *Project Number: 60268768* | | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | | |
| | *Coordinates:* | *Elevation:* | | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/20/12* | | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/20/12* | | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown sitly SAND, moist, no recovery. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 36 | 0.0 | | Dark brown gravelly SAND, loose, poorly graded, mosit, no odor. | | |
| 7 | | | | 0.0 | | White GRAVEL, some sand, moist, no odor. | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | 60 | 17.9 | | Brown sandy GRAVEL, moist, slight petroleum odor | | |
| 12 | | | | | | | | |
| 13 | | | | 0.0 | | White CLAY, dry, no odor. | | |
| 14 | | | | 0.0 | | Brown SAND, Coarse grain, poorly graded, moist, no odor | | |
| 15 | | | | | | | | |
| 16 | | | 60 | 0.0 | | Brown sandy GRAVEL, loose, moist, no odor | | |
| 17 | | | | | | | | |
| 18 | | | | 0.0 | | -same- | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 60 | 36.0 | | Brown sandy SILT, few gravels, moist, slight petroleum odor. | | |
| 22 | | | | | | | | |
| 23 | | | | 0.0 | | White CLAY, no plasticity, moist, no odor. | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 3.8 | | -same- | E-28 | 26'-27' |
| 27 | | | | | | | | |
| 28 | | | | 0.0 | | -same- | | |
| 29 | | | | | | | | |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
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Checked by _____ Date:_____

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| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-29*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/20/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/20/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown sitly SAND, moist, no recovery. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 60 | 0.0 | | Brown SAND, some grvels, loose, moist, no odor | | |
| 7 | | | | | | | | |
| 8 | | | | 0.0 | | -same- | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | 24 | 0.0 | | Dark gray gravelly SAND, moist, no odor | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | 0.0 | | -same- | | |
| 16 | | | 60 | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 60 | 0.0 | | -same-, gray/brown mix | | |
| 22 | | | | 0.0 | | Tan silty SAND, moist, no odor. | | |
| 23 | | | | | | | | |
| 24 | | | | 0.0 | | -same- | | |
| 25 | | | | | | | | |
| 26 | | | 60 | 0.0 | | White silty SAND, moist, no odor. | | |
| 27 | | | | | | | | |
| 28 | | | | | | | | |
| 29 | | | | 0.1 | | Tan, same | E-29 | 29'-30' |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
| | | |
| | | |
| | | |

Checked by _____ Date:_____

| | | | |
|---|---|---|---|
| AECOM | *Client:* Maryland Aviatiom Authority (MAA) | | ***BORING ID: E-30*** |
| | *Project Number: 60268768* | | |
| | *Site Location:BWI Thurgood Marshall Airport TO-10* | | |
| | *Coordinates:* | *Elevation:* | *Sheet:* 1 of 1 |
| | *Drilling Method: Geoprobe Direct Push* | | *Monitoring Well Installed:* No |
| | *Sample Type(s): 5 ft acetate sleeve* | *Boring Diameter: 2"* | *Screened Interval: NA* |
| *Weather: mid 30's, windy* | *Logged By: Peter Pecora* | *Date Started: 12/19/12* | *Depth of Boring: 30 ft* |
| *Drilling Contractor: Connelly & Associates* | *Ground Elevation: NA* | *Date Finished: 12/19/12* | *Water Level:Dry* |

| Depth (ft) | Geologic sample ID | Sample Depth (ft) | Recovery (inches) | Headspace (ppm) | U.S.C.S | **MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)** | Lab Sample ID | Lab Sample Depth (Ft.) |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | 6-inches asphalt<br>3-inches stone subgrade<br>Brown sitly SAND, moist, no recovery. | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | 36 | 0.0 | | Dark brown SAND, moist, no odor. | | |
| 7 | | | | | | | | |
| 8 | | | | 0.0 | | White SAND, few gravels, moist, no odor. | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | 48 | 0.0 | | -same-, large gravels, no odor | | |
| 12 | | | | | | | | |
| 13 | | | | 0.0 | | -same-, brown | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | 0 | | | No Recovery | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | 60 | 0.0 | | Tan sandy GRAVEL, loose, moist, no odor. | | |
| 22 | | | | 0.0 | | Brown SAND, coarse grain, loose, moist, no odor. | | |
| 23 | | | | | | | | |
| 24 | | | | | | | E-30 | 24'-25' |
| 25 | | | | | | | | |
| 26 | | | 0 | | | No Recovery | | |
| 27 | | | | | | | | |
| 28 | | | | | | | | |
| 29 | | | | | | | | |
| 30 | | | | | | | | |

**NOTES:**

| Date | Time | Depth to groundwater while drilling |
|---|---|---|
| | | |
| | | |
| | | |

Checked by _____ Date:_____

# ATTACHMENT 3

Laboratory Analytical Report

# Analytical Report for

## AECOM

## Certificate of Analysis No.: 12122815

**Project Manager: Scott Beatson**
**Project Name : BWI Future Hotel**
**Project Location: BWI Airport**
**Project ID : 60268768**

**January 7, 2013**

**Phase Separation Science, Inc.**
**6630 Baltimore National Pike**
**Baltimore, MD 21228**
**Phone: (410) 747-8770**
**Fax: (410) 788-8723**

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# PHASE SEPARATION SCIENCE, INC.

January 7, 2013

**Scott Beatson**
**AECOM**
8320 Guilford Road, Ste. L
Columbia, MD 21046

Reference: PSS Work Order(s) No: **12122815**
Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID.: 60268768

Dear Scott Beatson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **12122815**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on February 1, 2013. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

**Dan Prucnal**
Laboratory Manager

# Sample Summary

## Client Name: AECOM

## Project Name: BWI Future Hotel

**Work Order Number(s): 12122815**

**Project ID: 60268768**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 12/28/2012 at 03:25 pm

| Lab Sample Id | Sample Id | Matrix | Date/Time Collected |
|---|---|---|---|
| 12122815-001 | E1 (13-14) | SOIL | 12/21/12 09:40 |
| 12122815-002 | E3 (15) | SOIL | 12/21/12 08:20 |
| 12122815-003 | E5 (17) | SOIL | 12/21/12 07:45 |
| 12122815-004 | E6 (23) | SOIL | 12/21/12 12:20 |
| 12122815-005 | E8 (27) | SOIL | 12/21/12 15:30 |
| 12122815-006 | E9 (13) | SOIL | 12/21/12 14:00 |
| 12122815-007 | E10 (16) | SOIL | 12/21/12 14:30 |
| 12122815-008 | E11 (29-30) | SOIL | 12/21/12 08:10 |
| 12122815-009 | E13 (19-20) | SOIL | 12/21/12 16:00 |
| 12122815-010 | E14 (29-30) | SOIL | 12/21/12 08:45 |
| 12122815-011 | E15 (29-30) | SOIL | 12/20/12 16:20 |
| 12122815-012 | E16 (0-1) | SOIL | 12/20/12 08:30 |
| 12122815-013 | E16 (28-29) | SOIL | 12/20/12 15:15 |
| 12122815-014 | E17 (0-1) | SOIL | 12/20/12 11:00 |
| 12122815-015 | E17 (29-30) | SOIL | 12/20/12 16:20 |
| 12122815-016 | E18 (7-8) | SOIL | 12/19/12 11:20 |
| 12122815-017 | E19 (27.5-28) | SOIL | 12/19/12 15:40 |
| 12122815-018 | E20 (26-27) | SOIL | 12/19/12 14:35 |
| 12122815-019 | E21 (29-30) | SOIL | 12/19/12 09:55 |
| 12122815-020 | E22 (29-30) | SOIL | 12/19/12 13:50 |
| 12122815-021 | E23 (28-29) | SOIL | 12/19/12 12:30 |
| 12122815-022 | E24 (1.5-2.5) | SOIL | 12/18/12 08:30 |
| 12122815-023 | E24 (26-28) | SOIL | 12/20/12 12:45 |
| 12122815-024 | E25 (2.5-3.5) | SOIL | 12/19/12 16:00 |
| 12122815-025 | E25 (27-28) | SOIL | 12/20/12 14:15 |
| 12122815-026 | E26 (2.5-3.5) | SOIL | 12/19/12 14:55 |
| 12122815-027 | E26 (28.5-28.5) | SOIL | 12/20/12 11:45 |
| 12122815-028 | E27 (21-22) | SOIL | 12/20/12 11:00 |
| 12122815-029 | E28 (26-27) | SOIL | 12/20/12 10:00 |
| 12122815-030 | E30 (24-25) | SOIL | 12/19/12 16:30 |

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

# Sample Summary

## Client Name: AECOM

## Project Name: BWI Future Hotel

**Work Order Number(s): 12122815**

**Project ID: 60268768**

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for non-potable water samples tested for compliance for Virginia Pollution Discharge Elimination System (VDPES) permits and Virginia Pollutant Abatement (VPA) permits, have a maximum holding time of 15 minutes established by 40CFR136.3.

**Standard Flags/Abbreviations:**

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C Results Pending Final Confirmation.
E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J The target analyte was positively identified below the reporting limit but greater than the LOD.
LOD Limit of Detection. An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte and matrix specific.
ND Not Detected at or above the reporting limit.
RL PSS Reporting Limit.
U Not detected.

# Case Narrative Summary

## Client Name: AECOM

## Project Name: BWI Future Hotel

Work Order Number(s): 12122815
Project ID: 60268768

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Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

**Sample Receipt:**

All sample receipt conditions were acceptable.

**General Comments:**
Oxygenates added to Volatiles per client email.
**NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.**

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E1 (13-14)** **Date/Time Sampled: 12/21/2012 09:40** **PSS Sample ID: 12122815-001**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.3 | | 1 | 01/02/13 | 01/02/13 15:02 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 02:16 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E1 (13-14)** **Date/Time Sampled: 12/21/2012 09:40** **PSS Sample ID: 12122815-001**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Chloromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 44 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Bromomethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Chloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Methylene chloride | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Chloroform | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Benzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Trichloroethene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E1 (13-14)** **Date/Time Sampled: 12/21/2012 09:40** **PSS Sample ID: 12122815-001**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Toluene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 44 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 44 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 44 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Bromoform | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Styrene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| o-Xylene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 44 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| Naphthalene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/30/12 11:58 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E3 (15)** | **Date/Time Sampled: 12/21/2012 08:20** | **PSS Sample ID: 12122815-002** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 85** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.6 | | 1 | 01/02/13 | 01/02/13 16:58 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 120 | | 1 | 12/28/12 | 12/29/12 02:43 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E3 (15)** **Date/Time Sampled: 12/21/2012 08:20** **PSS Sample ID: 12122815-002**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 85**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Chloromethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Bromomethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Chloroethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Acetone | ND | ug/kg | 24 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Cyclohexane | ND | ug/kg | 24 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Methylene chloride | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 24 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Chloroform | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Benzene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Carbon Disulfide | ND | ug/kg | 12 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Methylcyclohexane | ND | ug/kg | 24 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Trichloroethene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Methyl Acetate | ND | ug/kg | 24 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 24 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E3 (15)** | **Date/Time Sampled: 12/21/2012 08:20** | **PSS Sample ID: 12122815-002** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 85** |

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Toluene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 24 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Bromoform | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| m&p-Xylene | ND | ug/kg | 12 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Styrene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| o-Xylene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 47 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| Naphthalene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/29/12 | 12/30/12 01:52 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E5 (17)** | **Date/Time Sampled: 12/21/2012 07:45** | **PSS Sample ID: 12122815-003** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 90** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.3 | | 1 | 01/02/13 | 01/02/13 15:02 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 03:11 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E5 (17)** | **Date/Time Sampled: 12/21/2012 07:45** | **PSS Sample ID: 12122815-003** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 90** |

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Chloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Bromomethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Chloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Acetone | ND | ug/kg | 23 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Methylene chloride | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Chloroform | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Benzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Trichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 23 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E5 (17)** **Date/Time Sampled: 12/21/2012 07:45** **PSS Sample ID: 12122815-003**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 90**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Toluene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 23 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Bromoform | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Styrene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| o-Xylene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 45 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| Naphthalene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 02:19 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E6 (23)** | **Date/Time Sampled: 12/21/2012 12:20** | **PSS Sample ID: 12122815-004** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 94** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.2 | | 1 | 01/02/13 | 01/02/13 15:26 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 03:38 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E6 (23)** | **Date/Time Sampled: 12/21/2012 12:20** | **PSS Sample ID: 12122815-004** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 94** |

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Chloromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Bromomethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Chloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Methylene chloride | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Chloroform | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Benzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Trichloroethene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E6 (23)** **Date/Time Sampled: 12/21/2012 12:20** **PSS Sample ID: 12122815-004**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 94**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Toluene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Bromoform | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Styrene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| o-Xylene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 43 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| Naphthalene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 02:47 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E8 (27)** | **Date/Time Sampled: 12/21/2012 15:30** | **PSS Sample ID: 12122815-005** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 93** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.2 | | 1 | 01/02/13 | 01/02/13 15:26 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 04:05 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E8 (27)** **Date/Time Sampled: 12/21/2012 15:30** **PSS Sample ID: 12122815-005**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 93**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Chloromethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Bromomethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Chloroethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Methylene chloride | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Chloroform | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Benzene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Carbon Disulfide | ND | ug/kg | 10 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Trichloroethene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E8 (27)** | **Date/Time Sampled: 12/21/2012 15:30** | **PSS Sample ID: 12122815-005** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 93** |

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Toluene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Bromoform | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| m&p-Xylene | ND | ug/kg | 10 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Styrene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| o-Xylene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 42 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| Naphthalene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/29/12 | 12/30/12 03:14 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E9 (13)** **Date/Time Sampled: 12/21/2012 14:00** **PSS Sample ID: 12122815-006**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.3 | | 1 | 01/02/13 | 01/02/13 15:48 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 04:32 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E9 (13)** **Date/Time Sampled: 12/21/2012 14:00** **PSS Sample ID: 12122815-006**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Chloromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Bromomethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Chloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Methylene chloride | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Chloroform | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Benzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Trichloroethene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E9 (13)** | **Date/Time Sampled: 12/21/2012 14:00** | **PSS Sample ID: 12122815-006** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 91** |

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Toluene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Bromoform | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Styrene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| o-Xylene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 44 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| Naphthalene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 03:41 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E10 (16)** **Date/Time Sampled: 12/21/2012 14:30** **PSS Sample ID: 12122815-007**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 93**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.2 | | 1 | 01/02/13 | 01/02/13 15:48 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 04:59 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E10 (16)** **Date/Time Sampled: 12/21/2012 14:30** **PSS Sample ID: 12122815-007**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 93**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Chloromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Bromomethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Chloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Methylene chloride | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Chloroform | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Benzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Trichloroethene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E10 (16)** **Date/Time Sampled: 12/21/2012 14:30** **PSS Sample ID: 12122815-007**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 93**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Toluene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Bromoform | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Styrene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| o-Xylene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| Naphthalene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/30/12 18:01 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E11 (29-30)** **Date/Time Sampled: 12/21/2012 08:10** **PSS Sample ID: 12122815-008**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 95**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.2 | | 1 | 01/02/13 | 01/02/13 16:12 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 12/28/12 | 12/29/12 05:25 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E11 (29-30)** **Date/Time Sampled: 12/21/2012 08:10** **PSS Sample ID: 12122815-008**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 95**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Chloromethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Bromomethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Chloroethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Methylene chloride | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Chloroform | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Benzene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Trichloroethene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E11 (29-30)** **Date/Time Sampled: 12/21/2012 08:10** **PSS Sample ID: 12122815-008**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 95**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Toluene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Bromoform | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Styrene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| o-Xylene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 43 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| Naphthalene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/29/12 | 12/30/12 04:36 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E13 (19-20)** **Date/Time Sampled: 12/21/2012 16:00** **PSS Sample ID: 12122815-009**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.4 | | 1 | 01/02/13 | 01/02/13 16:12 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 05:52 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E13 (19-20)** **Date/Time Sampled: 12/21/2012 16:00** **PSS Sample ID: 12122815-009**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Chloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Bromomethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Chloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Methylene chloride | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Chloroform | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Benzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Trichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E13 (19-20)** **Date/Time Sampled: 12/21/2012 16:00** **PSS Sample ID: 12122815-009**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Toluene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Bromoform | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Styrene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| o-Xylene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 45 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| Naphthalene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:04 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E14 (29-30)** **Date/Time Sampled: 12/21/2012 08:45** **PSS Sample ID: 12122815-010**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 89**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.4 | | 1 | 01/02/13 | 01/02/13 16:35 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 06:19 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E14 (29-30)** **Date/Time Sampled: 12/21/2012 08:45** **PSS Sample ID: 12122815-010**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 89**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Chloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Bromomethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Chloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Methylene chloride | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Chloroform | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Benzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Trichloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E14 (29-30)** **Date/Time Sampled: 12/21/2012 08:45** **PSS Sample ID: 12122815-010**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 89**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Toluene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Bromoform | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Styrene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| o-Xylene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 45 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| Naphthalene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.6 | | 1 | 12/29/12 | 12/30/12 05:31 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E15 (29-30)** **Date/Time Sampled: 12/20/2012 16:20** **PSS Sample ID: 12122815-011**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.4 | | 1 | 01/02/13 | 01/02/13 16:35 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 06:46 | 1035 |

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## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E15 (29-30)** **Date/Time Sampled: 12/20/2012 16:20** **PSS Sample ID: 12122815-011**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Chloromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Bromomethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Chloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Methylene chloride | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Chloroform | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Benzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Trichloroethene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E15 (29-30)** | **Date/Time Sampled: 12/20/2012 16:20** | **PSS Sample ID: 12122815-011** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 91** |

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Toluene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 22 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Bromoform | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Styrene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| o-Xylene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 44 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| Naphthalene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/29/12 | 12/30/12 05:58 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E16 (0-1)** | **Date/Time Sampled: 12/20/2012 08:30** | **PSS Sample ID: 12122815-012** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 91** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **11** | mg/kg | 4.3 | DF | 1 | 01/02/13 | 01/02/13 18:53 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 07:13 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E16 (0-1)** **Date/Time Sampled: 12/20/2012 08:30** **PSS Sample ID: 12122815-012**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Chloromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Bromomethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Chloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Methylene chloride | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Chloroform | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Benzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Trichloroethene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E16 (0-1)** **Date/Time Sampled: 12/20/2012 08:30** **PSS Sample ID: 12122815-012**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 91**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Toluene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 21 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Bromoform | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Styrene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| o-Xylene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 43 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| Naphthalene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/29/12 | 12/30/12 06:26 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E16 (28-29)** **Date/Time Sampled: 12/20/2012 15:15** **PSS Sample ID: 12122815-013**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 90**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.4 | | 1 | 01/02/13 | 01/02/13 16:58 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 08:07 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E16 (28-29)** **Date/Time Sampled: 12/20/2012 15:15** **PSS Sample ID: 12122815-013**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 90**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Chloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Bromomethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Chloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Acetone | **27** | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Methylene chloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Chloroform | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Benzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Trichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E16 (28-29)** **Date/Time Sampled: 12/20/2012 15:15** **PSS Sample ID: 12122815-013**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 90**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Toluene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Bromoform | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Styrene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| o-Xylene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| Naphthalene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 18:29 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E17 (0-1)** | **Date/Time Sampled: 12/20/2012 11:00** | **PSS Sample ID: 12122815-014** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 96** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **9.6** | mg/kg | 4.1 | DF | 1 | 01/02/13 | 01/02/13 17:44 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 12/28/12 | 12/29/12 08:34 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E17 (0-1)** **Date/Time Sampled: 12/20/2012 11:00** **PSS Sample ID: 12122815-014**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 96**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Chloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Bromomethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Chloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Methylene chloride | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Chloroform | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Benzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Trichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E17 (0-1)** **Date/Time Sampled: 12/20/2012 11:00** **PSS Sample ID: 12122815-014**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 96**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Toluene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Bromoform | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Styrene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| o-Xylene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| Naphthalene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/30/12 18:56 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E17 (29-30)** **Date/Time Sampled: 12/20/2012 16:20** **PSS Sample ID: 12122815-015**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 96**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.1 | | 1 | 01/02/13 | 01/02/13 17:44 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 12/28/12 | 12/29/12 09:01 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E17 (29-30)** **Date/Time Sampled: 12/20/2012 16:20** **PSS Sample ID: 12122815-015**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 96**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Chloromethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Bromomethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Chloroethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Methylene chloride | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Chloroform | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Benzene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Carbon Disulfide | ND | ug/kg | 10 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Trichloroethene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E17 (29-30)** **Date/Time Sampled: 12/20/2012 16:20** **PSS Sample ID: 12122815-015**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 96**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Toluene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 10 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Diisopropyl ether | ND | ug/kg | 10 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Bromoform | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| m&p-Xylene | ND | ug/kg | 10 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Styrene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| o-Xylene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| Naphthalene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.2 | | 1 | 12/30/12 | 12/30/12 19:24 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E18 (7-8)** **Date/Time Sampled: 12/19/2012 11:20** **PSS Sample ID: 12122815-016**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 87**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.5 | | 1 | 12/31/12 | 12/31/12 17:37 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | **4,500** | ug/kg | 110 | | 1 | 12/28/12 | 12/29/12 09:28 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E18 (7-8)** **Date/Time Sampled: 12/19/2012 11:20** **PSS Sample ID: 12122815-016**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 87**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Chloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 45 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Bromomethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Chloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Acetone | **34** | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Methylene chloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Chloroform | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Benzene | **11** | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Trichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E18 (7-8)** | **Date/Time Sampled: 12/19/2012 11:20** | **PSS Sample ID: 12122815-016** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 87** |

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Toluene | **15** | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 45 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 45 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 45 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Bromoform | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Ethylbenzene | **170** | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| m&p-Xylene | **250** | ug/kg | 11 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Styrene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| o-Xylene | **57** | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Isopropylbenzene | **24** | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 45 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| Naphthalene | **230** | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/30/12 19:51 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E19 (27.5-28)** **Date/Time Sampled: 12/19/2012 15:40** **PSS Sample ID: 12122815-017**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 80**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.9 | | 1 | 12/31/12 | 12/31/12 18:00 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 120 | | 1 | 01/02/13 | 01/02/13 10:20 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E19 (27.5-28)** **Date/Time Sampled: 12/19/2012 15:40** **PSS Sample ID: 12122815-017**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 80**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Chloromethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Vinyl Chloride | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 51 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Bromomethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Chloroethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Acetone | ND | ug/kg | 26 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Cyclohexane | ND | ug/kg | 26 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Methylene chloride | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 26 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Bromochloromethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Chloroform | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Benzene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Carbon Disulfide | ND | ug/kg | 13 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Methylcyclohexane | ND | ug/kg | 26 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Trichloroethene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Methyl Acetate | ND | ug/kg | 26 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Bromodichloromethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E19 (27.5-28)** **Date/Time Sampled: 12/19/2012 15:40** **PSS Sample ID: 12122815-017**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 80**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 26 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Toluene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 26 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Dibromochloromethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 13 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 51 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Diisopropyl ether | ND | ug/kg | 13 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 51 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 51 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Bromoform | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Tetrachloroethene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Chlorobenzene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Ethylbenzene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| m&p-Xylene | ND | ug/kg | 13 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Styrene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| o-Xylene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Isopropylbenzene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 51 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| Naphthalene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 6.4 | | 1 | 12/31/12 | 12/31/12 12:02 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E20 (26-27)** **Date/Time Sampled: 12/19/2012 14:35** **PSS Sample ID: 12122815-018**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 85**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.6 | | 1 | 12/31/12 | 12/31/12 18:00 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 590 | | 5 | 01/02/13 | 01/02/13 13:31 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E20 (26-27)** **Date/Time Sampled: 12/19/2012 14:35** **PSS Sample ID: 12122815-018**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 85**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Chloromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 47 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Bromomethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Chloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Acetone | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Methylene chloride | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Chloroform | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Benzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Carbon Disulfide | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Trichloroethene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E20 (26-27)** **Date/Time Sampled: 12/19/2012 14:35** **PSS Sample ID: 12122815-018**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 85**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Toluene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 47 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Diisopropyl ether | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 47 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 47 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Bromoform | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| m&p-Xylene | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Styrene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| o-Xylene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 47 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| Naphthalene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 00:26 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E21 (29-30)** **Date/Time Sampled: 12/19/2012 09:55** **PSS Sample ID: 12122815-019**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 84**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.7 | | 1 | 12/31/12 | 12/31/12 18:23 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 120 | | 1 | 01/02/13 | 01/02/13 11:14 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E21 (29-30)** **Date/Time Sampled: 12/19/2012 09:55** **PSS Sample ID: 12122815-019**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 84**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Chloromethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 47 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Bromomethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Chloroethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Acetone | **38** | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Cyclohexane | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Methylene chloride | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Chloroform | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Benzene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Carbon Disulfide | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Methylcyclohexane | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Trichloroethene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Methyl Acetate | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E21 (29-30)** **Date/Time Sampled: 12/19/2012 09:55** **PSS Sample ID: 12122815-019**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 84**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Toluene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 47 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Diisopropyl ether | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 47 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 47 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Bromoform | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| m&p-Xylene | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Styrene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| o-Xylene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 47 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| Naphthalene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.9 | | 1 | 12/30/12 | 12/31/12 01:48 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E22 (29-30)** **Date/Time Sampled: 12/19/2012 13:50** **PSS Sample ID: 12122815-020**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 86**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.6 | | 1 | 12/31/12 | 12/31/12 18:23 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 580 | | 5 | 01/02/13 | 01/02/13 13:58 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E22 (29-30)** **Date/Time Sampled: 12/19/2012 13:50** **PSS Sample ID: 12122815-020**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 86**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Chloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Bromomethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Chloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Acetone | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Methylene chloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Chloroform | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Benzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Trichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E22 (29-30)** **Date/Time Sampled: 12/19/2012 13:50** **PSS Sample ID: 12122815-020**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 86**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Toluene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Bromoform | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Styrene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| o-Xylene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| Naphthalene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 02:15 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E23 (28-29)** **Date/Time Sampled: 12/19/2012 12:30** **PSS Sample ID: 12122815-021**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 76**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 5.2 | | 1 | 12/31/12 | 12/31/12 18:46 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 660 | | 5 | 01/02/13 | 01/02/13 14:26 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E23 (28-29)** | **Date/Time Sampled: 12/19/2012 12:30** | **PSS Sample ID: 12122815-021** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 76** |

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Chloromethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Vinyl Chloride | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 53 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Bromomethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Chloroethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Acetone | ND | ug/kg | 27 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Cyclohexane | ND | ug/kg | 27 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Methylene chloride | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 27 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Bromochloromethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Chloroform | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Benzene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Carbon Disulfide | ND | ug/kg | 13 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Methylcyclohexane | ND | ug/kg | 27 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Trichloroethene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Methyl Acetate | ND | ug/kg | 27 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Bromodichloromethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E23 (28-29)** **Date/Time Sampled: 12/19/2012 12:30** **PSS Sample ID: 12122815-021**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 76**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 27 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Toluene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 27 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Dibromochloromethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 13 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 53 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Diisopropyl ether | ND | ug/kg | 13 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 53 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 53 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Bromoform | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Tetrachloroethene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Chlorobenzene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Ethylbenzene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| m&p-Xylene | ND | ug/kg | 13 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Styrene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| o-Xylene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Isopropylbenzene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 53 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| Naphthalene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 6.6 | | 1 | 12/30/12 | 12/31/12 02:43 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E24 (1.5-2.5)** | **Date/Time Sampled: 12/18/2012 08:30** | **PSS Sample ID: 12122815-022** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 95** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **20** | mg/kg | 4.1 | DF | 1 | 12/31/12 | 12/31/12 18:46 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 12/28/12 | 12/29/12 07:40 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E24 (1.5-2.5)** **Date/Time Sampled: 12/18/2012 08:30** **PSS Sample ID: 12122815-022**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 95**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Chloromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Bromomethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Chloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Methylene chloride | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Chloroform | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Benzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Trichloroethene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E24 (1.5-2.5)** **Date/Time Sampled: 12/18/2012 08:30** **PSS Sample ID: 12122815-022**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 95**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Toluene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Bromoform | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Styrene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| o-Xylene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 42 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| Naphthalene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.3 | | 1 | 12/30/12 | 12/31/12 03:10 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E24 (26-28)** **Date/Time Sampled: 12/20/2012 12:45** **PSS Sample ID: 12122815-023**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 98**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.0 | | 1 | 01/02/13 | 01/02/13 18:07 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 01/02/13 | 01/02/13 14:53 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E24 (26-28)** | **Date/Time Sampled: 12/20/2012 12:45** | **PSS Sample ID: 12122815-023** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 98** |

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Chloromethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 41 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Bromomethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Chloroethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Acetone | ND | ug/kg | 20 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Cyclohexane | ND | ug/kg | 20 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Methylene chloride | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 20 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Chloroform | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Benzene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Carbon Disulfide | ND | ug/kg | 10 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Methylcyclohexane | ND | ug/kg | 20 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Trichloroethene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Methyl Acetate | ND | ug/kg | 20 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E24 (26-28)** **Date/Time Sampled: 12/20/2012 12:45** **PSS Sample ID: 12122815-023**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 98**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 20 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Toluene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 20 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 10 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 41 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Diisopropyl ether | ND | ug/kg | 10 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 41 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 41 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Bromoform | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| m&p-Xylene | ND | ug/kg | 10 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Styrene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| o-Xylene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 41 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| Naphthalene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.1 | | 1 | 12/30/12 | 12/31/12 03:38 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E25 (2.5-3.5)** | **Date/Time Sampled: 12/19/2012 16:00** | **PSS Sample ID: 12122815-024** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 96** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **24** | mg/kg | 4.1 | DF | 1 | 12/31/12 | 12/31/12 19:32 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 01/02/13 | 01/02/13 12:36 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E25 (2.5-3.5)** **Date/Time Sampled: 12/19/2012 16:00** **PSS Sample ID: 12122815-024**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 96**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Chloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Bromomethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Chloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Acetone | **24** | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Methylene chloride | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Chloroform | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Benzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Trichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E25 (2.5-3.5)** **Date/Time Sampled: 12/19/2012 16:00** **PSS Sample ID: 12122815-024**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 96**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Toluene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Bromoform | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Styrene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| o-Xylene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| Naphthalene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:05 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E25 (27-28)** **Date/Time Sampled: 12/20/2012 14:15** **PSS Sample ID: 12122815-025**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 97**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **19** | mg/kg | 4.1 | | 1 | 01/02/13 | 01/02/13 18:07 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | **290,000** | ug/kg | 10,000 | | 100 | 01/02/13 | 01/02/13 16:42 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E25 (27-28)** **Date/Time Sampled: 12/20/2012 14:15** **PSS Sample ID: 12122815-025**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 97**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Chloromethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Vinyl Chloride | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 2,100 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Bromomethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Chloroethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Acetone | ND | ug/kg | 1,000 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Cyclohexane | ND | ug/kg | 1,000 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Methylene chloride | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 1,000 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Bromochloromethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Chloroform | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Benzene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Carbon Disulfide | ND | ug/kg | 520 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Methylcyclohexane | ND | ug/kg | 1,000 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Trichloroethene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Methyl Acetate | ND | ug/kg | 1,000 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Bromodichloromethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E25 (27-28)** **Date/Time Sampled: 12/20/2012 14:15** **PSS Sample ID: 12122815-025**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 97**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 1,000 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Toluene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 1,000 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Dibromochloromethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 520 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 2,100 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Diisopropyl ether | ND | ug/kg | 520 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 2,100 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 2,100 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Bromoform | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Tetrachloroethene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Chlorobenzene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Ethylbenzene | **310** | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| m&p-Xylene | **13,000** | ug/kg | 520 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Styrene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| o-Xylene | **6,900** | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Isopropylbenzene | **360** | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 2,100 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| Naphthalene | **9,000** | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 260 | | 50 | 12/31/12 | 12/31/12 14:58 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E26 (2.5-3.5)** | **Date/Time Sampled: 12/19/2012 14:55** | **PSS Sample ID: 12122815-026** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 96** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **36** | mg/kg | 4.1 | DF | 1 | 12/31/12 | 12/31/12 19:32 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 100 | | 1 | 01/02/13 | 01/02/13 13:04 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E26 (2.5-3.5)** **Date/Time Sampled: 12/19/2012 14:55** **PSS Sample ID: 12122815-026**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 96**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Chloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Bromomethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Chloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Acetone | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Cyclohexane | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Methylene chloride | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Chloroform | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Benzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Methylcyclohexane | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Trichloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Methyl Acetate | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E26 (2.5-3.5)** **Date/Time Sampled: 12/19/2012 14:55** **PSS Sample ID: 12122815-026**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 96**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Toluene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 21 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Bromoform | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Styrene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| o-Xylene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 43 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| Naphthalene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.4 | | 1 | 12/30/12 | 12/31/12 04:32 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E26 (28.5-28.5)** **Date/Time Sampled: 12/20/2012 11:45** **PSS Sample ID: 12122815-027**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 90**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.4 | | 1 | 01/02/13 | 01/02/13 18:30 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 560 | | 5 | 01/03/13 | 01/03/13 13:06 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E26 (28.5-28.5)** **Date/Time Sampled: 12/20/2012 11:45** **PSS Sample ID: 12122815-027**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 90**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Chloromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 44 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Bromomethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Chloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Acetone | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Cyclohexane | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Methylene chloride | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Chloroform | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Benzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Methylcyclohexane | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Trichloroethene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Methyl Acetate | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E26 (28.5-28.5)** **Date/Time Sampled: 12/20/2012 11:45** **PSS Sample ID: 12122815-027**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 90**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Toluene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 22 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 44 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 44 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 44 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Bromoform | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Styrene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| o-Xylene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 44 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| Naphthalene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.5 | | 1 | 12/30/12 | 12/31/12 05:00 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E27 (21-22)** | **Date/Time Sampled: 12/20/2012 11:00** | **PSS Sample ID: 12122815-028** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 81** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **16** | mg/kg | 4.9 | DF | 1 | 01/02/13 | 01/02/13 18:30 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 620 | | 5 | 01/03/13 | 01/03/13 13:33 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E27 (21-22)** **Date/Time Sampled: 12/20/2012 11:00** **PSS Sample ID: 12122815-028**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 81**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Chloromethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Vinyl Chloride | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 48 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Bromomethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Chloroethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Acetone | **33** | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Cyclohexane | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Methylene chloride | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Bromochloromethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Chloroform | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Benzene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Carbon Disulfide | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Methylcyclohexane | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Trichloroethene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Methyl Acetate | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Bromodichloromethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E27 (21-22)** | **Date/Time Sampled: 12/20/2012 11:00** | **PSS Sample ID: 12122815-028** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 81** |

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Toluene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 24 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Dibromochloromethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 48 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Diisopropyl ether | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 48 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 48 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Bromoform | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Tetrachloroethene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Chlorobenzene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Ethylbenzene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| m&p-Xylene | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Styrene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| o-Xylene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Isopropylbenzene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 48 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| Naphthalene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 6.1 | | 1 | 12/30/12 | 12/31/12 05:27 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

| | | |
|---|---|---|
| **Sample ID: E28 (26-27)** | **Date/Time Sampled: 12/20/2012 10:00** | **PSS Sample ID: 12122815-029** |
| **Matrix: SOIL** | **Date/Time Received: 12/28/2012 15:25** | **% Solids: 89** |

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **52** | mg/kg | 4.5 | DF | 1 | 01/02/13 | 01/02/13 18:53 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 01/02/13 | 01/02/13 16:15 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E28 (26-27)** **Date/Time Sampled: 12/20/2012 10:00** **PSS Sample ID: 12122815-029**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 89**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Chloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Bromomethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Chloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Acetone | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Methylene chloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Chloroform | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Benzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Carbon Disulfide | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Trichloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |

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**BALTIMORE, MD 21228**
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**800-932-9047**
**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E28 (26-27)** **Date/Time Sampled: 12/20/2012 10:00** **PSS Sample ID: 12122815-029**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 89**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Toluene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Diisopropyl ether | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Bromoform | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| m&p-Xylene | ND | ug/kg | 11 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Styrene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| o-Xylene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| Naphthalene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.7 | | 1 | 12/30/12 | 12/31/12 05:55 | 1011 |

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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815

**AECOM, Columbia, MD**

January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E30 (24-25)** **Date/Time Sampled: 12/19/2012 16:30** **PSS Sample ID: 12122815-030**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 87**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | ND | mg/kg | 4.5 | | 1 | 12/31/12 | 12/31/12 19:55 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/kg | 110 | | 1 | 12/28/12 | 12/28/12 19:31 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E30 (24-25)** **Date/Time Sampled: 12/19/2012 16:30** **PSS Sample ID: 12122815-030**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 87**

TCL Volatiles with oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Chloromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,1,2-Trichlorotrifluoroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Vinyl Chloride | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| tert-Butyl Alcohol | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Bromomethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Chloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Acetone | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Cyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Methylene chloride | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Methyl-t-Butyl Ether | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Bromochloromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Chloroform | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Carbon tetrachloride | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Benzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Carbon Disulfide | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Methylcyclohexane | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Trichloroethene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Methyl Acetate | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Bromodichloromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 12122815
**AECOM, Columbia, MD**
January 7, 2013

Project Name: BWI Future Hotel
Project Location: BWI Airport
Project ID: 60268768

**Sample ID: E30 (24-25)** **Date/Time Sampled: 12/19/2012 16:30** **PSS Sample ID: 12122815-030**
**Matrix: SOIL** **Date/Time Received: 12/28/2012 15:25** **% Solids: 87**

TCL Volatiles with oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone (MIBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Toluene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 2-Hexanone (MBK) | ND | ug/kg | 23 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,2-Dibromoethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Dibromochloromethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Diisopropyl ether | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Bromoform | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Tetrachloroethene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Chlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Ethylbenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| m&p-Xylene | ND | ug/kg | 12 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Styrene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| o-Xylene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Isopropylbenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,2-Dibromo-3-chloropropane | ND | ug/kg | 46 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| Naphthalene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 5.8 | | 1 | 12/30/12 | 12/31/12 06:22 | 1011 |

# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

## PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1)

CLIENT: AECOM OFFICE LOC. Columbia, MD

PROJECT MGR: Scott Beatson PHONE NO.: 2405656511

EMAIL: scott.beatson@aecom.com FAX NO.:

PROJECT NAME: BWI Future Hotel PROJECT NO.: 60268768

SITE LOCATION: BWI Airport P.O. NO.:

SAMPLERS: PP, JJ, DH DW CERT NO.:

PSS Work Order #: 1212281S PAGE 1 OF 3

Matrix Codes: SW=Surface Wtr DW=Drinking Wrt GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

| LAB NO. | SAMPLE IDENTIFICATION | DATE | TIME | MATRIX (See Codes) | No. CONTAINERS | SAMPLE TYPE C = COMP G = GRAB | Click to enter Analysis | VOCs - USEPA 8260 | TPH-DRO | TPH-GRO | | | | | | | | Preservative Used | Analysis/ Method Required | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 4 | X | X | | | | | | | | | | |
| 1 | E1 (13-14) | 12/21/12 | 0940 | s | 2 | G | | | | | | | | | | | | | | Click to enter Remarks |
| 2 | E3 (15') | 12/21/12 | 0820 | s | 2 | G | | | | | | | | | | | | | | |
| 3 | E5 (17') | 12/21/12 | 0745 | s | 2 | G | | | | | | | | | | | | | | |
| 4 | E6 (23') | 12/21/12 | 1220 | s | 2 | G | | | | | | | | | | | | | | |
| 5 | E8 (27) | 12/21/12 | 1530 | s | 2 | G | | | | | | | | | | | | | | |
| 6 | E9 (13) | 12/21/12 | 1400 | s | 2 | G | | | | | | | | | | | | | | |
| 7 | E10 (16) | 12/21/12 | 1430 | s | 2 | G | | | | | | | | | | | | | | |
| 8 | E11 (29-30) | 12/21/12 | 0810 | s | 2 | G | | | | | | | | | | | | | | |
| 9 | E13 (19-20) | 12/21/12 | 1600 | s | 2 | G | | | | | | | | | | | | | | |
| 10 | E14 (29-30) | 12/21/12 | 0845 | s | 2 | G | | | | | | | | | | | | | | |

(5)

| Relinquished By: (1) | Date | Time | Received By: |
|---|---|---|---|
| Peter Leon | 12/28/12 | 1525 | [signature] |
| Relinquished By: (2) | Date | Time | Received By: |
| Relinquished By: (3) | Date | Time | Received By: |
| Relinquished By: (4) | Date | Time | Received By: |

(4)

Requested Turnaround Time
- [x] 5-Day
- [ ] 3-Day
- [ ] 2-Day
- [ ] Next Day
- [ ] Emergency
- [ ] Other

Data Deliverables Required:

Special Instructions:

# of Coolers: 1

Custody Seal: ABS

Ice Present: YES Temp: 2°C

Shipping Carrier: CLIENT

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

## PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1)

CLIENT: AECOM OFFICE LOC. Columbia, MD
PROJECT MGR: Scott Beatson PHONE NO.: 2405656511
EMAIL: scott.beatson@aecom.com FAX NO.:
PROJECT NAME: BWI Future Hotel PROJECT NO.: 60268768
SITE LOCATION: BWI Airport P.O. NO.:
SAMPLERS: PP, JJ, DH DW CERT NO.:

PSS Work Order #: 12122815 PAGE 2 OF 3

Matrix Codes: SW=Surface Wtr DW=Drinking Wrt GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

| LAB NO. | SAMPLE IDENTIFICATION | DATE | TIME | MATRIX (See Codes) | No. CONTAINERS | SAMPLE TYPE C = COMP G = GRAB | Click to enter Analysis | USEPA 8260 | TPH-DRO | TPH-GRO | Preservative Used | Analysis/ Method Required | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | E15 (29-30) | 12/20/12 | 1620 | S | 2 | G | | | | | | | Click to enter Remarks |
| 12 | E16 (0-1) | 12/20/12 | 0830 | S | 2 | G | | | | | | | |
| 13 | E16 (28-29) | 12/20/12 | 1515 | S | 2 | G | | | | | | | |
| 14 | E17 (0-1) | 12/20/12 | 1100 | S | 2 | G | | | | | | | |
| 15 | E17 (29-30) | 12/20/12 | 1620 | S | 2 | G | | | | | | | |
| 16 | E18 (7-8) | 12/19/12 | 1120 | S | 2 | G | | | | | | | |
| 17 | E19 (27.5-28) | 12/19/12 | 1540 | S | 2 | G | | | | | | | |
| 18 | E20 (26-27) | 12/19/12 | 1435 | S | 2 | G | | | | | | | |
| 19 | E21 (29-30) | 12/19/12 | 0955 | S | 2 | G | | | | | | | |
| 20 | E22 (29-30) | 12/19/12 | 1350 | S | 2 | G | | | | | | | |

(5)

| Relinquished By: (1) | Date | Time | Received By: |
|---|---|---|---|
| Peter Pleen | 12/28/12 | 1525 | |
| Relinquished By: (2) | Date | Time | Received By: |
| Relinquished By: (3) | Date | Time | Received By: |
| Relinquished By: (4) | Date | Time | Received By: |

(4)

Requested Turnaround Time
- [x] 5-Day
- [ ] 3-Day
- [ ] 2-Day
- [ ] Next Day
- [ ] Emergency
- [ ] Other

Data Deliverables Required:

# of Coolers: 1
Custody Seal: ABS
Ice Present: PLES Temp: 2°C
Shipping Carrier: CLIENT

Special Instructions:

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# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

## PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1)

CLIENT: AECOM OFFICE LOC. Columbia, MD

PROJECT MGR: Scott Beatson PHONE NO.: 2405656511

EMAIL: scott.beatson@aecom.com FAX NO.:

PROJECT NAME: BWI Future Hotel PROJECT NO.: 60268768

SITE LOCATION: BWI Airport P.O. NO.:

SAMPLERS: PP, JJ, DH DW CERT NO.:

PSS Work Order #: 1212281S

PAGE 3 OF 3

Matrix Codes: SW=Surface Wtr DW=Drinking Wrt GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

| LAB NO. | SAMPLE IDENTIFICATION | DATE | TIME | MATRIX (See Codes) | No. CONTAINERS | SAMPLE TYPE C = COMP G = GRAB | Click to enter Analysis | VOC, 8260 | TPHDRO | TPH-GRO | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | E23 (28-29') | 12/19/12 | 1230 | s | 2 | G | | ✓ | ✓ | ✓ | | | | | | | | | Click to enter Remarks |
| 22 | E24 (1.5-2.5) | 12/18/12 | 0830 | s | 2 | G | | ✓ | ✓ | ✓ | | | | | | | | | |
| 23 | E24 (26-28') | 12/20/12 | 1245 | s | 2 | G | | ✓ | ✓ | ✓ | | | | | | | | | |
| 24 | E25 (2.5-3.5) | 12/19/12 | 1600 | s | 2 | G | | ✓ | ✓ | ✓ | | | | | | | | | |
| 25 | E25 (27-28) | 12/20/12 | 1415 | s | 2 | G | | ✓ | ✓ | ✓ | | | | | | | | | |
| 26 | E26 (2.5-3.5) | 12/19/12 | 1455 | s | 2 | G | | ✓ | ✓ | ✓ | | | | | | | | | |
| 27 | E26 (28.5-28.5) | 12/20/12 | 1145 | s | 2 | G | | ✓ | ✓ | ✓ | | | | | | | | | |
| 28 | E27 (21-22) | 12/20/12 | 1100 | s | 2 | G | | ✓ | ✓ | ✓ | | | | | | | | | |
| 29 | E28 (26-27) | 12/20/12 | 1000 | s | 2 | G | | ✓ | ✓ | ✓ | | | | | | | | | |
| 30 | E30 (24-25) | 12/19/12 | 1630 | s | 2 | G | | ✓ | ✓ | ✓ | | | | | | | | | |

Preservative Used

Analysis/ Method Required

(5)

| Relinquished By: (1) | Date | Time | Received By: |
|---|---|---|---|
| [signature] | 12/28/12 | 1525 | [signature] |
| Relinquished By: (2) | Date | Time | Received By: |
| Relinquished By: (3) | Date | Time | Received By: |
| Relinquished By: (4) | Date | Time | Received By: |

(4)

Requested Turnaround Time
- [x] 5-Day
- [ ] 3-Day
- [ ] 2-Day
- [ ] Next Day
- [ ] Emergency
- [ ] Other

Data Deliverables Required:

Special Instructions:

# of Coolers: 1

Custody Seal: ABS

Ice Present: PRES Temp: 2°C

Shipping Carrier: CLIENT

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

# Phase Separation Science, Inc

## Sample Receipt Checklist

| | | | |
|---|---|---|---|
| **Work Order #** | 12122815 | **Received By** | Rachel Davis |
| **Client Name** | AECOM | **Date Received** | 12/28/2012 03:25:00 PM |
| **Project Name** | BWI Future Hotel | **Delivered By** | Client |
| **Project Number** | 60268768 | **Tracking No** | Not Applicable |
| **Disposal Date** | 02/01/2013 | **Logged In By** | Rachel Davis |

**Shipping Container(s)**

| | | | |
|---|---|---|---|
| No. of Coolers | 1 | Ice | Present |
| | | Temp (deg C) | 2 |
| Custody Seal(s) Intact? | N/A | Temp Blank Present | No |
| Seal(s) Signed / Dated? | N/A | | |

**Documentation**

| | | | |
|---|---|---|---|
| | | Sampler Name | Peter Pecora |
| | | MD DW Cert. No. | N/A |
| COC agrees with sample labels? | Yes | | |
| Chain of Custody | Yes | | |

**Sample Container**

| | | | |
|---|---|---|---|
| | | Custody Seal(s) Intact? | Not Applicable |
| Appropriate for Specified Analysis? | Yes | Seal(s) Signed / Dated | Not Applicable |
| Intact? | Yes | | |
| Labeled and Labels Legible? | Yes | | |

Total No. of Samples Received 30

Total No. of Containers Received 60

**Preservation**

| | | |
|---|---|---|
| Metals | (pH<2) | N/A |
| Cyanides | (pH>12) | N/A |
| Sulfide | (pH>9) | N/A |
| TOC, COD, Phenols | (ph<2) | N/A |
| TOX, TKN, NH3, Total Phos | (pH<2) | N/A |
| VOC, BTEX (VOA Vials Rcvd Preserved) | (pH<2) | N/A |
| Do VOA vials have zero headspace? | | N/A |

**Comments: (Any "No" response must be detailed in the comments section below.)**

**For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.**

Samples Inspected/Checklist Completed By: Rachel Davis — Date: 12/28/2012

PM Review and Approval: Amy Friedlander — Date: 12/30/2012

# Analytical Report for

## AECOM

## Certificate of Analysis No.: 13010410

**Project Manager: Scott Beatson**

**Project Name : BWI Airport**

**Project Location: Employee Lot**

**January 11, 2013**

**Phase Separation Science, Inc.**

**6630 Baltimore National Pike**
**Baltimore, MD 21228**
**Phone: (410) 747-8770**
**Fax: (410) 788-8723**

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ROUTE 40 WEST
BALTIMORE, MD 21228
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800-932-9047
FAX 410-788-8723

# PHASE SEPARATION SCIENCE, INC.

January 11, 2013

**Scott Beatson**
**AECOM**
8320 Guilford Road, Ste. L
Columbia, MD 21046

Reference: PSS Work Order(s) No: **13010410**
Project Name: BWI Airport
Project Location: Employee Lot

Dear Scott Beatson :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **13010410**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on February 8, 2013. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

**Dan Prucnal**
Laboratory Manager

# Sample Summary

## Client Name: AECOM

## Project Name: BWI Airport

**Work Order Number(s): 13010410**

**Project ID: N/A**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 01/04/2013 at 01:05 pm

| Lab Sample Id | Sample Id | Matrix | Date/Time Collected |
|---|---|---|---|
| 13010410-001 | MW-EMP01 | GROUND WATER | 01/04/13 10:30 |
| 13010410-002 | MW-EMP02 | GROUND WATER | 01/04/13 09:50 |
| 13010410-003 | MW-EMP03 | GROUND WATER | 01/04/13 12:00 |
| 13010410-004 | MW-EMP04 | GROUND WATER | 01/04/13 11:30 |
| 13010410-005 | MW-EMP05 | GROUND WATER | 01/04/13 11:00 |
| 13010410-006 | MW-EMP04 30'-32' | SOIL | 01/02/13 09:25 |
| 13010410-007 | Trip Blank | WATER | 01/04/13 13:05 |

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for non-potable water samples tested for compliance for Virginia Pollution Discharge Elimination System (VDPES) permits and Virginia Pollutant Abatement (VPA) permits, have a maximum holding time of 15 minutes established by 40CFR136.3.

**Standard Flags/Abbreviations:**

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C Results Pending Final Confirmation.
E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J The target analyte was positively identified below the reporting limit but greater than the LOD.
LOD Limit of Detection. An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte and matrix specific.
ND Not Detected at or above the reporting limit.
RL PSS Reporting Limit.
U Not detected.

# Case Narrative Summary

## Client Name: AECOM

## Project Name: BWI Airport

Work Order Number(s): 13010410
Project ID: N/A

---

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

**Sample Receipt:**

Received Trip Blanks that were not on the COC. Logged in for 8260.
Container labels for COC sample MW-EMP01 read MW-EMP02, sampling dates and times are correct.

**Sample Preparation:**

**Total Petroleum Hydrocarbons - DRO**

**Preparation Batch: 44278**

'Matrix spike/ matrix spike duplicate analyses were not performed due to insufficient sample quantity.'

**NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.**

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**6630 BALTIMORE NATIONAL PIKE**
**ROUTE 40 WEST**
**BALTIMORE, MD 21228**
**410-747-8770**
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**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410

**AECOM, Columbia, MD**

January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP01** **Date/Time Sampled: 01/04/2013 10:30** **PSS Sample ID: 13010410-001**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **0.26** | mg/L | 0.10 | | 1 | 01/07/13 | 01/08/13 12:20 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/L | 100 | | 1 | 01/07/13 | 01/07/13 15:52 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410

**AECOM, Columbia, MD**

January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP01** **Date/Time Sampled: 01/04/2013 10:30** **PSS Sample ID: 13010410-001**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Chloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Vinyl Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| tert-Butyl alcohol | ND | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Bromomethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Chloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Acetone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Cyclohexane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Trichlorofluoromethane | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,1-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Methylene Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Methyl-t-butyl ether | **21** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,1-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 2-Butanone (MEK) | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Bromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Chloroform | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Carbon Tetrachloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Benzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Methyl Acetate | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Methylcyclohexane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Trichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Carbon Disulfide | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Bromodichloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP01** **Date/Time Sampled: 01/04/2013 10:30** **PSS Sample ID: 13010410-001**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Toluene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 2-Hexanone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Dibromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| tert-Amyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| tert-Butyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Diisopropyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| tert-Amyl methyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| tert-Amyl alcohol | ND | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Bromoform | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Tetrachloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Chlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Ethylbenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| m,p-Xylenes | ND | ug/L | 2.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Styrene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| o-Xylene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Isopropylbenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| Naphthalene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 07:59 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410

**AECOM, Columbia, MD**

January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP02** **Date/Time Sampled: 01/04/2013 09:50** **PSS Sample ID: 13010410-002**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

*LF - Lighter fuel/oil pattern observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **1.9** | mg/L | 0.10 | LF | 1 | 01/07/13 | 01/08/13 11:57 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | **740** | ug/L | 100 | | 1 | 01/07/13 | 01/07/13 16:19 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP02** **Date/Time Sampled: 01/04/2013 09:50** **PSS Sample ID: 13010410-002**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Chloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Vinyl Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| tert-Butyl alcohol | **160** | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Bromomethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Chloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Acetone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Cyclohexane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Trichlorofluoromethane | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,1-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Methylene Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Methyl-t-butyl ether | **330** | ug/L | 10 | | 10 | 01/09/13 | 01/10/13 10:48 | 1011 |
| 1,1-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 2-Butanone (MEK) | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Bromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Chloroform | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Carbon Tetrachloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Benzene | **43** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Methyl Acetate | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Methylcyclohexane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Trichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Carbon Disulfide | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Bromodichloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP02** **Date/Time Sampled: 01/04/2013 09:50** **PSS Sample ID: 13010410-002**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Toluene | **1.5** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 2-Hexanone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Dibromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| tert-Amyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| tert-Butyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Diisopropyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| tert-Amyl methyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| tert-Amyl alcohol | ND | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Bromoform | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Tetrachloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Chlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Ethylbenzene | **20** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| m,p-Xylenes | **19** | ug/L | 2.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Styrene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| o-Xylene | **12** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Isopropylbenzene | **8.5** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| Naphthalene | **28** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 11:16 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410

**AECOM, Columbia, MD**

January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP03** **Date/Time Sampled: 01/04/2013 12:00** **PSS Sample ID: 13010410-003**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **0.18** | mg/L | 0.10 | | 1 | 01/07/13 | 01/08/13 12:43 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | ND | ug/L | 100 | | 1 | 01/07/13 | 01/07/13 16:46 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP03** **Date/Time Sampled: 01/04/2013 12:00** **PSS Sample ID: 13010410-003**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Chloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Vinyl Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| tert-Butyl alcohol | ND | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Bromomethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Chloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Acetone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Cyclohexane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Trichlorofluoromethane | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,1-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Methylene Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Methyl-t-butyl ether | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,1-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 2-Butanone (MEK) | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Bromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Chloroform | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Carbon Tetrachloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Benzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Methyl Acetate | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Methylcyclohexane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Trichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Carbon Disulfide | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Bromodichloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP03** **Date/Time Sampled: 01/04/2013 12:00** **PSS Sample ID: 13010410-003**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Toluene | **12** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 2-Hexanone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Dibromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| tert-Amyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| tert-Butyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Diisopropyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| tert-Amyl methyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| tert-Amyl alcohol | ND | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Bromoform | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Tetrachloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Chlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Ethylbenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| m,p-Xylenes | **7.5** | ug/L | 2.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Styrene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| o-Xylene | **3.5** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Isopropylbenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| Naphthalene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 08:27 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP04** **Date/Time Sampled: 01/04/2013 11:30** **PSS Sample ID: 13010410-004**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

*LF - Lighter fuel/oil pattern observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **3.5** | mg/L | 0.10 | LF | 1 | 01/07/13 | 01/08/13 13:06 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | **9,000** | ug/L | 100 | | 1 | 01/07/13 | 01/07/13 17:41 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP04** **Date/Time Sampled: 01/04/2013 11:30** **PSS Sample ID: 13010410-004**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Chloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Vinyl Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| tert-Butyl alcohol | **78** | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Bromomethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Chloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Acetone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Cyclohexane | **15** | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Trichlorofluoromethane | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,1-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Methylene Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Methyl-t-butyl ether | **15** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,1-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 2-Butanone (MEK) | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Bromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Chloroform | **2.5** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,2-Dichloroethane | **69** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Carbon Tetrachloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Benzene | **310** | ug/L | 10 | | 10 | 01/09/13 | 01/10/13 23:44 | 1011 |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Methyl Acetate | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Methylcyclohexane | **17** | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Trichloroethene | **1.9** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Carbon Disulfide | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Bromodichloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP04** **Date/Time Sampled: 01/04/2013 11:30** **PSS Sample ID: 13010410-004**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Toluene | **120** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 2-Hexanone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,2-Dibromoethane (EDB) | **16** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Dibromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| tert-Amyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| tert-Butyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Diisopropyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| tert-Amyl methyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| tert-Amyl alcohol | ND | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Bromoform | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Tetrachloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Chlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Ethylbenzene | **140** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| m,p-Xylenes | **1,400** | ug/L | 20 | | 10 | 01/09/13 | 01/10/13 23:44 | 1011 |
| Styrene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| o-Xylene | **930** | ug/L | 10 | | 10 | 01/09/13 | 01/10/13 23:44 | 1011 |
| Isopropylbenzene | **21** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| Naphthalene | **200** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:52 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410

**AECOM, Columbia, MD**

January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP05** **Date/Time Sampled: 01/04/2013 11:00** **PSS Sample ID: 13010410-005**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

*LF - Lighter fuel/oil pattern observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **0.14** | mg/L | 0.10 | LF | 1 | 01/07/13 | 01/08/13 13:06 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | **530** | ug/L | 100 | | 1 | 01/07/13 | 01/07/13 17:14 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP05** **Date/Time Sampled: 01/04/2013 11:00** **PSS Sample ID: 13010410-005**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Chloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Vinyl Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| tert-Butyl alcohol | ND | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Bromomethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Chloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Acetone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Cyclohexane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Trichlorofluoromethane | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,1-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Methylene Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Methyl-t-butyl ether | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,1-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 2-Butanone (MEK) | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Bromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Chloroform | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Carbon Tetrachloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Benzene | **2.3** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Methyl Acetate | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Methylcyclohexane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Trichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Carbon Disulfide | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Bromodichloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP05** **Date/Time Sampled: 01/04/2013 11:00** **PSS Sample ID: 13010410-005**
**Matrix: GROUND WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Toluene | **3.3** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 2-Hexanone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Dibromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| tert-Amyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| tert-Butyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Diisopropyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| tert-Amyl methyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| tert-Amyl alcohol | ND | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Bromoform | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Tetrachloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Chlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Ethylbenzene | **34** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| m,p-Xylenes | **90** | ug/L | 2.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Styrene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| o-Xylene | **100** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Isopropylbenzene | **4.7** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| Naphthalene | **50** | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 09:23 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410

**AECOM, Columbia, MD**

January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP04 30'-32'** **Date/Time Sampled: 01/02/2013 09:25** **PSS Sample ID: 13010410-006**
**Matrix: SOIL** **Date/Time Received: 01/04/2013 13:05** **% Solids: 97**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3550

*LF - Lighter fuel/oil pattern observed in sample.*

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-DRO (Diesel Range Organics) | **20** | mg/kg | 4.1 | LF | 1 | 01/08/13 | 01/08/13 18:30 | 1040 |

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| TPH-GRO (Gasoline Range Organics) | **36,000** | ug/kg | 10,000 | | 100 | 01/07/13 | 01/07/13 13:08 | 1035 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP04 30'-32'** **Date/Time Sampled: 01/02/2013 09:25** **PSS Sample ID: 13010410-006**
**Matrix: SOIL** **Date/Time Received: 01/04/2013 13:05** **% Solids: 97**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Chloromethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Vinyl Chloride | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| tert-Butyl alcohol | ND | ug/kg | 210 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Bromomethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Chloroethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Acetone | ND | ug/kg | 110 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Cyclohexane | ND | ug/kg | 110 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Trichlorofluoromethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,1-Dichloroethene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Methylene Chloride | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Methyl-t-butyl ether | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,1-Dichloroethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 2-Butanone (MEK) | ND | ug/kg | 110 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Bromochloromethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Chloroform | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,2-Dichloroethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Carbon Tetrachloride | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Benzene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,2-Dichloropropane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Carbon Disulfide | ND | ug/kg | 53 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Methylcyclohexane | ND | ug/kg | 110 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Trichloroethene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Methyl Acetate | ND | ug/kg | 110 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Bromodichloromethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: MW-EMP04 30'-32'** **Date/Time Sampled: 01/02/2013 09:25** **PSS Sample ID: 13010410-006**
**Matrix: SOIL** **Date/Time Received: 01/04/2013 13:05** **% Solids: 97**

TCL Volatiles plus Oxygenates — Analytical Method: SW-846 8260 B — Preparation Method: 5030

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/kg | 110 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Toluene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 2-Hexanone | ND | ug/kg | 110 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Dibromochloromethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| tert-Butyl ethyl ether | ND | ug/kg | 53 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| tert-Amyl methyl ether | ND | ug/kg | 210 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Diisopropyl ether | ND | ug/kg | 53 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| tert-Amyl ethyl ether | ND | ug/kg | 210 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| tert-Amyl alcohol | ND | ug/kg | 210 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Bromoform | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Tetrachloroethene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Chlorobenzene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Ethylbenzene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| m,p-Xylenes | **120** | ug/kg | 53 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Styrene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| o-Xylene | **100** | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Isopropylbenzene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/kg | 210 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| Naphthalene | **1,500** | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/kg | 27 | | 1 | 01/08/13 | 01/08/13 15:31 | 1011 |

**OFFICES:**
**6630 BALTIMORE NATIONAL PIKE**
**ROUTE 40 WEST**
**BALTIMORE, MD 21228**
**410-747-8770**
**800-932-9047**
**FAX 410-788-8723**

# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: Trip Blank** **Date/Time Sampled: 01/04/2013 13:05** **PSS Sample ID: 13010410-007**
**Matrix: WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Chloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Vinyl Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| tert-Butyl alcohol | ND | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Bromomethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Chloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Acetone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Cyclohexane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Trichlorofluoromethane | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,1-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Methylene Chloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| trans-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Methyl-t-butyl ether | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,1-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 2-Butanone (MEK) | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| cis-1,2-Dichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Bromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Chloroform | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,1,1-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Carbon Tetrachloride | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Benzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,2-Dichloropropane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Methyl Acetate | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Methylcyclohexane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Trichloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Carbon Disulfide | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Bromodichloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| cis-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |

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# PHASE SEPARATION SCIENCE, INC.

## CERTIFICATE OF ANALYSIS

No: 13010410
**AECOM, Columbia, MD**
January 11, 2013

Project Name: BWI Airport
Project Location: Employee Lot

**Sample ID: Trip Blank** **Date/Time Sampled: 01/04/2013 13:05** **PSS Sample ID: 13010410-007**
**Matrix: WATER** **Date/Time Received: 01/04/2013 13:05**

TCL Volatiles plus Oxygenates Analytical Method: SW-846 8260 B Preparation Method: 5030B

| | Result | Units | RL | Flag | Dil | Prepared | Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|
| 4-Methyl-2-Pentanone | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| trans-1,3-Dichloropropene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,1,2-Trichloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Toluene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 2-Hexanone | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Dibromochloromethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| tert-Amyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| tert-Butyl ethyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Diisopropyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| tert-Amyl methyl ether | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| tert-Amyl alcohol | ND | ug/L | 20 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Bromoform | ND | ug/L | 5.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Tetrachloroethene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Chlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Ethylbenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| m,p-Xylenes | ND | ug/L | 2.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Styrene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| o-Xylene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Isopropylbenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,3-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,4-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,2-Dichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,2-Dibromo-3-Chloropropane | ND | ug/L | 10 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,2,4-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| Naphthalene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |
| 1,2,3-Trichlorobenzene | ND | ug/L | 1.0 | | 1 | 01/09/13 | 01/10/13 06:07 | 1011 |

# SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

## PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1)

*CLIENT: AECOM *OFFICE LOC. Columbia, MD

*PROJECT MGR: Scott Beatson *PHONE NO.: (240) 565-6511

EMAIL: scott.beatson@aecom.com FAX NO.: ( )

*PROJECT NAME: BWI Airport PROJECT NO.:

SITE LOCATION: Employee Lot P.O. NO.:

SAMPLER(S): J. Steiner DW CERT NO.:

PSS Work Order #: 13010410 PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

| LAB NO. | *SAMPLE IDENTIFICATION | *DATE (SAMPLED) | *TIME (SAMPLED) | MATRIX (See Codes) | No. CONTAINERS | SAMPLE TYPE C = COMP G = GRAB | Preservatives Used: HCl | Analysis/ Method Required (3) *: TPH-GRO (8015C) | TPH-DRO (8015C) | TCL Volatile Org (8260B) | | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | mw-EMP01 | 1/4/13 | 1030 | GW | 4 | G | | X | X | X | | | | | | | | | |
| 2 | mw-EMP 02 | ↓ | 0950 | ↓ | ↓ | ↓ | | ↓ | ↓ | ↓ | | | | | | | | | |
| 3 | mw-EMP 03 | ↓ | 1200 | ↓ | ↓ | ↓ | | ↓ | ↓ | ↓ | | | | | | | | | |
| 4 | mw-EMP 04 | ↓ | 1130 | ↓ | ↓ | ↓ | | ↓ | ↓ | ↓ | | | | | | | | | |
| 5 | mw-EMP 05 | ↓ | 1100 | ↓ | ↓ | ↓ | | ↓ | ↓ | ↓ | | | | | | | | | |
| 6 | mw-EMP04 30'-32' | 1/2/13 | 0925 | Soil | 2 | G | | X | X | X | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

(5)

| Relinquished By: (1) | Date | Time | Received By: |
|---|---|---|---|
| [signature] | 1/4/13 | 13:05 | [signature] |
| Relinquished By: (2) | Date | Time | Received By: |
| | | | |
| Relinquished By: (3) | Date | Time | Received By: |
| | | | |
| Relinquished By: (4) | Date | Time | Received By: |
| | | | |

(4)

*Requested TAT (One TAT per COC): ☒ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER ____

Special Instructions:

DW COMPLIANCE? YES ☐

EDD FORMAT TYPE ____

STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER ____

# of Coolers: 1

Custody Seal: ABS

Ice Present: Pres Temp: 3°

Shipping Carrier: Client

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

# Phase Separation Science, Inc

## Sample Receipt Checklist

| | | | |
|---|---|---|---|
| **Work Order #** | 13010410 | **Received By** | Evan Richardson |
| **Client Name** | AECOM | **Date Received** | 01/04/2013 01:05:00 PM |
| **Project Name** | BWI Airport | **Delivered By** | Client |
| **Project Number** | N/A | **Tracking No** | Not Applicable |
| **Disposal Date** | 02/08/2013 | **Logged In By** | Rachel Davis |

**Shipping Container(s)**

| | | | |
|---|---|---|---|
| No. of Coolers | 1 | Ice | Present |
| | | Temp (deg C) | 3 |
| Custody Seal(s) Intact? | N/A | Temp Blank Present | No |
| Seal(s) Signed / Dated? | N/A | | |

**Documentation**

| | | | |
|---|---|---|---|
| | | Sampler Name | Jeremy Joiner |
| | | MD DW Cert. No. | N/A |
| COC agrees with sample labels? | Yes | | |
| Chain of Custody | Yes | | |

**Sample Container**

| | | | |
|---|---|---|---|
| | | Custody Seal(s) Intact? | Not Applicable |
| Appropriate for Specified Analysis? | Yes | Seal(s) Signed / Dated | Not Applicable |
| Intact? | Yes | | |
| Labeled and Labels Legible? | Yes | | |

Total No. of Samples Received 7

Total No. of Containers Received 24

**Preservation**

| | | |
|---|---|---|
| Metals | (pH<2) | N/A |
| Cyanides | (pH>12) | N/A |
| Sulfide | (pH>9) | N/A |
| TOC, COD, Phenols | (ph<2) | N/A |
| TOX, TKN, NH3, Total Phos | (pH<2) | N/A |
| VOC, BTEX (VOA Vials Rcvd Preserved) | (pH<2) | Yes |
| Do VOA vials have zero headspace? | | Yes |

**Comments: (Any "No" response must be detailed in the comments section below.)**

**For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.**

Received Trip Blanks that were not on the COC. Logged in for 8260.
Container labels for COC sample MW-EMP01 read MW-EMP02, sampling dates and times are correct.

Samples Inspected/Checklist Completed By: Rachel Davis — Date: 01/04/2013

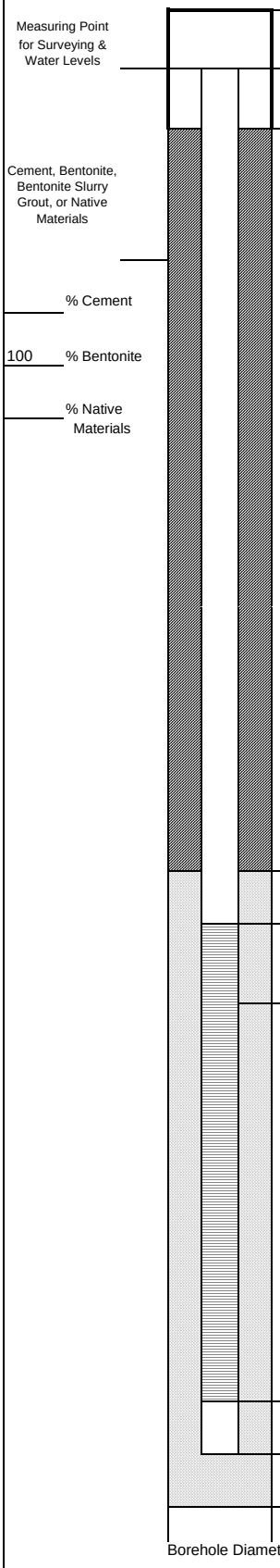
PM Review and Approval: Amy Friedlander — Date: 01/04/2013

# ATTACHMENT 4

Monitoring Wells Construction Logs

| | | |
|---|---|---|
| AECOM | *Client: Maryland Aviation Authority* | ***WELL ID: MW-EMP01*** |
| | *Project Number: 60283632* | |
| | *Site Location: BWI Thurgood Marshall Airport, Task Order No. 10* | *Date Installed: 12/27/2012* |
| | *Well Location: Employee Parking Lot* *Coords: NA* | *Inspector: Jeremy Joiner* |
| | *Method: 4 1/4" Hollow Stem Auger* | *Contractor: Connelly & Associates* |

# MONITORING WELL CONSTRUCTION DETAIL




| | | Depth from G.S. (feet) | Elevation(feet) Datum _____ |
|---|---|---|---|
| Ground Surface (GS) | | 0.0 | |
| Top of Riser Pipe | | 0.5 | |
| Top of Bentonite | | | |
| Bentonite Seal Thickness | 18' | 1' | |
| Riser Pipe: | | | |
| Length | 20' | | |
| Inside Diameter (ID) | 2" | | |
| Type of Material | PVC | | |
| Top of Sand | | 18' | |
| Top of Screen | | 20' | |
| Screen: | | | |
| Length | 29.5' | | |
| Inside Diameter (ID) | 2" | | |
| Slot Size | 0.020 | | |
| Type of Material | PVC | | |
| Type/Size of Sand | #2 | | |
| Sand Pack Thickness | 31.5' | | |
| Bottom of Screen | | 49.3' | |
| Bottom of Tail Pipe: | | 49.5' | |
| Bottom of Borehole | | 50' | |

_____ % Cement

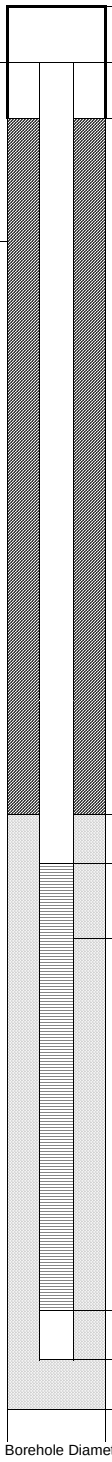
100 % Bentonite

_____ % Native Materials

Note: Monitoring Well EMP-01 located at Geoprobe location E-07

| | | |
|---|---|---|
| AECOM | *Client: Maryland Aviation Authority* | ***WELL ID: MW-EMP02*** |
| | *Project Number: 60283632* | |
| | *Site Location: BWI Thurgood Marshall Airport, Task Order No. 10* | *Date Installed: 12/27/2012* |
| | *Well Location: Employee Parking Lot* *Coords: NA* | *Inspector: Jeremy Joiner* |
| | *Method: 4 1/4" Hollow Stem Auger* | *Contractor: Connelly & Associates* |

## MONITORING WELL CONSTRUCTION DETAIL



| | | Depth from G.S. (feet) | Elevation(feet) Datum _____ |
|---|---|---|---|
| Ground Surface (GS) | | 0.0 | |
| Measuring Point for Surveying & Water Levels — Top of Riser Pipe | | 0.5 | |
| Top of Bentonite | | | |
| Bentonite Seal Thickness | 18' | 1' | |
| Cement, Bentonite, Bentonite Slurry Grout, or Native Materials | | | |
| Riser Pipe: | | | |
| Length | 20' | | |
| Inside Diameter (ID) | 2" | | |
| Type of Material | PVC | | |
| Top of Sand | | 18' | |
| Top of Screen | | 20' | |
| Screen: | | | |
| Length | 30' | | |
| Inside Diameter (ID) | 2" | | |
| Slot Size | 0.020 | | |
| Type of Material | PVC | | |
| Type/Size of Sand | #2 | | |
| Sand Pack Thickness | 32' | | |
| Bottom of Screen | | 49.2' | |
| Bottom of Tail Pipe: | | 49.8' | |
| Bottom of Borehole | | 50' | |

% Cement: _____

100 % Bentonite

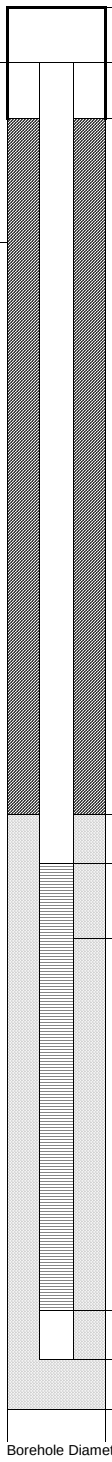
% Native Materials: _____

Borehole Diameter: 4"

Note: Monitoring Well EMP-02 located at Geoprobe location E-18

| | | |
|---|---|---|
| AECOM | *Client: Maryland Aviation Authority* | ***WELL ID: MW-EMP03*** |
| | *Project Number: 60283632* | |
| | *Site Location: BWI Thurgood Marshall Airport, Task Order No. 10* | *Date Installed: 12/28/2012* |
| | *Well Location: Employee Parking Lot* *Coords: NA* | *Inspector: Jeremy Joiner* |
| | *Method: 4 1/4" Hollow Stem Auger* | *Contractor: Connelly & Associates* |

## MONITORING WELL CONSTRUCTION DETAIL



| | | Depth from G.S. (feet) | Elevation(feet) Datum _____ |
|---|---|---|---|
| Ground Surface (GS) | | 0.0 | |
| Measuring Point for Surveying & Water Levels — Top of Riser Pipe | | 0.5 | |
| Top of Bentonite | | | |
| Bentonite Seal Thickness | 17' | 1' | |
| Cement, Bentonite, Bentonite Slurry Grout, or Native Materials | | | |
| Riser Pipe: | | | |
| Length | 19.5' | | |
| Inside Diameter (ID) | 2" | | |
| Type of Material | PVC | | |
| Top of Sand | | 17' | |
| Top of Screen | | 19.5' | |
| Screen: | | | |
| Length | 30' | | |
| Inside Diameter (ID) | 2" | | |
| Slot Size | 0.020 | | |
| Type of Material | PVC | | |
| Type/Size of Sand | #2 | | |
| Sand Pack Thickness | 31.5' | | |
| Bottom of Screen | | 49.3' | |
| Bottom of Tail Pipe: | | 49.5' | |
| Bottom of Borehole | | 50' | |

_____ % Cement

100 % Bentonite

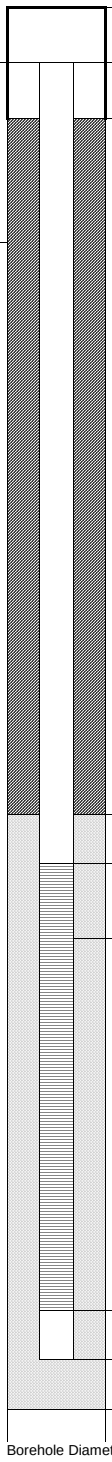
_____ % Native Materials

Borehole Diameter: 4"

Note: Monitoring Well EMP-03 located at Geoprobe location E-28

| | | |
|---|---|---|
| AECOM | *Client: Maryland Aviation Authority* | ***WELL ID: MW-EMP04*** |
| | *Project Number: 60283632* | |
| | *Site Location: BWI Thurgood Marshall Airport, Task Order No. 10* | *Date Installed: 1/2/2012* |
| | *Well Location: Employee Parking Lot* *Coords: NA* | *Inspector: Jeremy Joiner* |
| | *Method: 4 1/4" Hollow Stem Auger* | *Contractor: Connelly & Associates* |

## MONITORING WELL CONSTRUCTION DETAIL



| | | Depth from G.S. (feet) | Elevation(feet) Datum _____ |
|---|---|---|---|
| Ground Surface (GS) | | 0.0 | |
| Measuring Point for Surveying & Water Levels — Top of Riser Pipe | | 0.5 | |
| Top of Bentonite | | | |
| Bentonite Seal Thickness | 18' | 1' | |
| Cement, Bentonite, Bentonite Slurry Grout, or Native Materials | | | |
| Riser Pipe: | | | |
| Length | 20' | | |
| Inside Diameter (ID) | 2" | | |
| Type of Material | PVC | | |
| Top of Sand | | 18' | |
| Top of Screen | | 20' | |
| Screen: | | | |
| Length | 30' | | |
| Inside Diameter (ID) | 2" | | |
| Slot Size | 0.020 | | |
| Type of Material | PVC | | |
| Type/Size of Sand | #2 | | |
| Sand Pack Thickness | 32' | | |
| Bottom of Screen | | 49.2' | |
| Bottom of Tail Pipe: | | 49.8' | |
| Bottom of Borehole | | 50' | |

_____ % Cement

100 % Bentonite

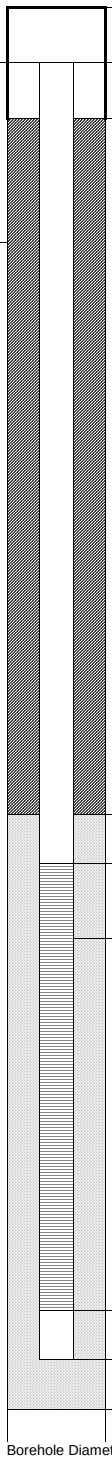
_____ % Native Materials

Borehole Diameter: 4"

Note: Monitoring Well EMP-04 located at Geoprobe location E-25

| | | |
|---|---|---|
| AECOM | *Client: Maryland Aviation Authority* | ***WELL ID: MW-EMP05*** |
| | *Project Number: 60283632* | |
| | *Site Location: BWI Thurgood Marshall Airport, Task Order No. 10* | *Date Installed: 1/2/2012* |
| | *Well Location: Employee Parking Lot* *Coords: NA* | *Inspector: Jeremy Joiner* |
| | *Method: 4 1/4" Hollow Stem Auger* | *Contractor: Connelly & Associates* |

## MONITORING WELL CONSTRUCTION DETAIL



| | | Depth from G.S. (feet) | Elevation(feet) Datum _____ |
|---|---|---|---|
| Ground Surface (GS) | | 0.0 | |
| Measuring Point for Surveying & Water Levels — Top of Riser Pipe | | 0.5 | |
| Top of Bentonite | | | |
| Bentonite Seal Thickness | 18' | 1' | |
| Cement, Bentonite, Bentonite Slurry Grout, or Native Materials | | | |
| Riser Pipe: | | | |
| Length | 20' | | |
| Inside Diameter (ID) | 2" | | |
| Type of Material | PVC | | |
| Top of Sand | | 18' | |
| Top of Screen | | 20' | |
| Screen: | | | |
| Length | 30' | | |
| Inside Diameter (ID) | 2" | | |
| Slot Size | 0.020 | | |
| Type of Material | PVC | | |
| Type/Size of Sand | #2 | | |
| Sand Pack Thickness | 32' | | |
| Bottom of Screen | | 49.2' | |
| Bottom of Tail Pipe: | | 49.8' | |
| Bottom of Borehole | | 50' | |

% Cement _____

100 % Bentonite

% Native Materials _____

Borehole Diameter: 4"

Note: Monitoring Well EMP-05 located at Geoprobe location E-03