TAKOMA JUNCTION REDEVELOPMENT
TAKOMA PARK, MARYLAND

PHASE II ENVIRONMENTAL SITE ASSESSMENT

on behalf of

City of Takoma Park
7500 Maple Avenue
Takoma Park, Maryland 20912

May 2013

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81 Mosher Street
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1.0 Executive Summary

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1.1 Synopsis

Rummel, Klepper & Kahl, LLP (RK&K) has completed a Phase II Environmental Site Assessment (ESA) concerning the property:

Takoma Junction Redevelopment
Takoma Park, Maryland

RK&K is pleased to provide the City of Takoma Park with this Phase II Environmental Site Assessment for the property located on the south side of Carroll Avenue (Maryland Route 195) at the intersection of Carroll Avenue, Grant Avenue and Old Carroll Avenue, in the Takoma Park Historic District (the Site). The Site covers an area of 53,493 ft^2 and is designated as City of Takoma Park parcel 13-03127743.

The parcel is owned by the City of Takoma Park and zoned commercial C1 along Carroll Avenue and zoned residential R60 along Columbia Avenue. Commercial properties border the Site to the east and west while a wooded lot borders the Site to the south.

This Phase II ESA was performed in accordance with the procedures of the American Society for Testing and Materials (ASTM), Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process (ASTM Standard E1903-11). Any variations from the ASTM standard are described later in this report. The ESA was conducted under the supervision of Tyler Lane. Ted Chadeayne supervised the field investigation on March 26th and 27th, 2013.

The City of Takoma Park plans to sell the parcel for commercial development in an effort to assist area businesses and local community growth. The Phase II ESA investigation area includes the entirety of parcel 13-03127743. The general location is shown in **Figure 1**, and the Site and selected neighboring properties are illustrated in **Figure 2**.

In November 2012, RK&K had conducted a Phase I ESA at the Site. The Phase I ESA included a review of historic environmental documentation, interviews, and site reconnaissance of the property. Several Recognized Environmental Conditions (RECs) during the course of the investigation. Identified RECs included onsite historic dumping activities, as well as petroleum and volatile organic compound (VOC) releases at neighboring properties. Based on these findings, a Phase II ESA was recommended for the collection of subsurface soil and groundwater samples to characterize potential impacts to the Site.

The purpose of the Phase II ESA was the delineation of the extents of potential subsurface impact from historical contaminants of concern (COC). The information collected during the Phase II ESA will assist in characterizing subsurface contamination, creating impacted material handling plans and mitigating possible exposure scenarios for onsite excavation.

Soil samples were collected at 15 locations within the Site property (see **Figure 2**), using a track mounted Geoprobe®. Borings were installed to a depth of 30 feet below ground surface (bgs) or to the point of Geoprobe refusal. All soil cuttings were screened with a photoionization detector (PID) for potential volatile organic compounds. Groundwater monitoring wells and samples were not collected due to insufficient water levels from any of the boring locations.

1.2 Conclusions and Recommendations

Twelve of the soil samples were sent for laboratory analysis, and were tested for diesel-range organics (DRO), gasoline-range organics (GRO), Resource Conservation and Recovery Act (RCRA) metals, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs).

Based on the results of this investigation, all soils samples were below Maryland Department of the Environment (MDE) cleanup standards for residential development, except for a detection of the SVOC benzo[b]fluoranthene at TJ-GP-01. Petroleum impacted soils below MDE residential cleanup standards were identified on the western side of the property boundary, near the Takoma Auto Clinic at 7221 Carroll Avenue. Low levels of SVOCs and some RCRA metals were also detected below MDE cleanup standards. PCBs and VOCs were not detected above their respective laboratory detection limits.

Subsurface soil impacts were absent or below MDE soil cleanup standards beneath the eastern portion of the parking lot area bordering Carroll Avenue and the undeveloped wooded area to the south of the property. Samples collected from the southwest portion of the parking lot and the southern portion of the 10-foot wide right-of-way between 7221 and 7211 Carroll Avenue indicate the presence of historical petroleum impacts. As a result of historical subsurface releases, localized zones of petroleum impacted soil may persist in these areas.

If excavation activities occur in the vicinity of TJ-GP-01, TJ-GP-14 or TJ-GP-15, RK&K recommends the following:

1. Creation of an impacted materials handling plan for the delineation of an area of concern (AOC), worker Personal Protective Equipment (PPE) and safety requirements and soil handling and disposal requirements should petroleum impacted soil be identified above MDE cleanup standards.

2. Screening of excavated materials in the AOC with a PID. At locations where high volatile concentration levels are identified, the collection of soil samples for laboratory analysis for petroleum hydrocarbons.

3. Review of the analytical results by an environmental professional to evaluate potential health and safety, material handling and off-site disposal requirements and costs associated with petroleum-impacted soils.

2.0 Introduction

The Phase II ESA was conducted to delineate the extents of potential subsurface impact from historical contaminants of concern (COC) at the City of Takoma Park property located on the south side of Carroll Avenue (Maryland Route 195) at the intersection of Carroll Avenue, Grant Avenue and Old Carroll Avenue, in the Takoma Park Historic District (the Site). The parcel is owned by the City of Takoma Park. Commercial properties border the Site to the east and west while a wooded lot borders the Site to the south.

The Phase II ESA included the mobilization of a field crew for the collection of subsurface samples, laboratory analysis and the interpretation of the analytical results. The information collected during the Phase II ESA will assist in characterizing subsurface contamination, creating impacted material handling plans and mitigating possible exposure scenarios for onsite excavation.

2.1 Purpose

The purpose of the Phase II ESA was the quantitative assessment of COC concentrations in soils and groundwater at the Site. The scope of this investigation excludes any determination of the source of impact, if any, on the Site due to the release of a COC into soils or groundwater. The City of Takoma Park plans to sell the parcel for commercial development in an effort to assist area businesses and local community growth.

2.2 Scope-of-Services

The Phase II ESA evaluates current site conditions with respect to potential impacts to soil or groundwater from petroleum products or other hazardous substances. The scope of services for the Phase II ESA is outlined in the RK&K Engineering Services Proposal dated September 14, 2012 and the proposed Sampling and Analysis Plan dated January 8, 2013. The scope included the preparation of a sampling plan, site investigation, laboratory analysis and reporting. The investigation is limited to parcel boundaries identified in **Figure 2**.

2.3 Significant Assumptions

This Phase II ESA was prepared using information obtained from and/or provided by the following sources:

- Green Services, Inc.;
- Microbac Laboratories, Inc.;
- Previous reports;
- Field observations.

For purposes of this report, the information obtained through the listed methods is assumed valid and accurate as provided. RK&K has not verified the completeness or accuracy of the information provided by others, unless specifically noted. The field observations were based upon conditions readily visible at the site at the time of the investigation.

The Geoprobe direct-push coring method was limited to unconsolidated soils and sediments. When bedrock or very stiff, consolidated soils were encountered, refusal was determined by the drilling contractor. The presence of free, standing groundwater inside the Geoprobe borings was insufficient for the purposes of groundwater sampling.

Changes at the Site over time, the manifestation of latent conditions or changes to existing codes and regulations may alter the conclusions and recommendations of this report. If additional information becomes available that may affect these conclusions and recommendations, RK&K reserves the opportunity to review the information and modify the report.

2.4 Limitations and Exceptions

Based upon the scope-of-services, the locations and number of samples collected and analyzed do not represent a complete assessment of the entire Site. Sample locations were identified according to the best available information for characterizing potential subsurface impacts to the Site.

The Phase II ESA does not include business environmental risk evaluations or other services not identified in the contract scope. Information obtained for the Phase II ESA was received from sources that were considered reliable; although the authenticity or reliability of these sources cannot be warranted. Compliance with the submitted recommendations or suggestions does not assure elimination of hazards or the fulfillment of clients' obligations under local, state, or federal laws or any modifications or changes of such laws.

The Phase II ESA report is in accordance with ASTM Standard E1903-11 protocol, and the standard limitations apply. The absence of recognized environmental conditions or contamination recognition in this report cannot be interpreted as a warranty, expressed or implied, that no contamination exists at the Site. Accordingly, this Phase II ESA does not purport to describe all environmental risks affecting the property, nor will any additional investigation determine as a matter of certainty that all environmental risks affecting the property have been identified.

None of the work performed heretofore shall constitute or be represented as a legal opinion of any kind or nature, but shall be a representation of findings of fact from the results of the assessment.

2.5 Special Terms and Conditions

Special terms and conditions in relation to this project have been addressed throughout various sections of this assessment. Information regarding the location of the Site and the extent of the assessed tax parcel was provided by the City of Takoma Park.

2.6 User Reliance

The Phase II ESA has been prepared for the exclusive use of the City of Takoma under the terms and conditions of the RK&K Engineering Services Proposal dated September 14, 2012. The assessment was conducted in accordance with generally accepted environmental standards and practices as defined by ASTM E1903-11. No other warranty, expressed or implied, is made.

The reliance or use of this assessment by any other third party, without explicit authorization, does not make said third party a third-party beneficiary to RK&K's agreement with the City of Takoma. The unauthorized reliance on or use of any part of this assessment by a third party will be at the third party's own risk, and no warranties or representations, either expressed or implied, are associated with such use. The contents of this assessment should not be construed in any way to indicate RK&K's recommendation to purchase, sell, or develop the Site.

3.0 Site Description and Physical Setting

3.1 Location and Legal Description

The Site property is located within the incorporated city of Takoma Park, in the Takoma Park Historic District on the south side of Carroll Avenue (Maryland Route 195) at the intersection of Carroll Avenue, Grant Avenue and Old Carroll Avenue. The Site covers an area of 53,493 ft^2 and is designated as City of Takoma Park parcel 13-03127743. The parcel is owned by the City of Takoma Park and zoned commercial C1 along Carroll Avenue and zoned residential R60 along Columbia Avenue. The parcel designation also includes a separate 10-foot right-of-way between 7221 and 7211 Carroll Avenue.

3.2 Physical Setting

3.2.1 Geology

The Site is located along the fall line between the Piedmont Uplands physiographic province of crystalline basement rock to the northwest and the Atlantic Coastal Plain province of unconsolidated sedimentary deposits of sand, gravel, silt, and clay to the southeast. The bedrock in the area is Boulder Gneiss, a thick-bedded to massive metamorphic rock, typically medium-grained, garnet-quartz mica-oligoclase gneiss, locally intensely foliated. The bedrock is overlain by sediment of the Potomac Group's Patuxent Formation, a light gray to orange-brown, moderately sorted, cross-bedded, argillaceous, angular sands and sub-rounded quartz gravels, with silts and clays subordinate.

3.2.2 Soils

In contrast to the US Department of Agriculture's (USDA) Soil Conservation Service (SCS) report of underlying Chillum silt loam soils identified in the Phase I ESA, variable soils were characterized under the parking lot and wooded areas of the Site.

- Directly under the pavement of the parking lot and right-of-way areas was a dark reddish brown clayey silt and sand, with trace gravel, slightly micaceous in areas to a depth of approximately 5 feet near Carroll Avenue, extending to 16 feet near the south border of the parking lot. The soil is irregular and may contain fill material, with brick pieces in the top 1½ feet at TJ-GP-04, TJ-GP-08 and TJ-GP-14, and at 5 to 6½ feet at TJ-GP-15.

- Below the silt and sand, there is a layer of dark red and grey clay, usually very dry, to 25 to 30 feet bgs. The clay appeared firm, well consolidated and poorly drained, causing a 2-foot to 5-foot layer of slight perched moisture, but not free groundwater. The clay was identified as part of the Arundel Formation, an aquitard that highly restricts the

downward movement of surface fluids and potential contamination from the surface. Area mapping of the Arundel Formation depicts an outcrop to the southeast of Takoma Park and dipping away. Therefore, this section of the Arundel clay may be an isolated fragment underlying the local upland.

- In the south woods, underneath thin layers of clay lenses near the surface, the cores at TJ-GP-10, TJ-GP-11 and TJ-GP-12 consisted mainly of extremely dry light to dark orange silt and coarse sand, with little rounded fine gravel. This soil appeared to be closely related to the Patuxent Formation, which is mapped by the Maryland Department of Natural Resources as underlying this area and is an important aquifer for the western shore of the Chesapeake Bay and southern Maryland.

3.3 Site and Vicinity General Characteristics

The Site is located within an area of mixed residential, retail and commercial development. The surrounding neighborhoods consist of detached single-family homes. Several nearby commercial businesses with potential environmental significance include gas stations (current and former), automotive repair shops, and a dry-cleaning service.

The Takoma Park-Silver Spring Cooperative, Inc. (TPSS Co-op), a retail grocery store, borders the Site to the east. A cluster of retail properties is located across Carroll Avenue to the northeast, while a petroleum service station is located to the north. The Takoma Auto Clinic property is located between the primary parcel and the Right of Way, followed by commercial development and the Takoma Park Fire Department fire station to the southwest. An undeveloped parcel borders the Site to the south, followed by single family residential properties.

3.4 Current Property Use and Improvements

The northern half of the Site is paved and used primarily for parking, with a driveway fronting Carroll Avenue on the west side of the parking lot. The majority of the parking lot surface is bituminous pavement. The western portion of the parking area, however, includes an approximately 4,000 ft^2 concrete pad constructed as part of a temporary fire station building during renovations to the current fire station. The temporary fire station contained electrical and water connections to municipal services and the subsurface hookups may still be in place.

The parking area includes approximately 40 demarcated parking spaces on the paved portion. Storage sheds and trash receptacles used by the neighboring TPSS Co-op are located in the southeast corner of the parking lot. Three external light fixtures are along the south edge of the parking lot, with underground electrical wiring providing power.

The triangular southern half of the Site is wooded and undeveloped, acting as a buffer between the commercial area to the north and residential areas to the south. Much of the area is steeply sloped south to Columbia Avenue. This area has been designated a conservation area by the City of Takoma Park. Anecdotal information indicates that material from onsite trash disposal/handling activities may have extended partially down the slope from the currently paved area.

The City has entered into a "revocable but non-exclusive" land license with the TPSS Co-op, which allows for the use of a portion of the parking lot for customer and employee parking, placement of containerized storage, trash receptacles, and access to its loading dock. The Phase II ESA did not investigate the interior of two TPSS Co-op storage sheds or the underlying soils.

3.5 Current Use of Adjoining Properties

7201 Carroll Avenue – The Takoma Park Volunteer Fire Department, Station 2 provides emergency firefighting and rescue services, affiliated with the Montgomery County Fire and Rescue Service. The company dates back to the 1890s. A new and expanded building was completed on October 28, 2010.

7211 Carroll Avenue – Healey Surgeons, Inc. and Healey Repair Service is a small automotive shop specializing in new and used parts sales, restorations, repairs, and servicing of Austin-Healey sport cars.

7221 Carroll Avenue – Takoma Auto Clinic has been in the Takoma Park area since 1992. This shop performs mechanical services and repairs on domestic and imported vehicles.

7224 Carroll Avenue – RS Automotive, Inc. and Takoma Junction Liberty gas station is an automotive service and repair shop with one island of six gasoline pumps along Carroll Avenue. Currently the station has three underground storage tanks (USTs) with a combined capacity of 30,000 gallons.

7300 to 7308 Carroll Avenue – This commercial property has storefront space for lease for five businesses: 7300 is vacant (formerly TJ Food Market); 7302 is the Church Universal and Triumphant learning center; 7304 is the Takoma Postal and Business Center; 7306 is vacant (formerly Glad Rags Consignment Shop); and 7308 is Carriage House Cleaners. The two vacancies are unleaseable pending completion of onsite environmental measures to address soil and groundwater contamination.

Carroll & Ethan Allen Avenues – An art deco former gas station, owned by the City of Takoma Park, is a community park space northeast of the Site.

201 Ethan Allen Avenue – The TPSS Co-op is a consumer-owned grocery retail store cooperative. The property includes the main brick building and its own separate parking area of 19 spaces.

44 Columbia Avenue – A single-family, detached private residence.

3.6 Summary of Previous Site Assessments

The Phase I ESA (RK&K, 2012) identified the following Recognized Environmental Conditions (RECs) for the Site:

- The southern part of the parcel's parking lot had been the site of commercial trash and rubble dumping over several decades. People familiar with the site history also indicated

the possible existence of rubbish and trash in the soil fill underlying the wooded area. The nature and extent of the waste dumped onsite is unknown.

- Two automotive repair facilities, two gas stations, and one firehouse adjacent to the parcel have had current or historical petroleum fuel storage tanks, including underground storage tanks (USTs) on their properties. State records indicate that several of these USTs had residual petroleum contamination in the surrounding soil upon disposal of the tanks.

- The commercial property at 7300 to 7308 Carroll Avenue is an MDE Voluntary Cleanup Program (VCP) site with VOCs identified in the soil, soil vapor, and groundwater consistent with petroleum and dry-cleaning chemical waste. The property is currently undergoing remediation activities.

RK&K recommended the performance of a Phase II ESA prior to the transfer of property ownership or any excavation or development at the site. Potential contaminants of concern (COCs) included common petroleum constituents (such as DRO and GRO), VOCs, SVOCs, PCBs, and hazardous metals.

4.0 Site Investigation

4.1 Scope of Assessment

This Phase II ESA included an onsite subsurface boring and sampling investigation across the entire Site. The soil borings were installed using a track mounted Geoprobe 6620DT drill rig operated by Green Services, Inc.. The Geoprobe borings were located approximately 40 to 50 feet apart, except for the inaccessible wooded sloping area on the southern portion of the Site.

Prior to commencement of onsite activities, the following arrangements were made:

- A Phase II Environmental Site Assessment (ESA) Sampling Plan was submitted to the City of Takoma Park for approval;

- A Site-Specific Safety and Health Plan was developed and reviewed with the drilling subcontractor;

- Site access was coordinated with the City of Takoma Park and Takoma Auto Clinic to minimize disruption of ongoing operations;

- Underground utilities were identified, marked and confirmed with Miss Utility and an independent utility scan subcontractor.

4.2 Conceptual Site Model

The Conceptual Site Model (CSM) for a Phase II ESA consists of a description of the likely environmental conditions at the Site relative to the presence or likely presence of Contaminants of Concern (COCs). The property is located at a relative topographic high point on a northeast-southwest ridge between Takoma Branch to the southeast and Brashear's Run to the northwest

(both tributaries to Sligo Creek). The steep slope on the southern side of the Site down Columbia Avenue indicates the likely groundwater flow direction across the site will follow the land surface contours from northeast to southwest, although subsurface heterogeneities may cause localized alterations in the general flow pattern.

The Phase I ESA (RK&K, 2012) identified historical dumping activity on the southern portion of the property, petroleum storage tanks to the west and north and potential volatiles associated with dry cleaning activities northeast of the Site as the primary environmental concerns for the Site. Therefore, the Phase II ESA attempted to characterize COCs associated with these historical activities across the target investigation area.

The target analytes for the investigation include metals, DRO, GRO, VOCs and PCBs potentially associated with historical dumping activity. The limited anecdotal information regarding the historical dumping activity suggests COCs may be widely distributed in small quantities in the subsurface soils. The potential movement of offsite DRO, GRO and VOCs with groundwater flows from nearby petroleum tanks may impact subsurface soils, groundwater and soil vapor. Similarly, VOCs and SVOCs associated with the historical dry cleaning site may impact subsurface soils, groundwater and soil vapor beneath the target investigation property.

Based on the findings of the Phase I ESA, a sampling plan was devised to allow for collection of samples of potential COC and define existing concentrations across the Site.

4.3 Borings, Screening and Sampling

RK&K personnel and drilling subcontractor Green Services, Inc. cored and collected 15 soil samples on March 26 and 27, 2013, overseen by the Housing and Community Development Department. The sampling locations are identified as TJ-GP-01 through TJ-GP-15 (see **Figure 2** and **Table 1**). The sampling locations focused on the north side of the property to identify potential offsite contamination sources and in the middle of the property due to historical onsite waste disposal. Locations were selected as representative of three distinct subsections of the property: (a) ten on the main parking lot; (b) two on the separate right-of-way; and (c) three in the south woods.

At each boring location, a one-inch diameter sampler was pushed vertically into the soil to a maximum depth of 30 feet below the ground surface (bgs) or refusal. The expected maximum depth of dumped waste was 25 feet bgs. Each recovered soil core was retained in a five-foot long, non-reactive, clear plastic liner that allowed the sample to be removed intact from the Geoprobe sampler. Due to firm consolidated clay or silt soils, the Geoprobe was unable to core to 30 feet at seven locations: TJ-GP-01, TJ-GP-02, and TJ-GP-03 (refusal at 25.0 feet); TJ-GP-04 (29.0 feet); TJ-GP-10 (19.4 feet); TJ-GP-11 (18.5 feet); and TJ-GP-12 (18.0 feet).

Upon recovery of the sampler from the borehole, the liner was split to expose the sample. RK&K's geologist then logged the soil descriptions. The soil descriptions are listed in **Table 2**. Samples were collected from the cores and unused soils were returned to the boring hole and compacted. Holes made in the pavement were patched with concrete following completion of each soil core.

The Geoprobe sampling plan originally listed 14 soil sample locations. Poor soil recovery associated with a large void under the concrete pad at TJ-GP-04, required an alternative boring location to assess the southwest portion of the property. The alternative boring was labeled TJ-GP-15.

Sections of the soil samples analyzed for GRO and VOCs were immediately prepared and transferred to laboratory-provided containers, consistent with EPA Method 5035. The remaining core sections identified for sampling were composited in a Ziploc® bag. Potential soil vapors were allowed to equilibrate inside the bag for 10 to 20 minutes. Field headspace screenings were conducted using an Ion Science PhoCheck 1000 Photoionization Detector (PID) equipped with a 10.6 eV Krypton ionization lamp. Maximum PID headspace readings were recorded in the field notes. Following the headspace screening, soil samples were then transferred to laboratory provided containers for analysis of DRO, SVOCs, PCBs and RCRA metals.

One soil sample was collected at each of twelve locations. Soil samples were not collected at TJ-GP-04 (poor recovery due to void space), TJ-GP-10 and TJ-GP-12. Soil samples were selected for laboratory analysis based on observations of soil type, color, odor and the presence of groundwater. The laboratory samples were collected from portions of the soil core above the apparent groundwater interface. All soil samples were taken from a ½ to 8½-foot bgs range, except for TJ-GP-07 (15.0’ to 19.2’), TJ-GP-08 (10.8’ to 15.8’), TJ-GP-09 (10.0’ to 13.9’) and TJ-GP-14 (7.1’ to 10.7’).

Slight to strong petroleum odors were apparent at the boring locations TJ-GP-04, TJ-GP-06 and TJ-GP-14. PID readings of the headspace of the soil samples indicated very low levels of volatiles, mostly under 2.0 ppm. Field testing of the Ziploc bags under ambient conditions indicated that PID readings averaging 1.4 ppm, even as the bags were empty. Therefore, trace semi-volatiles may have been vaporizing from the plastic bag itself and significant volatile concentrations from the soil were not identified. The only PID reading above potential background trace values was 14.5 ppm at TJ-GP-14, occurring 10.0 to 15.0 feet bgs, where the strongest odor of petroleum was encountered.

Groundwater samples were not collected at any boring due to a lack of freestanding water in any of the sampling locations. Following the completion of sampling activities and surface patching of the boreholes, the completed coring locations were surveyed using a hand-held Global Positioning System (GPS). The surveyed coordinates are listed in **Table 1**.

TABLE 1: Soil Sample GPS Locations

Geoprobe Cores	Latitude (WGS84 datum)	Longitude (WGS84 datum)
TJ-GP-01	38.977824° N	77.006558° W
TJ-GP-02	38.977887° N	77.006371° W
TJ-GP-03	38.977892° N	77.006200° W
TJ-GP-04	38.977697° N	77.006550° W
TJ-GP-05	38.977777° N	77.006369° W
TJ-GP-06	38.977736° N	77.006170° W
TJ-GP-07	38.977541° N	77.006524° W
TJ-GP-08	38.977648° N	77.006367° W
TJ-GP-09	38.977631° N	77.006186° W
TJ-GP-10	38.977348° N	77.006267° W
TJ-GP-11	38.977262° N	77.006698° W
TJ-GP-12	38.977253° N	77.006451° W
TJ-GP-13	38.977815° N	77.006845° W
TJ-GP-14	38.977620° N	77.006835° W
TJ-GP-15	38.977632° N	77.006615° W

Photographs taken during the sampling events are documented in **Appendix A**. The soil descriptions, PID readings, and the laboratory sample identifications are documented in the soil probe logs in **Appendix B**.

4.4 Quality Assurance/Quality Control

The following procedures were used to prevent cross contamination between samples in the field:

- New Geoprobe core liners were used for each sample run.
- New nitrile gloves were donned before handling each sample.
- New Ziploc bags were used for each sample preparation.

4.5 Analysis

All samples were placed within an insulated cooler and maintained at an approximate temperature of 4ºC. The samples were delivered with appropriate chain-of-custody documentation to Microbac Laboratories, 2101 Van Deman Street, Baltimore, Maryland for analysis of the following:

- DRO by EPA Method 8015B;
- GRO by EPA Method 8015B;
- VOCs by EPA Method 8260B;
- SVOCs by EPA Method 8270C;
- PCBs by EPA Method 8082; and
- RCRA metals by EPA Method 6010B/7471B.

Laboratory analytical reports are documented in **Appendix C**.

5.0 Analytical Results

Table 2 summarizes the laboratory analytical results. The laboratory analytical reports are attached in **Appendix C**. The significant soil findings are as follows:

- TJ-GP-14, at the southern end of the 10-foot right-of-way, found a concentration of 230 mg/kg of DRO and 2.4 mg/kg of GRO. TJ-GP-15, at the southwest corner of the parking lot, identified a DRO concentration of 100 mg/kg. These concentrations meet the MDE residential cleanup guideline of 230 mg/kg and the non-residential cleanup guideline of 620 mg/kg for DRO and GRO. The two DRO values are above the 10 mg/kg standard required by MDE's Oil Control Program (OCP) for the reuse of disturbed oil-contaminated soil within Maryland.
- TCL SVOCs were only encountered at TJ-GP-01, near the entrance along Carroll Avenue. Benzo[b]fluoranthene was detected at 240 µg/kg (above its residential cleanup guideline of 200 µg/kg and below its non-residential cleanup guideline of 3,900 µg/kg). Chrysene was detected at 220 µg/kg; fluoranthene, at 340 µg/kg; and pyrene, at 370 µg/kg (all well below the respective MDE residential cleanup guidelines).
- Of the RCRA metals, barium, cadmium, chromium, and lead were detected in all soil samples; mercury in five of the twelve samples. All of these results were below their respective residential cleanup guidelines. Arsenic, selenium, and silver were not found above their detection limits.
- No PCBs or VOCs were found above their detection limits at any of the sample locations.

6.0 Summary and Conclusions

6.1 Recognized Environmental Conditions

RK&K has performed a Phase II Environmental Site Assessment in accordance with the scope and limitations of the ASTM Standard E 1903-11 protocol for the Site. The assessment found

minor petroleum contamination within soil samples collected from the southwest corner of the parking lot and right-of-way, near the property for the Takoma Auto Clinic at 7221 Carroll Avenue. None of the collected samples were above applicable Maryland Department of the Environment cleanup standards (MDE, 2008). Due to the absence or low-level PID detections during soil screening, the sampled DRO detections at TJ-GP-13 and TJ-GP-14 likely indicates the presence of weathered residual petroleum from a historical release.

The Phase II ESA found no indication of contamination or Recognized Environmental Conditions for most of the Site. With the exception of minor SVOC concentrations at TJ-GP-01, no contaminants were identified in the eastern half of the parking lot, the northern part of the property along Carroll Avenue, or within the southern wooded conservation area.

The soil cores taken below the clay lenses at TJ-GP-10, TJ-GP-11 and TJ-GP-12 were all extremely dry. This indicates an absence of water percolation down through the clay that underlies most the Site and the surrounding upland area. In addition, surficial soils underlying the parking lot are hydrologically isolated from area groundwater flow. Therefore, potential COCs associated with the anecdotal trash and rubble dumping that occurred over several decades have either remained in the disposal areas or have migrated horizontally through the surficial sediments. Analytical results from the Phase II ESA did not identify areas of concern associated with historical dumping activity.

6.2 Conceptual Site Model Validation

The CSM identified three potential sources for COCs, including historical dumping activity on the southern portion of the property, petroleum storage tanks to the west and north and potential volatiles associated with dry cleaning activities northeast of the Site as the primary environmental concerns for the Site. Following the collection and analysis of soil samples at the Site, the only identified contaminant of concern was the low-level detection of the SVOC Benzo[b]fluoranthene above MDE residential cleanup standards at TJ-GP-01.

Minor detections of DRO at TJ-GP-14 and TJ-GP-15 indicate a historical petroleum release in this area. The petroleum levels may be associated with a release associated with the historical USTs located at the Takoma Auto Clinic at 7221 Carroll Avenue, or potentially from another off-site source such as the Liberty gas station at 7224 Carroll Avenue.

No indication of off-site impacts associated with the historical dry cleaning activities associated with the 7300 to 7308 Carroll Avenue VCP site were identified during the investigation.

6.3 Conclusions

The purpose of this Phase II ESA was the evaluation and delineation of potential risks associated with the Site for future excavation and commercial use. The investigation did not identify any significant risk or contaminant concentrations in subsurface soils requiring mitigation at this time.

Although the investigation covered a large portion of the target property, small isolated areas of soil contaminants may present an exposure risk during excavation or construction activities. For

example, the large void identified directly under the concrete pad at TJ-GP-04 may indicate that solid debris remains buried in this area of the Site.

RK&K recommends that certain measures be taken to minimize potential risk to human health and safety and to the environment if excavation or site development is initiated at the Site, such as:

1. Soil samples should be collected in the specific area of the proposed excavation and tested for petroleum hydrocarbons prior to the excavation work in the vicinity of the Takoma Auto Center property.

2. The sample results should be evaluated by an environmental professional to determine if any health and safety concerns exist associated with the excavation and to determine the treatment or off-site disposal costs associated with petroleum-impacted soils.

3. A soil management plan and health and safety plan should be prepared to ensure the safety of the excavation contractor, with specifications for encountering highly localized areas of petroleum contamination.

REFERENCES

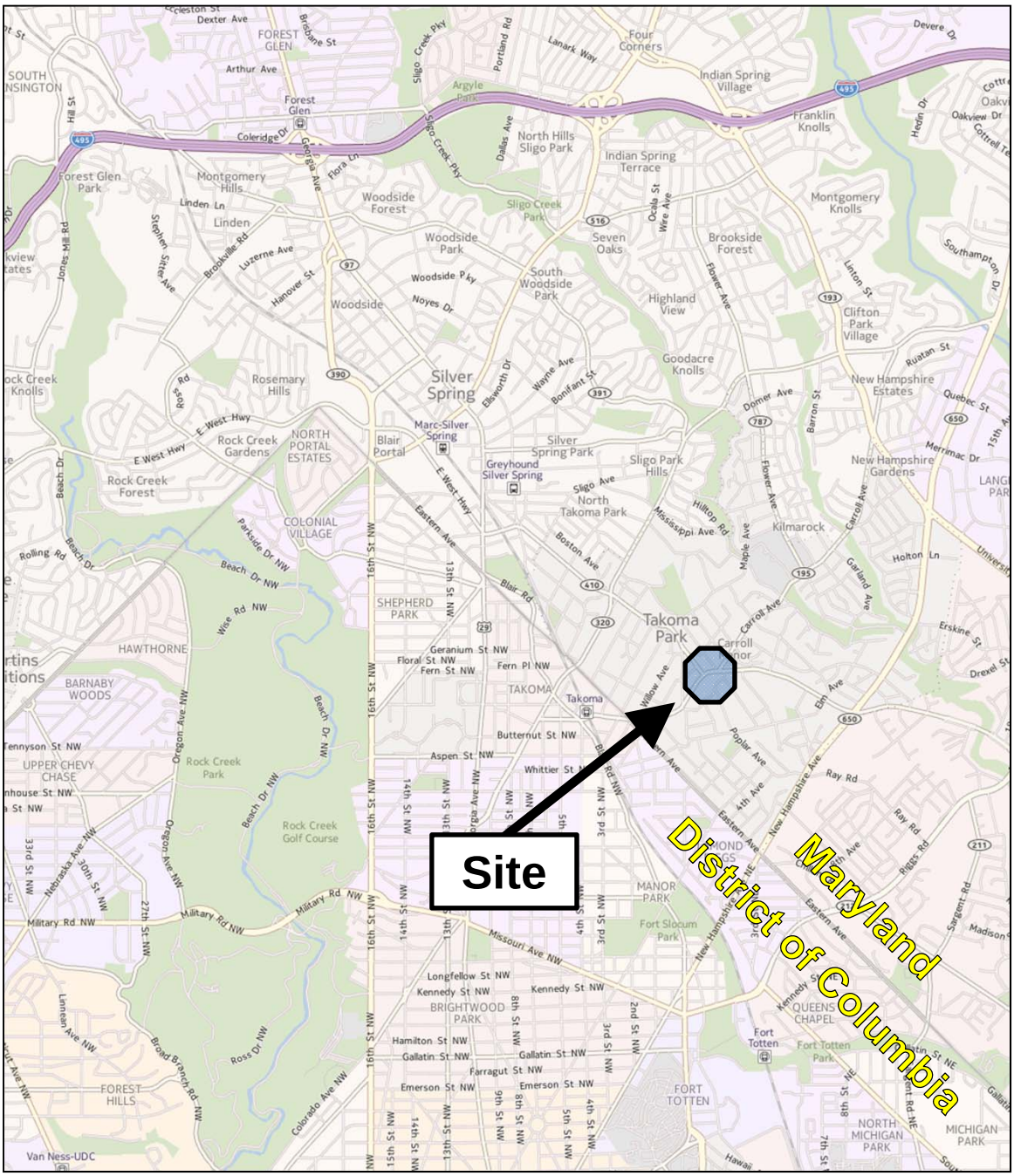
ASTM. (2011). *Designation E 1903-11, Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process.* West Conshohocken, PA: American Society for Testing and Materials.

MDE. (2008). *Cleanup Standards for Soil and Groundwater – Interim Final Guidance.* Baltimore, MD: Maryland Department of the Environment.

RK&K. (2012). *Phase I Environmental Site Assessment, Takoma Junction Redevelopment.* Takoma Park, MD: City of Takoma Park, 7500 Maple Avenue, Takoma Park, MD 20912.

FIGURE 1:

Site Location Map



Note: Scale is approximate and for planning purposes only.

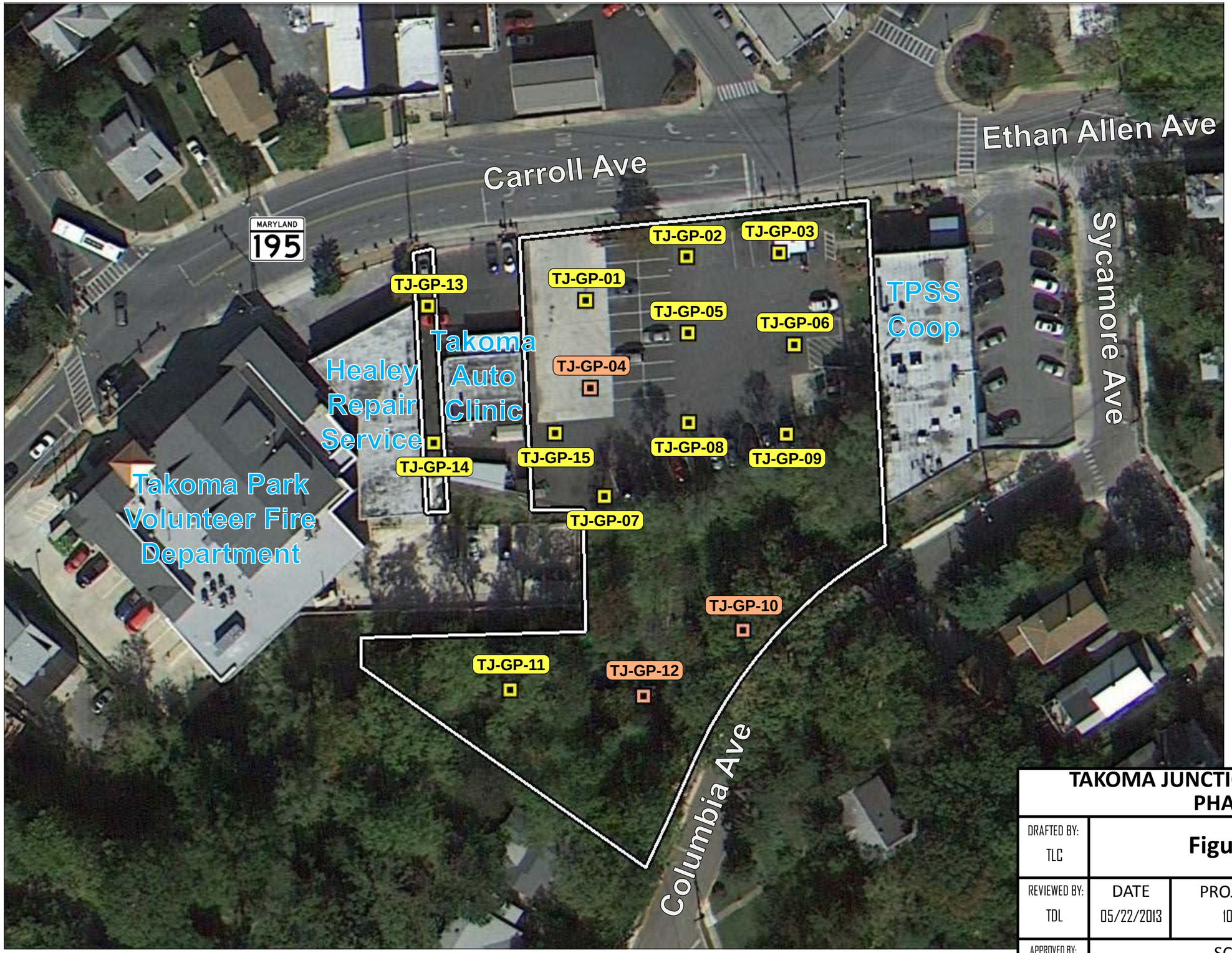
TAKOMA JUNCTION REDEVELOPMENT PHASE II ESA

Figure 1: Site Location Map	DATE 05/22/2013	PROJECT # 10-031	REV # 01	N
DRAFTED BY: TLC	REVIEWED BY: TDL	APPROVED BY: TDL	SCALE 0 4,000 8,000 ft	

\\balsrv03\v2010\2010\10031_TakomaPk\Task 5_EnvironAssess\Phase II ESA\20130522_TakomaJunction-PhaseIIFigures.pptx

FIGURE 2:

Site Map



Sampled Core

Unsampled Core

Note: Scale is approximate and for planning purposes only.

TAKOMA JUNCTION REDEVELOPMENT PHASE II ESA

DRAFTED BY:	**Figure 2: Site Map**			
REVIEWED BY:	DATE	PROJECT #	REV #	N
TDL	05/22/2013	10-031	01	
APPROVED BY:	SCALE			
TDL	0 50 100 ft			

\\balsrv03\v2010\2010\10031_TakomaPk\Task 5_EnvironAssess\Phase II ESA\20130522_TakomaJunction-PhaseIIFigure2.pptx

TABLE 2:

Soil Sample Analytical Results

Table 2
Laboratory Analytical Results

Petroleum Hydrocarbons

Analyte	EPA Method	Units	MDE Cleanup Standards for Soil		Sample ID	Public Parking Lot									Columbia Avenue	Right-of-Way	
			Residential	Non-Residential	Reporting Limit	TJ-GP-01 2.2 to 3.7'	TJ-GP-02 0.5 to 4.0'	TJ-GP-03 0.5 to 5.8'	TJ-GP-05 0.7 to 7.5'	TJ-GP-06 5.0 to 8.4'	TJ-GP-07 15.0 to 19.2'	TJ-GP-08 10.8 to 15.8'	TJ-GP-09 10.0 to 13.9'	TJ-GP-15 2.3 to 6.5'	TJ-GP-11 0.7 to 6.1'	TJ-GP-13 1.0 to 5.8'	TJ-GP-14 7.1 to 10.7'
DRO	8015B	mg/kg	230	620	40	ND	ND	ND	ND	ND	ND	ND	ND	**100**	ND	ND	**230**
GRO	8015B	mg/kg	230	620	2.0 to 2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**2.4**

RCRA Metals

Analyte	EPA Method	Units	MDE Cleanup Standards for Soil		Sample ID	TJ-GP-01 2.2 to 3.7'	TJ-GP-02 0.5 to 4.0'	TJ-GP-03 0.5 to 5.8'	TJ-GP-05 0.7 to 7.5'	TJ-GP-06 5.0 to 8.4'	TJ-GP-07 15.0 to 19.2'	TJ-GP-08 10.8 to 15.8'	TJ-GP-09 10.0 to 13.9'	TJ-GP-15 2.3 to 6.5'	TJ-GP-11 0.7 to 6.1'	TJ-GP-13 1.0 to 5.8'	TJ-GP-14 7.1 to 10.7'
			Residential	Non-Residential	Reporting Limit												
Arsenic	6010B	mg/kg	4.9 *	4.9 *	4.0 to 5.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	6010B	mg/kg	1,600	20,000	2.0 to 2.9	**310**	**46**	**43**	**50**	**63**	**42**	**56**	**77**	**48**	**8.6**	**44**	**41**
Cadmium	6010B	mg/kg	3.9	51	0.40 to 0.57	**2.9**	**1.7**	**2.0**	**2.2**	**2.3**	**1.6**	**2.1**	**2.2**	**0.79**	**1.5**	**1.7**	**0.98**
Chromium	6010B	mg/kg	23	310	2.0 to 2.9	**23**	**16**	**22**	**22**	**23**	**23**	**21**	**18**	**9.6**	**19**	**23**	**18**
Lead	6010B	mg/kg	400	1,000	4.0 to 5.7	**170**	**20**	**11**	**12**	**21**	**23**	**15**	**44**	**88**	ND	**13**	**22**
Mercury	7471B	mg/kg	2.3	31	0.025 to 0.029	**1.1**	ND	**0.030**	ND	ND	**0.040**	**0.037**	ND	ND	ND	**0.058**	ND
Selenium	6010B	mg/kg	39	510	4.0 to 5.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	6010B	mg/kg	39	510	2.0 to 2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TCL PCBs

Analyte	EPA Method	Units	MDE Cleanup Standards for Soil		Sample ID	TJ-GP-01 2.2 to 3.7'	TJ-GP-02 0.5 to 4.0'	TJ-GP-03 0.5 to 5.8'	TJ-GP-05 0.7 to 7.5'	TJ-GP-06 5.0 to 8.4'	TJ-GP-07 15.0 to 19.2'	TJ-GP-08 10.8 to 15.8'	TJ-GP-09 10.0 to 13.9'	TJ-GP-15 2.3 to 6.5'	TJ-GP-11 0.7 to 6.1'	TJ-GP-13 1.0 to 5.8'	TJ-GP-14 7.1 to 10.7'
			Residential	Non-Residential	Reporting Limit												
PCBs, total	8082	mg/kg	*various*	*various*	0.11 to 0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TCL VOCs

Analyte	EPA Method	Units	MDE Cleanup Standards for Soil		Sample ID	TJ-GP-01 2.2 to 3.7'	TJ-GP-02 0.5 to 4.0'	TJ-GP-03 0.5 to 5.8'	TJ-GP-05 0.7 to 7.5'	TJ-GP-06 5.0 to 8.4'	TJ-GP-07 15.0 to 19.2'	TJ-GP-08 10.8 to 15.8'	TJ-GP-09 10.0 to 13.9'	TJ-GP-15 2.3 to 6.5'	TJ-GP-11 0.7 to 6.1'	TJ-GP-13 1.0 to 5.8'	TJ-GP-14 7.1 to 10.7'
			Residential	Non-Residential	Reporting Limit												
VOCs, total	8260B	µg/kg	*various*	*various*	270 to 1500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TCL SVOCs

Analyte	EPA Method	Units	MDE Cleanup Standards for Soil		Sample ID	TJ-GP-01 2.2 to 3.7'	TJ-GP-02 0.5 to 4.0'	TJ-GP-03 0.5 to 5.8'	TJ-GP-05 0.7 to 7.5'	TJ-GP-06 5.0 to 8.4'	TJ-GP-07 15.0 to 19.2'	TJ-GP-08 10.8 to 15.8'	TJ-GP-09 10.0 to 13.9'	TJ-GP-15 2.3 to 6.5'	TJ-GP-11 0.7 to 6.1'	TJ-GP-13 1.0 to 5.8'	TJ-GP-14 7.1 to 10.7'
			Residential	Non-Residential	Reporting Limit												
SVOCs, total	8270C	µg/kg	*various*	*various*	190 to 400	*as specified*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[b]fluoranthene	8270C	µg/kg	220	3,900	190 to 210	**240**	--	--	--	--	--	--	--	--	--	--	--
Chrysene	8270C	µg/kg	22,000	390,000	190 to 210	**220**	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	8270C	µg/kg	310,000	4,100,000	190 to 210	**340**	--	--	--	--	--	--	--	--	--	--	--
Pyrene	8270C	µg/kg	230,000	3,100,000	190 to 210	**370**	--	--	--	--	--	--	--	--	--	--	--

mg/kg - milligrams per kilogram (equivalent to parts per million); µg/kg - micrograms per kilogram (equivalent to parts per billion).
Yellow shading - detected concentration above residential cleanup standard.
* - Anticipated Typical Concentration for Central Maryland, MDE "Cleanup Standards for Soil and Groundwater", June 2008.

APPENDIX A:

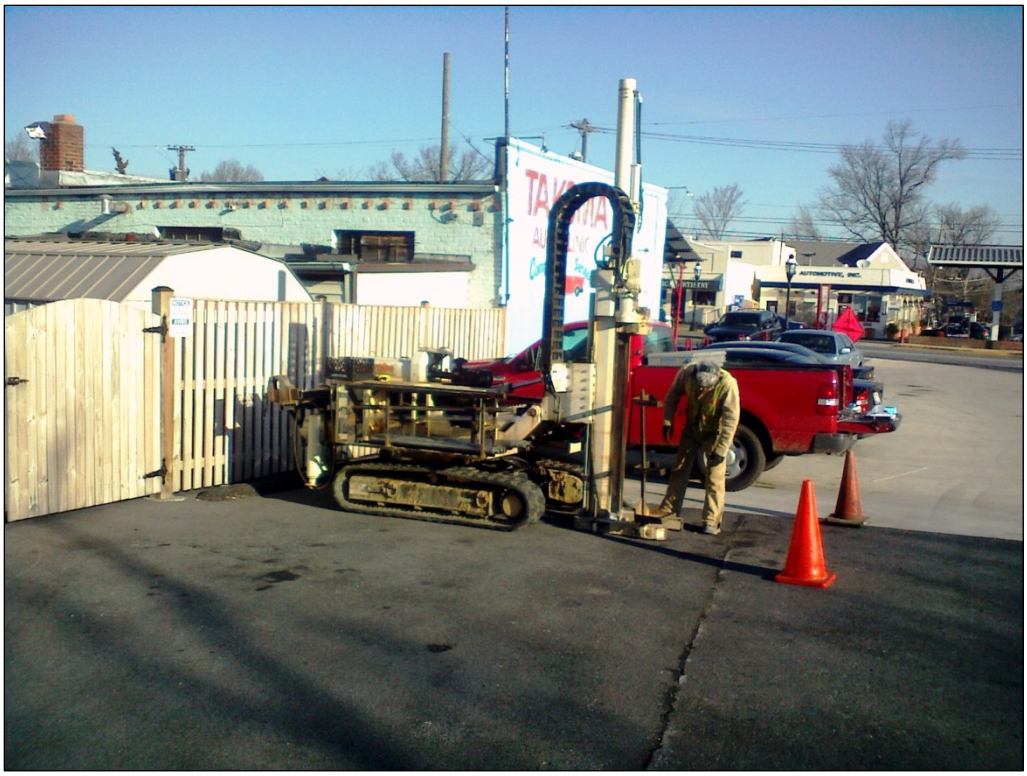
Site Reconnaissance Photographs

MOT (maintenance of traffic) – road work warning signs at the parking lot entrance, used throughout the sampling events.

The Geoprobe track rig, with safety cones, at sampling point TJ-GP-05, with Takoma Park-Silver Spring Cooperative in the background.

The Geoprobe track rig, with safety cones, at sampling point TJ-GP-04, with Takoma Auto Clinic in the background.

The Geoprobe track rig, with safety cones, at sampling point TJ-GP-01, cutting through the concrete pad.



The Geoprobe track rig, with safety cones, at the new sampling point TJ-GP-15, with Takoma Auto Clinic in the background.

A representative view of a Geoprobe sample column in opened plastic tubing, from new sampling point TJ-GP-15.

The Geoprobe track rig at sampling point TJ-GP-13, with Takoma Auto Clinic in the background and Healey Repair Service to the right.

The Geoprobe track rig at sampling point TJ-GP-11, with the Takoma Park Volunteer Fire Department in the background.

APPENDIX B:

Soil Probe Logs

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/27/2013** **SOIL PROBE ID: TJ-GP-01**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 51 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
0745	0.0	5.0	3.7	74%	1.2	0 to 0.6' - concrete. 0.6 to 2.2' - light brown SILT, little coarse sand, dry, micaceous, with a thin base of fine gravel. 2.2 to 3.7' - black and dark brown clayey SILT, little fine sand, trace gravel, slightly moist.
	5.0	10.0	4.0	80%	1.0	5.0 to 6.4' - greyish brown to dark brown clayey SILT and fine sand, trace white quartz gravel, moist. 6.4 to 9.0' - dark red and light grey CLAY, very thin layer of medium sand, firm, slightly moist, trace thin roots.
	10.0	15.0	5.0	100%	0.7	10.0 to 15.0' - very dark red and grey CLAY, firm, dry.
	15.0	20.0	5.0	100%	0.3	15.0 to 20.0' - very dark red and grey CLAY, firm, dry.
	20.0	25.0	5.0	100%	0.1	20.0 to 25.0' - very dark red and grey CLAY, firm, dry, with few orange very thin layers of silt and coarse sand. REFUSAL AT 25.0 FEET.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
2.2 to 3.7'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-01***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/26/2013** **SOIL PROBE ID: TJ-GP-02**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 52 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
1400	0.0	5.0	4.0	80%	0.8	0 to 0.5' - asphalt and sub-base. 0.5 to 4.0' - brown clayey SILT, some fine sand, little fine to medium white quartz gravel, dry, micaceous.
	5.0	10.0	5.0	100%	2.0	5.0 to 5.2' - yellow fine to medium SAND, moist. 5.2 to 6.4' - reddish brown CLAY, slightly moist. 6.4 to 10.0' - red and grey CLAY, dry.
	10.0	15.0	5.0	100%	0.3	10.0 to 15.0' - red and grey CLAY, firm, dry to very dry.
	15.0	20.0	5.0	100%	1.3	15.0 to 20.0' - red, grey, orange CLAY, firm, slightly moist.
	20.0	25.0	5.0	100%	0.4	20.0 to 25.0' - red and grey CLAY, firm, slightly moist to dry. REFUSAL AT 25.0 FEET.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
0.5 to 4.0'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-02***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/26/2013** **SOIL PROBE ID: TJ-GP-03**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 52 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
1320	0.0	5.0	2.5	50%	1.4	0 to 0.5' - asphalt and sub-base. 0.5 to 2.0' - brown SILT and clay, trace gravel, dry, with a thin base of white quartz fine gravel. 2.0 to 2.5' - brown CLAY, slightly moist.
	5.0	10.0	5.0	100%	1.9	5.0 to 5.8' - greyish brown CLAY, slightly moist. 5.8 to 10.0' - dark red and grey CLAY, firm, dry to very dry.
	10.0	15.0	5.0	100%	1.2	10.0 to 15.0' - dark red to very dark red and grey CLAY, firm, dry to very dry.
	15.0	20.0	5.0	100%	0.4	15.0 to 20.0' - dark red to very dark red, brownish orange, grey CLAY, firm, dry to very dry.
	20.0	25.0	5.0	100%	0.9	20.0 to 25.0' - dark red to very dark red, brownish orange, grey CLAY, firm, dry to very dry. REFUSAL AT 25.0 FEET.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
0.5 to 5.8'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-03***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/26/2013** **SOIL PROBE ID: TJ-GP-04**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 52 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
1435	0.0	5.0	1.7	34%	1.3	0 to 0.2' - concrete. 0.2 to 0.7' - grey CLAY and medium angular gravel, little fine sand, slightly moist, with a thin base of brick pieces. 0.7 to 1.7' - brown SILT and fine sand, little clay, dry.
	5.0	10.0	0.9	18%	2.8	5.0 to 5.9' - dark greyish brown silty CLAY, little rounded fine gravel, moist, slight petroleum odor.
	10.0	15.0	0.6	12%	1.7	10.0 to 10.3' - dark greyish brown silty CLAY, little rounded fine gravel, moist, slight petroleum odor. 10.3 to 10.6' - dark red CLAY, firm, dry. DRILLER REPORTED PROBABLE VOID.
	15.0	20.0	5.0	100%	2.1	15.0 to 20.0' - dark red and grey CLAY, slightly moist.
	20.0	25.0	5.0	100%	2.0	20.0 to 24.6' - grey and light orange CLAY, very dry, with 0.5-foot zone with liitle fine angular gravel. 24.6 to 25.0' - orange clayey SILT, slightly moist.
	25.0	29.0	4.0	100%	1.9	25.0 to 29.0' - orange clayey SILT transitioning to orange and light grey SILT, slightly moist. REFUSAL AT 29.0 FEET.

SAMPLES COLLECTED:

DEPTH: ANALYSES: SAMPLE ID:

NO SAMPLE TAKEN

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/26/2013** **SOIL PROBE ID: TJ-GP-05**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 52 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
1155	0.0	5.0	1.7	34%	0.6	0 to 0.7' - asphalt and sub-base. 0.7 to 1.7' - brown clayey SILT, some fine sand, trace fine to medium gravel, slightly moist, slightly micaceous.
	5.0	10.0	2.5	50%	2.2	5.0 to 6.2' - brown clayey SILT, some fine sand, trace fine to medium gravel, slightly moist, slightly micaceous. 6.2 to 7.5' - dark greyish brown silty CLAY, firm, moist.
	10.0	15.0	5.0	100%	2.0	10.0 to 15.0' - dark red and grey CLAY, firm, slightly moist to dry.
	15.0	20.0	5.0	100%	0.7	15.0 to 19.0' - dark red and grey CLAY, firm, dry. 19.0 to 20.0' - grey CLAY, firm, dry.
	20.0	25.0	5.0	100%	1.1	20.0 to 22.0' - grey to orange CLAY, laminated layers of silt, dry to very dry. 22.0 to 25.0' - dark red and grey CLAY, trace gravel, very dry.
	25.0	30.0	5.0	100%	1.4	25.0 to 26.7' - dark red CLAY, very dry. 26.7 to 30.0' - brown and dark grey CLAY, very dry.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
0.7 to 7.5'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-05***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/26/2013** **SOIL PROBE ID: TJ-GP-06**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 52 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
1105	0.0	5.0	3.6	72%	4.5	0 to 0.5' - asphalt and sub-base. 0.5 to 1.5' - dark brown silty CLAY, very dry. 1.5 to 3.6' - dark brown CLAY and silt, little quartz gravel, firm, dry to slightly moist, petroleum odor.
	5.0	10.0	3.4	68%	2.1	5.0 to 7.7' - brown clayey SILT, slightly micaceous, slightly moist to moist. 7.7 to 8.4' - greyish brown CLAY, black pieces of wood, firm, slightly moist.
	10.0	15.0	5.0	100%	2.5	10.0 to 13.0' - greyish brown CLAY, trace very fine roots, firm, slightly moist. 13.0 to 15.0' - dark red, brown, grey CLAY, firm, dry.
	15.0	20.0	5.0	100%	2.5	15.0 to 20.0' - dark red, brown, grey CLAY, firm, dry to slightly moist.
	20.0	25.0	5.0	100%	0.8	20.0 to 25.0' - very dark red and grey CLAY, firm, dry.
	25.0	30.0	3.7	74%	0.9	25.0 to 28.7' - very dark red and grey CLAY, firm, dry.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
5.0 to 8.4'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-06***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/26/2013** **SOIL PROBE ID: TJ-GP-07**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 52 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
0810	0.0	5.0	3.4	68%	0.3	0 to 0.6' - asphalt and sub-base. 0.6 to 2.0' - brown SILT, micaceous, dry. 2.0 to 3.4' - dark brown to brown clayey SILT, some fine sand, trace fine gravel, dry to slightly moist.
	5.0	10.0	3.1	62%	0.2	5.0 to 5.5' - dark brown to brown clayey SILT, some fine sand, trace fine gravel, slightly moist. 5.5 to 8.1' - dark brown to black silty CLAY, micaceous, slightly moist with inclusion of tan fine SAND, dry from 6.8 to 7.1'.
	10.0	15.0	2.8	56%	0.1	10.0 to 12.8' - dark brown and black SILT and clay, some fine sand, trace coarse sand, slightly moist.
	15.0	20.0	4.2	84%	0.7	15.0 to 16.2' - dark brown and black SILT and clay, some fine sand, trace coarse sand, slightly moist. 16.2 to 17.8' - dark grey and red CLAY, trace rounded fine gravel, moist, very thin roots. 17.8 to 19.2' - greyish brown CLAY, stiff, slightly moist, trace very fine roots.
	20.0	25.0	5.0	100%	0.3	20.0 to 25.0' - light orange and grey CLAY, slightly moist.
	25.0	30.0	5.0	100%	0.4	25.0 to 26.1' - light orange and grey CLAY, slightly moist. 26.1 to 30.0' - orange clayey SILT, stiff, dry and crumbling.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
15.0 to 19.2'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-07***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/26/2013** **SOIL PROBE ID: TJ-GP-08**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 52 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
0905	0.0	5.0	3.7	74%	0.7	0 to 1.0' - asphalt and sub-base. 1.0 to 1.2' - red brick pieces, very dry. 1.2 to 3.4' - reddish brown SILT, micaceous, dry. 3.4 to 3.7' - grey SILT and fine sand, dry.
	5.0	10.0	4.2	84%	1.1	5.0 to 6.0' - greyish brown silty CLAY, dry. 6.0 to 8.2' - reddish grey CLAY, some fine sand, little coarse sand, slightly moist. 8.2 to 9.2' - brown clayey SILT, little fine sand, trace fine gravel, slightly moist.
	10.0	15.0	2.5	50%	1.2	10.0 to 10.8' - brown clayey SILT, little fine sand, trace fine gravel, slightly moist. 10.8 to 12.5' - reddish brown clayey SILT, little fine gravel, slightly micaceous, moist.
	15.0	20.0	4.3	86%	1.6	15.0 to 15.8' - dark brown silty CLAY, little fine sand, little rounded gravel, moist to wet. 15.8 to 19.3' - dark red and light grey CLAY, stiff, dry.
	20.0	25.0	5.0	100%	0.5	20.0 to 25.0' - dark red and light grey CLAY, stiff, dry.
	25.0	30.0	5.0	100%	0.5	25.0 to 28.1' - dark red and light grey CLAY, stiff, dry. 28.1 to 30.0 - dark grey and brown CLAY, stiff, dry to very dry.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
10.8 to 15.8'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-08***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/26/2013** **SOIL PROBE ID: TJ-GP-09**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 52 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
1010	0.0	5.0	3.4	68%	1.1	0 to 0.5' - asphalt and sub-base. 0.5 to 3.4' - dark reddish brown SILT and fine sand, trace quartz fine gravel, dry.
	5.0	10.0	2.5	50%	1.1	5.0 to 7.5' - dark reddish brown clayey SILT, slightly micaceous, trace quartz fine gravel, dry.
	10.0	15.0	3.9	78%	0.7	10.0 to 11.0' - dark reddish brown clayey SILT, slightly micaceous, trace quartz fine gravel, dry. 11.0 to 13.9' - brown SILT, little fine sand, slightly micaceous, dry.
	15.0	20.0	5.0	100%	1.4	15.0 to 16.2' - brown SILT, little fine sand, slightly micaceous, dry. 16.2 to 20.0' - dark red and grey CLAY, very dry.
	20.0	25.0	5.0	100%	0.6	20.0 to 25.0' - dark red and grey CLAY, stiff, very dry.
	25.0	30.0	5.0	100%	0.5	25.0 to 30.0' - grey CLAY, stiff, very dry.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
10.0 to 13.9'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-09***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/27/2013** **SOIL PROBE ID: TJ-GP-10**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 51 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
1310	0.0	5.0	2.3	46%	1.4	0 to 0.2' - brown organic SILT, slightly moist. 0.2 to 0.5' - brownish red CLAY, soft, wet, with base of white quartz gravel. 0.5 to 2.1' - red CLAY and silt, slightly moist. 2.1 to 2.3' - light orange SILT, dry.
	5.0	10.0	4.4	88%	0.9	5.0 to 5.4' - light orange SILT, dry. 5.4 to 9.4' - light grey and orange SILT, very dry, with small zone of clayey silt.
	10.0	15.0	4.1	82%	0.7	10.0 to 12.8' - light grey and orange SILT, very dry. 12.8 to 14.1 - orange fine SAND and silt, little coarse sand, dry.
	15.0	20.0	4.4	100%	1.4	15.0 to 16.2' - orange fine SAND and silt, light coarse sand, dry. 16.2 to 17.1' - light grey silty CLAY, little fine gravel, slightly moist. 17.1 to 19.4' - orange and light grey SILT, little fine sand, dry. REFUSAL AT 19.4 FEET.

SAMPLES COLLECTED:

DEPTH: ANALYSES: SAMPLE ID:

NO SAMPLE TAKEN

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/27/2013** **SOIL PROBE ID: TJ-GP-11**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 51 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
1240	0.0	5.0	1.4	28%	1.2	0 to 0.3' - black organic SILT, moist, thin roots. 0.3 to 0.7' - dark brown silty CLAY, wet. 0.7 to 1.0' - reddish brown fine SAND, moist. 1.0 to 1.4' - reddish brown clayey SILT, slightly moist.
	5.0	10.0	3.6	72%	0.9	5.0 to 6.1' - orange fine SAND, little silt, moist. 6.1 to 8.6' - light orange SILT, little coarse sand, dry.
	10.0	15.0	3.6	72%	1.4	10.0 to 12.0' - light orange SILT, little coarse sand, little rounded fine gravel, dry. 12.0 to 13.6' - dark orange clayey SILT, little medium to coarse sand, little rounded fine gravel, slightly moist.
	15.0	20.0	3.5	100%	1.0	15.0 to 18.5' - dark orange SILT and fine sand, little quartz fine gravel, slightly moist to moist. REFUSAL AT 18.5 FEET.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
0.7 to 6.1'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-11***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/27/2013** **SOIL PROBE ID: TJ-GP-12**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 51 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
1210	0.0	5.0	3.5	70%	2.0	0 to 0.3' - black organic soil. 0.3 to 2.8' - dark red CLAY, trace rounded gravel, slightly moist. 2.8 to 3.5' - dark red clayey SILT, slightly moist.
	5.0	10.0	3.2	64%	1.5	5.0 to 6.1' - dark red to orange clayey SILT, slightly moist. 6.1 to 6.7' - light orange fine SAND, moist, with a base of dark red iron pan. 6.7 to 7.2' - orange clayey SILT, trace gravel, slightly moist. 7.2 to 8.2' - light orange and grey SILT, slightly moist.
	10.0	15.0	4.3	86%	1.9	10.0 to 11.9' - light orange and grey SILT, dry. 11.9 to 12.1' - dark red iron pan. 12.1 to 13.3' - light brown clayey SILT, dry.
	15.0	20.0	3.0	100%	0.4	15.0 to 16.8' - greyish red silty CLAY, very dry. 16.8 to 18.0' - light orange SILT, very dry. REFUSAL AT 18.0 FEET.

SAMPLES COLLECTED:

DEPTH: ANALYSES: SAMPLE ID:

NO SAMPLE TAKEN

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/27/2013** **SOIL PROBE ID: TJ-GP-13**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 51 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
0940	0.0	5.0	1.6	32%	0.5	0 to 0.4' - asphalt and sub-base. 0.4 to 0.8' - light brown SILT and fine sand, dry. 0.8 to 1.0' - white GRAVEL and silt, very dry. 1.0 to 1.6' - brown silty CLAY, little rounded gravel, moist.
	5.0	10.0	3.9	78%	0.9	5.0 to 5.8' - brown CLAY and find sand, little rounded gravel, wet. 5.8 to 8.9' - red and light grey CLAY, firm, slightly moist.
	10.0	15.0	5.0	100%	0.4	10.0 to 15.0' - light grey and yellow CLAY, firm, slightly moist, with a very thin layer of orange coarse sand.
	15.0	20.0	4.2	84%	0.8	15.0 to 17.6' - light grey and yellow CLAY, firm, slightly moist. 17.6 to 19.2' - light grey and yellow clayey SILT, moist.
	20.0	25.0	4.3	86%	1.2	20.0 to 24.3' - light grey and yellow clayey SILT, moist, with 8" layer of grey silty clay.
	25.0	30.0	3.9	78%	1.5	25.0 to 25.3' - dark red SILT, dry. 25.3 to 28.9' - light grey and yellow clayey SILT, slightly moist.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
1.0 to 5.8'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-13***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/27/2013** **SOIL PROBE ID: TJ-GP-14**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 51 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
1025	0.0	5.0	2.0	40%	0.3	0 to 0.6' - asphalt and sub-base. 0.6 to 1.2' - white GRAVEL and silt, very dry, with brick pieces. 1.2 to 1.6' - brown SILT and fine sand, slightly moist. 1.6 to 2.0' - dark grey fine to medium GRAVEL and brown silt and fine sand, moist.
	5.0	10.0	2.8	56%	0.8	5.0 to 7.1' - dark red and grey CLAY, little fine gravel, firm, slightly moist. 7.1 to 7.8' - dark greyish brown silty CLAY, some rounded fine gravel, little fine sand, wet, strong petroleum odor.
	10.0	15.0	3.4	68%	14.5	10.0 to 10.7' - dark greyish brown silty CLAY, little fine sand, wet, strong petroleum odor. 10.7 to 13.4' - greyish brown CLAY transitioning to reddish brown CLAY and silt, slightly moist.
	15.0	20.0	3.6	72%	1.4	15.0 to 16.2' - reddish brown CLAY and silt, slightly moist. 16.2 to 18.6' - dark orange and light grey SILT, slightly moist.
	20.0	25.0	3.4	68%	0.5	20.0 to 23.4' - dark orange and light grey SILT, dry, with a very thin layer of dark red coarse sand.
	25.0	30.0	4.4	88%	0.8	25.0 to 29.4' - dark orange, light grey, red SILT, dry.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
7.1 to 10.7'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-14***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

RUMMEL, KLEPPER & KAHL, LLP

SOIL PROBE LOG

DATE: **3/27/2013** **SOIL PROBE ID: TJ-GP-15**

INSPECTOR:	Ted Chadeayne	DRILLING CONTRACTOR:	Green Services, Inc.
PROJECT NAME:	Takoma Junction ESA II	SAMPLING METHOD:	Geoprobe
COMMISSION #:	10-031-05.2	SAMPLE INTERVAL:	Continuous
WEATHER:	Mostly sunny, 51 °F	GROUNDWATER DEPTH:	not reached

TIME	PLASTIC TUBE SAMPLE DEPTH FROM	PLASTIC TUBE SAMPLE DEPTH TO	CORE RECOVERY (FEET)	CORE RECOVERY (%)	PID READING (PPM)	SOIL DESCRIPTION
0840	0.0	5.0	3.1	62%	1.6	0 to 0.3' - asphalt and sub-base. 0.3 to 0.7' - light brown CLAY, slightly moist. 0.7 to 1.3' - white and tan angular fine GRAVEL, some silt, dry. 1.3 to 2.3' - dark brown to black SILT, some fine sand, little angular quartz gravel, slightly moist. 2.3 to 3.1' - light brown clayey SILT, slightly moist.
	5.0	10.0	2.4	48%	1.0	5.0 to 6.5' - light brown clayey SILT, thin layers of angular gravel and brick, slightly moist. 6.5 to 7.4' - greyish brown silty CLAY, little rounded gravel, slightly moist.
	10.0	15.0	4.1	82%	1.3	10.0 to 10.9' - greyish brown silty CLAY, little rounded gravel, moist. 10.9 to 14.1' - dark red and grey CLAY, firm, slightly moist.
	15.0	20.0	5.0	100%	0.5	15.0 to 20.0' - dark red and grey CLAY, trace orange silt, dry.
	20.0	25.0	5.0	100%	0.4	20.0 to 24.6' - light grey CLAY, trace orange silt, dry. 24.6 to 25.0' - orange clayey SILT, little coarse sand, slightly moist.
	25.0	30.0	3.6	72%	1.0	25.0 to 28.6' - yellow and light grey clayey SILT, slightly moist.

SAMPLES COLLECTED:

DEPTH:	ANALYSES:	SAMPLE ID:
2.3 to 6.5'	***GRO/VOCs, DRO/SVOCs, PCBs, RCRA Metals***	***TJ-GP-15***

LOG PREPARED BY: TLC **QA/QC SAMPLES COLLECTED:** None

APPENDIX C:

Laboratory Analytical Reports, Chain of Custody

Microbac Laboratories, Inc.
Baltimore Division
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COVER LETTER

Ted Chadeayne
RK&K
81 Mosher St.
Baltimore, MD 21217

RE: Takoma Junction

April 24, 2013
Report No.: 13D0368

The report of analyses contains test results for samples received at Microbac Laboratories, Inc., Baltimore Division on 03/29/2013 08:41.

The enclosed results were obtained from and applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report has been reviewed and meet the applicable project and certification specific requirements, unless otherwise noted.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories, Inc.

We appreciate the opportunity to service your analytical needs. If you have any questions, please feel free to contact us.

This Data Package contains the following:

- This Cover Page
- Sample Summary
- Test Results
- Certifications/Notes and Definitions
- Cooler Receipt Log
- Chain of Custody

Final report reviewed by:	Mark B. Horan/Laboratory Director	4/24/2013 Report issue date

All samples received in proper condition and results conform to ISO 17025 and TNI NELAC standards unless otherwise noted.

If we have not met or exceeded your expectations, please contact Mark Horan, Managing Director, at 410-633-1800 You may also contact Sean Hyde, Chief Operating Officer at sean.hyde@microbac.com or James Nokes, President james.nokes@microbac.com

Microbac Laboratories, Inc.

Baltimore Division

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CERTIFICATE OF ANALYSIS

RK&K 81 Mosher St. Baltimore, MD 21217	Project: Takoma Junction Project Number: Takoma Junction - 10-031-05.2 Project Manager: Ted Chadeayne	Report: 13D0368 Reported: 04/24/2013 14:45

SAMPLE SUMMARY

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
TJ-GP-01	13D0368-01	Solid	Composite	03/27/2013 08:05	03/29/2013 08:41
TJ-GP-02	13D0368-02	Solid	Composite	03/26/2013 14:10	03/29/2013 08:41
TJ-GP-03	13D0368-03	Solid	Composite	03/26/2013 13:35	03/29/2013 08:41
TJ-GP-05	13D0368-04	Solid	Composite	03/26/2013 12:25	03/29/2013 08:41
TJ-GP-06	13D0368-05	Solid	Composite	03/26/2013 11:30	03/29/2013 08:41
TJ-GP-07	13D0368-06	Solid	Composite	03/26/2013 08:45	03/29/2013 08:41
TJ-GP-08	13D0368-07	Solid	Composite	03/26/2013 09:40	03/29/2013 08:41
TJ-GP-09	13D0368-08	Solid	Composite	03/26/2013 10:50	03/29/2013 08:41
TJ-GP-11	13D0368-09	Solid	Composite	03/27/2013 12:50	03/29/2013 08:41
TJ-GP-13	13D0368-10	Solid	Composite	03/27/2013 10:05	03/29/2013 08:41
TJ-GP-14	13D0368-11	Solid	Composite	03/27/2013 10:50	03/29/2013 08:41
TJ-GP-15	13D0368-12	Solid	Composite	03/27/2013 08:55	03/29/2013 08:41

Microbac Laboratories, Inc.
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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-01

13D0368-01 (Solid) Sampled: 03/27/2013 08:05; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	ND	40	mg/kg dry	040513 1100	041713 2223	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*83.6%*	*50-150*	*040513 1100*	*041713 2223*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.0	mg/kg dry	040213 0141	040213 0141	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*108%*	*70-130*	*040213 0141*	*040213 0141*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	**1.1**	0.027	mg/kg dry	041013 0809	041113 1335	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.5	mg/kg dry	040713 2123	040913 1057	APS	EPA 6010B	
Arsenic	ND	5.0	mg/kg dry	040713 2123	040913 1057	APS	EPA 6010B	
Barium	**310**	2.5	mg/kg dry	040713 2123	040913 1057	APS	EPA 6010B	
Cadmium	**2.9**	0.50	mg/kg dry	040713 2123	040913 1057	APS	EPA 6010B	
Chromium	**23**	2.5	mg/kg dry	040713 2123	040913 1057	APS	EPA 6010B	
Lead	**170**	5.0	mg/kg dry	040713 2123	040913 1057	APS	EPA 6010B	
Selenium	ND	5.0	mg/kg dry	040713 2123	040913 1057	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.11	mg/kg dry	040813 1018	042313 2144	GWP	EPA 8082	
Aroclor 1221	ND	0.11	mg/kg dry	040813 1018	042313 2144	GWP	EPA 8082	
Aroclor 1232	ND	0.11	mg/kg dry	040813 1018	042313 2144	GWP	EPA 8082	
Aroclor 1242	ND	0.11	mg/kg dry	040813 1018	042313 2144	GWP	EPA 8082	
Aroclor 1248	ND	0.11	mg/kg dry	040813 1018	042313 2144	GWP	EPA 8082	
Aroclor 1254	ND	0.11	mg/kg dry	040813 1018	042313 2144	GWP	EPA 8082	
Aroclor 1260	ND	0.11	mg/kg dry	040813 1018	042313 2144	GWP	EPA 8082	
Total PCBs	ND	0.11	mg/kg dry	040813 1018	042313 2144	GWP	EPA 8082	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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

Original Lab Report

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-01

13D0368-01 (Solid) Sampled: 03/27/2013 08:05; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Tetrachloro-m-xylene		*120%*	*36.8-141*	*040813 1018*	*042313 2144*		*EPA 8082*	
Surrogate: Decachlorobiphenyl		*107%*	*55.6-147*	*040813 1018*	*042313 2144*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Phenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2-Chlorophenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2-Methylphenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Hexachloroethane	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Nitrobenzene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Isophorone	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2-Nitrophenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Naphthalene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
4-Chloroaniline	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Hexachlorobutadiene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2-Methylnaphthalene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	370	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	V6
2,4,6-Trichlorophenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	

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Mark B. Horan, Laboratory Director

Original Lab Report

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-01

13D0368-01 (Solid) Sampled: 03/27/2013 08:05; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Chloronaphthalene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2-Nitroaniline	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Acenaphthylene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Dimethylphthalate	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Acenaphthene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
3-Nitroaniline	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	370	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Dibenzofuran	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
4-Nitrophenol	ND	370	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Fluorene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Diethylphthalate	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
4-Nitroaniline	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Hexachlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Pentachlorophenol	ND	370	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Phenanthrene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Anthracene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Carbazole	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Di-n-butylphthalate	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Fluoranthene	**340**	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Pyrene	**370**	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Butylbenzylphthalate	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Benz(a)anthracene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	

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Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-01

13D0368-01 (Solid) Sampled: 03/27/2013 08:05; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Chrysene	**220**	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Di-n-octylphthalate	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Benzo[b]fluoranthene	**240**	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Benzo[a]pyrene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	190	ug/kg dry	040813 1400	042213 2239	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*52.6%*	*1.57-119*	*040813 1400*	*042213 2239*		*EPA 8270C*	
Surrogate: Phenol-d5		*54.6%*	*5.27-125*	*040813 1400*	*042213 2239*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*48.9%*	*2.5-130*	*040813 1400*	*042213 2239*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*61.1%*	*7.44-120*	*040813 1400*	*042213 2239*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*59.5%*	*7.77-132*	*040813 1400*	*042213 2239*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*71.1%*	*12.1-138*	*040813 1400*	*042213 2239*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Chloromethane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Vinyl chloride	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Bromomethane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	V6
Chloroethane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
1,1-Dichloroethene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Acetone	ND	1400	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Carbon disulfide	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Methylene Chloride	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
1,1-Dichloroethane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1400	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	

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Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-01

13D0368-01 (Solid) Sampled: 03/27/2013 08:05; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Chloroform	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Carbon Tetrachloride	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Benzene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
1,2-Dichloroethane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Trichloroethene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
1,2-Dichloropropane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Bromodichloromethane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1400	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Toluene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1400	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Tetrachloroethene	ND	560	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Dibromochloromethane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Chlorobenzene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Ethylbenzene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
m,p-Xylenes	ND	560	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
o-Xylene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Styrene	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Bromoform	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	280	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Total Xylenes	ND	840	ug/kg dry	040313 2033	040313 2033	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*109%*	*70-130*	*040313 2033*	*040313 2033*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*113%*	*70-130*	*040313 2033*	*040313 2033*		*EPA 8260B*	
Surrogate: Toluene-d8		*96.5%*	*70-130*	*040313 2033*	*040313 2033*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*92.4%*	*70-130*	*040313 2033*	*040313 2033*		*EPA 8260B*	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-01

13D0368-01 (Solid) Sampled: 03/27/2013 08:05; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Wet Chemistry								
% Solids	**89.17**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-02

13D0368-02 (Solid) Sampled: 03/26/2013 14:10; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	ND	40	mg/kg dry	040513 1100	041713 2155	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*90.7%*	*50-150*	*040513 1100*	*041713 2155*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.2	mg/kg dry	040213 0037	040213 0037	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*103%*	*70-130*	*040213 0037*	*040213 0037*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	ND	0.027	mg/kg dry	041013 0809	041113 1337	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.3	mg/kg dry	040713 2123	040913 1101	APS	EPA 6010B	
Arsenic	ND	4.6	mg/kg dry	040713 2123	040913 1101	APS	EPA 6010B	
Barium	**46**	2.3	mg/kg dry	040713 2123	040913 1101	APS	EPA 6010B	
Cadmium	**1.7**	0.46	mg/kg dry	040713 2123	040913 1101	APS	EPA 6010B	
Chromium	**16**	2.3	mg/kg dry	040713 2123	040913 1101	APS	EPA 6010B	
Lead	**20**	4.6	mg/kg dry	040713 2123	040913 1101	APS	EPA 6010B	
Selenium	ND	4.6	mg/kg dry	040713 2123	040913 1101	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.11	mg/kg dry	040813 1018	042313 2133	GWP	EPA 8082	
Aroclor 1221	ND	0.11	mg/kg dry	040813 1018	042313 2133	GWP	EPA 8082	
Aroclor 1232	ND	0.11	mg/kg dry	040813 1018	042313 2133	GWP	EPA 8082	
Aroclor 1242	ND	0.11	mg/kg dry	040813 1018	042313 2133	GWP	EPA 8082	
Aroclor 1248	ND	0.11	mg/kg dry	040813 1018	042313 2133	GWP	EPA 8082	
Aroclor 1254	ND	0.11	mg/kg dry	040813 1018	042313 2133	GWP	EPA 8082	
Aroclor 1260	ND	0.11	mg/kg dry	040813 1018	042313 2133	GWP	EPA 8082	
Total PCBs	ND	0.11	mg/kg dry	040813 1018	042313 2133	GWP	EPA 8082	
Surrogate: Tetrachloro-m-xylene		*95.8%*	*36.8-141*	*040813 1018*	*042313 2133*		*EPA 8082*	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-02

13D0368-02 (Solid) Sampled: 03/26/2013 14:10; Type: Composite

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Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Decachlorobiphenyl		*98.3%*	*55.6-147*	*040813 1018*	*042313 2133*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Phenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2-Chlorophenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2-Methylphenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Hexachloroethane	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Nitrobenzene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Isophorone	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2-Nitrophenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Naphthalene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
4-Chloroaniline	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Hexachlorobutadiene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2-Methylnaphthalene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	360	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	V6
2,4,6-Trichlorophenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2-Chloronaphthalene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-02

13D0368-02 (Solid) Sampled: 03/26/2013 14:10; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Nitroaniline	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Acenaphthylene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Dimethylphthalate	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Acenaphthene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
3-Nitroaniline	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	360	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Dibenzofuran	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
4-Nitrophenol	ND	360	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Fluorene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Diethylphthalate	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
4-Nitroaniline	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Hexachlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Pentachlorophenol	ND	360	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Phenanthrene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Anthracene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Carbazole	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Di-n-butylphthalate	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Fluoranthene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Pyrene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Butylbenzylphthalate	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Benz(a)anthracene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Chrysene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-02

13D0368-02 (Solid) Sampled: 03/26/2013 14:10; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Di-n-octylphthalate	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Benzo[a]pyrene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	190	ug/kg dry	040813 1400	042213 2204	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*67.4%*	*1.57-119*	*040813 1400*	*042213 2204*		*EPA 8270C*	
Surrogate: Phenol-d5		*71.0%*	*5.27-125*	*040813 1400*	*042213 2204*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*64.3%*	*2.5-130*	*040813 1400*	*042213 2204*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*79.4%*	*7.44-120*	*040813 1400*	*042213 2204*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*82.1%*	*7.77-132*	*040813 1400*	*042213 2204*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*97.2%*	*12.1-138*	*040813 1400*	*042213 2204*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Chloromethane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Vinyl chloride	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Bromomethane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	V6
Chloroethane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
1,1-Dichloroethene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Acetone	ND	1400	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Carbon disulfide	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Methylene Chloride	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
1,1-Dichloroethane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1400	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Chloroform	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Carbon Tetrachloride	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-02

13D0368-02 (Solid) Sampled: 03/26/2013 14:10; Type: Composite

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Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Benzene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
1,2-Dichloroethane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Trichloroethene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
1,2-Dichloropropane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Bromodichloromethane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1400	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Toluene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1400	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Tetrachloroethene	ND	550	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Dibromochloromethane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Chlorobenzene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Ethylbenzene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
m,p-Xylenes	ND	550	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
o-Xylene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Styrene	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Bromoform	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	280	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Total Xylenes	ND	830	ug/kg dry	040313 2008	040313 2008	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*103%*	*70-130*	*040313 2008*	*040313 2008*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*111%*	*70-130*	*040313 2008*	*040313 2008*		*EPA 8260B*	
Surrogate: Toluene-d8		*93.4%*	*70-130*	*040313 2008*	*040313 2008*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*91.9%*	*70-130*	*040313 2008*	*040313 2008*		*EPA 8260B*	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-02

13D0368-02 (Solid) Sampled: 03/26/2013 14:10; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
% Solids	**90.55**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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TJ-GP-03

13D0368-03 (Solid) Sampled: 03/26/2013 13:35; Type: Composite

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Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	ND	40	mg/kg dry	040513 1100	041713 2126	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*89.9%*	*50-150*	*040513 1100*	*041713 2126*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.2	mg/kg dry	040213 0004	040213 0004	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*98.9%*	*70-130*	*040213 0004*	*040213 0004*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	**0.030**	0.028	mg/kg dry	041013 0809	041113 1344	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.7	mg/kg dry	040713 2123	040913 1105	APS	EPA 6010B	
Arsenic	ND	5.4	mg/kg dry	040713 2123	040913 1105	APS	EPA 6010B	
Barium	**43**	2.7	mg/kg dry	040713 2123	040913 1105	APS	EPA 6010B	
Cadmium	**2.0**	0.54	mg/kg dry	040713 2123	040913 1105	APS	EPA 6010B	
Chromium	**22**	2.7	mg/kg dry	040713 2123	040913 1105	APS	EPA 6010B	
Lead	**11**	5.4	mg/kg dry	040713 2123	040913 1105	APS	EPA 6010B	
Selenium	ND	5.4	mg/kg dry	040713 2123	040913 1105	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.11	mg/kg dry	040813 1018	042313 2121	GWP	EPA 8082	
Aroclor 1221	ND	0.11	mg/kg dry	040813 1018	042313 2121	GWP	EPA 8082	
Aroclor 1232	ND	0.11	mg/kg dry	040813 1018	042313 2121	GWP	EPA 8082	
Aroclor 1242	ND	0.11	mg/kg dry	040813 1018	042313 2121	GWP	EPA 8082	
Aroclor 1248	ND	0.11	mg/kg dry	040813 1018	042313 2121	GWP	EPA 8082	
Aroclor 1254	ND	0.11	mg/kg dry	040813 1018	042313 2121	GWP	EPA 8082	
Aroclor 1260	ND	0.11	mg/kg dry	040813 1018	042313 2121	GWP	EPA 8082	
Total PCBs	ND	0.11	mg/kg dry	040813 1018	042313 2121	GWP	EPA 8082	
Surrogate: Tetrachloro-m-xylene		*98.9%*	*36.8-141*	*040813 1018*	*042313 2121*		*EPA 8082*	

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Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Decachlorobiphenyl		*101%*	*55.6-147*	*040813 1018*	*042313 2121*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Phenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2-Chlorophenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2-Methylphenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Hexachloroethane	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Nitrobenzene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Isophorone	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2-Nitrophenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Naphthalene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
4-Chloroaniline	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Hexachlorobutadiene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2-Methylnaphthalene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	380	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	V6
2,4,6-Trichlorophenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2-Chloronaphthalene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	

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TJ-GP-03

13D0368-03 (Solid) Sampled: 03/26/2013 13:35; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Nitroaniline	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Acenaphthylene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Dimethylphthalate	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Acenaphthene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
3-Nitroaniline	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	380	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Dibenzofuran	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
4-Nitrophenol	ND	380	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Fluorene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Diethylphthalate	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
4-Nitroaniline	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Hexachlorobenzene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Pentachlorophenol	ND	380	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Phenanthrene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Anthracene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Carbazole	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Di-n-butylphthalate	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Fluoranthene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Pyrene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Butylbenzylphthalate	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Benz(a)anthracene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Chrysene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	

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Mark B. Horan, Laboratory Director

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Original Lab Report

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Fax: 410-633-6553
www.microbac.com

CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-03

13D0368-03 (Solid) Sampled: 03/26/2013 13:35; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Di-n-octylphthalate	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Benzo[a]pyrene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	190	ug/kg dry	040813 1400	042213 2129	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*79.0%*	*1.57-119*	*040813 1400*	*042213 2129*		*EPA 8270C*	
Surrogate: Phenol-d5		*83.2%*	*5.27-125*	*040813 1400*	*042213 2129*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*77.5%*	*2.5-130*	*040813 1400*	*042213 2129*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*95.9%*	*7.44-120*	*040813 1400*	*042213 2129*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*84.6%*	*7.77-132*	*040813 1400*	*042213 2129*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*107%*	*12.1-138*	*040813 1400*	*042213 2129*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Chloromethane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Vinyl chloride	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Bromomethane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	V6
Chloroethane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
1,1-Dichloroethene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Acetone	ND	1400	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Carbon disulfide	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Methylene Chloride	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
1,1-Dichloroethane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1400	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Chloroform	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Carbon Tetrachloride	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-03

13D0368-03 (Solid) Sampled: 03/26/2013 13:35; Type: Composite

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Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Benzene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
1,2-Dichloroethane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Trichloroethene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
1,2-Dichloropropane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Bromodichloromethane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1400	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Toluene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1400	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Tetrachloroethene	ND	570	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Dibromochloromethane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Chlorobenzene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Ethylbenzene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
m,p-Xylenes	ND	570	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
o-Xylene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Styrene	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Bromoform	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	290	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Total Xylenes	ND	860	ug/kg dry	040313 1944	040313 1944	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*113%*	*70-130*	*040313 1944*	*040313 1944*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*117%*	*70-130*	*040313 1944*	*040313 1944*		*EPA 8260B*	
Surrogate: Toluene-d8		*97.6%*	*70-130*	*040313 1944*	*040313 1944*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*90.1%*	*70-130*	*040313 1944*	*040313 1944*		*EPA 8260B*	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-03

13D0368-03 (Solid) Sampled: 03/26/2013 13:35; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Wet Chemistry								
% Solids	**87.26**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

Mark B. Horan, Laboratory Director

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TJ-GP-05

13D0368-04 (Solid) Sampled: 03/26/2013 12:25; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	ND	40	mg/kg dry	040513 1100	041713 2058	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*95.2%*	*50-150*	*040513 1100*	*041713 2058*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.3	mg/kg dry	040113 2333	040113 2333	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*105%*	*70-130*	*040113 2333*	*040113 2333*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	ND	0.028	mg/kg dry	041013 0809	041113 1346	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.3	mg/kg dry	040713 2123	040913 1129	APS	EPA 6010B	
Arsenic	ND	4.6	mg/kg dry	040713 2123	040913 1129	APS	EPA 6010B	
Barium	**50**	2.3	mg/kg dry	040713 2123	040913 1129	APS	EPA 6010B	
Cadmium	**2.2**	0.46	mg/kg dry	040713 2123	040913 1129	APS	EPA 6010B	
Chromium	**22**	2.3	mg/kg dry	040713 2123	040913 1129	APS	EPA 6010B	
Lead	**12**	4.6	mg/kg dry	040713 2123	040913 1129	APS	EPA 6010B	
Selenium	ND	4.6	mg/kg dry	040713 2123	040913 1129	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.12	mg/kg dry	040813 1018	042313 2109	GWP	EPA 8082	
Aroclor 1221	ND	0.12	mg/kg dry	040813 1018	042313 2109	GWP	EPA 8082	
Aroclor 1232	ND	0.12	mg/kg dry	040813 1018	042313 2109	GWP	EPA 8082	
Aroclor 1242	ND	0.12	mg/kg dry	040813 1018	042313 2109	GWP	EPA 8082	
Aroclor 1248	ND	0.12	mg/kg dry	040813 1018	042313 2109	GWP	EPA 8082	
Aroclor 1254	ND	0.12	mg/kg dry	040813 1018	042313 2109	GWP	EPA 8082	
Aroclor 1260	ND	0.12	mg/kg dry	040813 1018	042313 2109	GWP	EPA 8082	
Total PCBs	ND	0.12	mg/kg dry	040813 1018	042313 2109	GWP	EPA 8082	
Surrogate: Tetrachloro-m-xylene		*114%*	*36.8-141*	*040813 1018*	*042313 2109*		*EPA 8082*	

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TJ-GP-05

13D0368-04 (Solid) Sampled: 03/26/2013 12:25; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Decachlorobiphenyl		*107%*	*55.6-147*	*040813 1018*	*042313 2109*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Phenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2-Chlorophenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2-Methylphenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Hexachloroethane	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Nitrobenzene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Isophorone	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2-Nitrophenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Naphthalene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
4-Chloroaniline	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Hexachlorobutadiene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2-Methylnaphthalene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	390	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	V6
2,4,6-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2-Chloronaphthalene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-05

13D0368-04 (Solid) Sampled: 03/26/2013 12:25; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Acenaphthylene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Dimethylphthalate	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Acenaphthene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
3-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	390	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Dibenzofuran	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
4-Nitrophenol	ND	390	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Fluorene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Diethylphthalate	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
4-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Hexachlorobenzene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Pentachlorophenol	ND	390	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Phenanthrene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Anthracene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Carbazole	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Di-n-butylphthalate	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Fluoranthene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Pyrene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Butylbenzylphthalate	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Benz(a)anthracene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Chrysene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	

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TJ-GP-05

13D0368-04 (Solid) Sampled: 03/26/2013 12:25; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Di-n-octylphthalate	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Benzo[a]pyrene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	200	ug/kg dry	040813 1400	042213 2054	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*66.6%*	*1.57-119*	*040813 1400*	*042213 2054*		*EPA 8270C*	
Surrogate: Phenol-d5		*68.5%*	*5.27-125*	*040813 1400*	*042213 2054*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*62.0%*	*2.5-130*	*040813 1400*	*042213 2054*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*79.3%*	*7.44-120*	*040813 1400*	*042213 2054*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*75.2%*	*7.77-132*	*040813 1400*	*042213 2054*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*92.1%*	*12.1-138*	*040813 1400*	*042213 2054*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Chloromethane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Vinyl chloride	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Bromomethane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	V6
Chloroethane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
1,1-Dichloroethene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Acetone	ND	1500	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Carbon disulfide	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Methylene Chloride	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
1,1-Dichloroethane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1500	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Chloroform	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Carbon Tetrachloride	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	

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Mark B. Horan, Laboratory Director

Original Lab Report

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-05

13D0368-04 (Solid) Sampled: 03/26/2013 12:25; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Benzene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
1,2-Dichloroethane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Trichloroethene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
1,2-Dichloropropane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Bromodichloromethane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1500	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Toluene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1500	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Tetrachloroethene	ND	590	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Dibromochloromethane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Chlorobenzene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Ethylbenzene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
m,p-Xylenes	ND	590	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
o-Xylene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Styrene	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Bromoform	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	290	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Total Xylenes	ND	880	ug/kg dry	040313 1919	040313 1919	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*107%*	*70-130*	*040313 1919*	*040313 1919*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*111%*	*70-130*	*040313 1919*	*040313 1919*		*EPA 8260B*	
Surrogate: Toluene-d8		*94.1%*	*70-130*	*040313 1919*	*040313 1919*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*92.6%*	*70-130*	*040313 1919*	*040313 1919*		*EPA 8260B*	

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-05

13D0368-04 (Solid) Sampled: 03/26/2013 12:25; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Wet Chemistry								
% Solids	**84.77**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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CERTIFICATE OF ANALYSIS

RK&K 81 Mosher St. Baltimore, MD 21217	Project: Takoma Junction Project Number: Takoma Junction - 10-031-05.2 Project Manager: Ted Chadeayne	Report: 13D0368 Reported: 04/24/2013 14:45

TJ-GP-06

13D0368-05 (Solid) Sampled: 03/26/2013 11:30; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	ND	40	mg/kg dry	040513 1100	041713 2030	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*86.2%*	*50-150*	*040513 1100*	*041713 2030*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.1	mg/kg dry	040113 2300	040113 2300	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*105%*	*70-130*	*040113 2300*	*040113 2300*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	ND	0.029	mg/kg dry	041013 0809	041113 1348	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.5	mg/kg dry	040713 2123	040913 1133	APS	EPA 6010B	
Arsenic	ND	5.0	mg/kg dry	040713 2123	040913 1133	APS	EPA 6010B	
Barium	**63**	2.5	mg/kg dry	040713 2123	040913 1133	APS	EPA 6010B	
Cadmium	**2.3**	0.50	mg/kg dry	040713 2123	040913 1133	APS	EPA 6010B	
Chromium	**23**	2.5	mg/kg dry	040713 2123	040913 1133	APS	EPA 6010B	
Lead	**21**	5.0	mg/kg dry	040713 2123	040913 1133	APS	EPA 6010B	
Selenium	ND	5.0	mg/kg dry	040713 2123	040913 1133	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.12	mg/kg dry	040813 1018	042313 2057	GWP	EPA 8082	
Aroclor 1221	ND	0.12	mg/kg dry	040813 1018	042313 2057	GWP	EPA 8082	
Aroclor 1232	ND	0.12	mg/kg dry	040813 1018	042313 2057	GWP	EPA 8082	
Aroclor 1242	ND	0.12	mg/kg dry	040813 1018	042313 2057	GWP	EPA 8082	
Aroclor 1248	ND	0.12	mg/kg dry	040813 1018	042313 2057	GWP	EPA 8082	
Aroclor 1254	ND	0.12	mg/kg dry	040813 1018	042313 2057	GWP	EPA 8082	
Aroclor 1260	ND	0.12	mg/kg dry	040813 1018	042313 2057	GWP	EPA 8082	
Total PCBs	ND	0.12	mg/kg dry	040813 1018	042313 2057	GWP	EPA 8082	
Surrogate: Tetrachloro-m-xylene		*98.3%*	*36.8-141*	*040813 1018*	*042313 2057*		*EPA 8082*	

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Mark B. Horan, Laboratory Director

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-06

13D0368-05 (Solid) Sampled: 03/26/2013 11:30; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Decachlorobiphenyl		*101%*	*55.6-147*	*040813 1018*	*042313 2057*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Phenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2-Chlorophenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2-Methylphenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Hexachloroethane	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Nitrobenzene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Isophorone	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2-Nitrophenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Naphthalene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
4-Chloroaniline	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Hexachlorobutadiene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2-Methylnaphthalene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	390	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2,4,6-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2-Chloronaphthalene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	

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Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-06

13D0368-05 (Solid) Sampled: 03/26/2013 11:30; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Acenaphthylene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Dimethylphthalate	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Acenaphthene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
3-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	390	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Dibenzofuran	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
4-Nitrophenol	ND	390	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Fluorene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Diethylphthalate	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
4-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Hexachlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Pentachlorophenol	ND	390	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Phenanthrene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Anthracene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Carbazole	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Di-n-butylphthalate	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Fluoranthene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Pyrene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Butylbenzylphthalate	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Benz(a)anthracene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Chrysene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-06

13D0368-05 (Solid) Sampled: 03/26/2013 11:30; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Di-n-octylphthalate	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Benzo[a]pyrene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	200	ug/kg dry	040813 1400	042213 0128	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*63.8%*	*1.57-119*	*040813 1400*	*042213 0128*		*EPA 8270C*	
Surrogate: Phenol-d5		*64.2%*	*5.27-125*	*040813 1400*	*042213 0128*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*58.2%*	*2.5-130*	*040813 1400*	*042213 0128*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*75.9%*	*7.44-120*	*040813 1400*	*042213 0128*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*81.8%*	*7.77-132*	*040813 1400*	*042213 0128*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*96.0%*	*12.1-138*	*040813 1400*	*042213 0128*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Chloromethane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Vinyl chloride	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Bromomethane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	V6
Chloroethane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
1,1-Dichloroethene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Acetone	ND	1500	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Carbon disulfide	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Methylene Chloride	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
1,1-Dichloroethane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1500	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Chloroform	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Carbon Tetrachloride	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	

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TJ-GP-06

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Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Benzene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
1,2-Dichloroethane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Trichloroethene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
1,2-Dichloropropane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Bromodichloromethane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1500	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Toluene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1500	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Tetrachloroethene	ND	590	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Dibromochloromethane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Chlorobenzene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Ethylbenzene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
m,p-Xylenes	ND	590	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
o-Xylene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Styrene	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Bromoform	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	290	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Total Xylenes	ND	880	ug/kg dry	040313 1855	040313 1855	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*109%*	*70-130*	*040313 1855*	*040313 1855*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*112%*	*70-130*	*040313 1855*	*040313 1855*		*EPA 8260B*	
Surrogate: Toluene-d8		*97.8%*	*70-130*	*040313 1855*	*040313 1855*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*95.5%*	*70-130*	*040313 1855*	*040313 1855*		*EPA 8260B*	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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Original Lab Report

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CERTIFICATE OF ANALYSIS

RK&K 81 Mosher St. Baltimore, MD 21217	Project: Takoma Junction Project Number: Takoma Junction - 10-031-05.2 Project Manager: Ted Chadeayne	Report: 13D0368 Reported: 04/24/2013 14:45

TJ-GP-06

13D0368-05 (Solid) Sampled: 03/26/2013 11:30; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
% Solids	**84.81**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-07

13D0368-06 (Solid) Sampled: 03/26/2013 08:45; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	ND	40	mg/kg dry	040513 1100	041713 2001	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*89.3%*	*50-150*	*040513 1100*	*041713 2001*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.2	mg/kg dry	040113 2227	040113 2227	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*103%*	*70-130*	*040113 2227*	*040113 2227*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	**0.040**	0.028	mg/kg dry	041013 0809	041113 1351	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.9	mg/kg dry	040713 2123	040913 1137	APS	EPA 6010B	
Arsenic	ND	5.7	mg/kg dry	040713 2123	040913 1137	APS	EPA 6010B	
Barium	**42**	2.9	mg/kg dry	040713 2123	040913 1137	APS	EPA 6010B	
Cadmium	**1.6**	0.57	mg/kg dry	040713 2123	040913 1137	APS	EPA 6010B	
Chromium	**23**	2.9	mg/kg dry	040713 2123	040913 1137	APS	EPA 6010B	
Lead	**23**	5.7	mg/kg dry	040713 2123	040913 1137	APS	EPA 6010B	
Selenium	ND	5.7	mg/kg dry	040713 2123	040913 1137	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.12	mg/kg dry	040813 1018	042313 2045	GWP	EPA 8082	
Aroclor 1221	ND	0.12	mg/kg dry	040813 1018	042313 2045	GWP	EPA 8082	
Aroclor 1232	ND	0.12	mg/kg dry	040813 1018	042313 2045	GWP	EPA 8082	
Aroclor 1242	ND	0.12	mg/kg dry	040813 1018	042313 2045	GWP	EPA 8082	
Aroclor 1248	ND	0.12	mg/kg dry	040813 1018	042313 2045	GWP	EPA 8082	
Aroclor 1254	ND	0.12	mg/kg dry	040813 1018	042313 2045	GWP	EPA 8082	
Aroclor 1260	ND	0.12	mg/kg dry	040813 1018	042313 2045	GWP	EPA 8082	
Total PCBs	ND	0.12	mg/kg dry	040813 1018	042313 2045	GWP	EPA 8082	
Surrogate: Tetrachloro-m-xylene		*89.4%*	*36.8-141*	*040813 1018*	*042313 2045*		*EPA 8082*	

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Mark B. Horan, Laboratory Director

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RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-07

13D0368-06 (Solid) Sampled: 03/26/2013 08:45; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Decachlorobiphenyl		*89.6%*	*55.6-147*	*040813 1018*	*042313 2045*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Phenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2-Chlorophenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2-Methylphenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Hexachloroethane	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Nitrobenzene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Isophorone	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2-Nitrophenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Naphthalene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
4-Chloroaniline	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Hexachlorobutadiene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2-Methylnaphthalene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	380	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2,4,6-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2-Chloronaphthalene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	

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Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-07

13D0368-06 (Solid) Sampled: 03/26/2013 08:45; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Acenaphthylene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Dimethylphthalate	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Acenaphthene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
3-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	380	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Dibenzofuran	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
4-Nitrophenol	ND	380	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Fluorene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Diethylphthalate	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
4-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Hexachlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Pentachlorophenol	ND	380	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Phenanthrene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Anthracene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Carbazole	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Di-n-butylphthalate	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Fluoranthene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Pyrene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Butylbenzylphthalate	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Benz(a)anthracene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Chrysene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	

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Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-07

13D0368-06 (Solid) Sampled: 03/26/2013 08:45; Type: Composite

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TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Di-n-octylphthalate	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Benzo[a]pyrene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	200	ug/kg dry	040813 1400	042213 0053	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*39.0%*	*1.57-119*	*040813 1400*	*042213 0053*		*EPA 8270C*	
Surrogate: Phenol-d5		*37.9%*	*5.27-125*	*040813 1400*	*042213 0053*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*37.4%*	*2.5-130*	*040813 1400*	*042213 0053*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*45.7%*	*7.44-120*	*040813 1400*	*042213 0053*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*46.7%*	*7.77-132*	*040813 1400*	*042213 0053*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*59.4%*	*12.1-138*	*040813 1400*	*042213 0053*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Chloromethane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Vinyl chloride	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Bromomethane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	V6
Chloroethane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
1,1-Dichloroethene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Acetone	ND	1400	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Carbon disulfide	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Methylene Chloride	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
1,1-Dichloroethane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1400	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Chloroform	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Carbon Tetrachloride	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-07

13D0368-06 (Solid) Sampled: 03/26/2013 08:45; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Benzene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
1,2-Dichloroethane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Trichloroethene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
1,2-Dichloropropane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Bromodichloromethane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1400	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Toluene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1400	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Tetrachloroethene	ND	580	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Dibromochloromethane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Chlorobenzene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Ethylbenzene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
m,p-Xylenes	ND	580	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
o-Xylene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Styrene	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Bromoform	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	290	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Total Xylenes	ND	870	ug/kg dry	040313 1830	040313 1830	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*109%*	*70-130*	*040313 1830*	*040313 1830*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*120%*	*70-130*	*040313 1830*	*040313 1830*		*EPA 8260B*	
Surrogate: Toluene-d8		*96.6%*	*70-130*	*040313 1830*	*040313 1830*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*91.4%*	*70-130*	*040313 1830*	*040313 1830*		*EPA 8260B*	

Microbac Laboratories, Inc., Baltimore Division

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CERTIFICATE OF ANALYSIS

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-07

13D0368-06 (Solid) Sampled: 03/26/2013 08:45; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
% Solids	**86.24**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-08

13D0368-07 (Solid) Sampled: 03/26/2013 09:40; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	ND	40	mg/kg dry	040513 1100	041713 1933	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*87.7%*	*50-150*	*040513 1100*	*041713 1933*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.3	mg/kg dry	040113 2155	040113 2155	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*103%*	*70-130*	*040113 2155*	*040113 2155*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	**0.037**	0.025	mg/kg dry	041013 0809	041113 1353	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.7	mg/kg dry	040713 2123	040913 1141	APS	EPA 6010B	
Arsenic	ND	5.4	mg/kg dry	040713 2123	040913 1141	APS	EPA 6010B	
Barium	**56**	2.7	mg/kg dry	040713 2123	040913 1141	APS	EPA 6010B	
Cadmium	**2.1**	0.54	mg/kg dry	040713 2123	040913 1141	APS	EPA 6010B	
Chromium	**21**	2.7	mg/kg dry	040713 2123	040913 1141	APS	EPA 6010B	
Lead	**15**	5.4	mg/kg dry	040713 2123	040913 1141	APS	EPA 6010B	
Selenium	ND	5.4	mg/kg dry	040713 2123	040913 1141	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.12	mg/kg dry	040813 1018	042313 2034	GWP	EPA 8082	
Aroclor 1221	ND	0.12	mg/kg dry	040813 1018	042313 2034	GWP	EPA 8082	
Aroclor 1232	ND	0.12	mg/kg dry	040813 1018	042313 2034	GWP	EPA 8082	
Aroclor 1242	ND	0.12	mg/kg dry	040813 1018	042313 2034	GWP	EPA 8082	
Aroclor 1248	ND	0.12	mg/kg dry	040813 1018	042313 2034	GWP	EPA 8082	
Aroclor 1254	ND	0.12	mg/kg dry	040813 1018	042313 2034	GWP	EPA 8082	
Aroclor 1260	ND	0.12	mg/kg dry	040813 1018	042313 2034	GWP	EPA 8082	
Total PCBs	ND	0.12	mg/kg dry	040813 1018	042313 2034	GWP	EPA 8082	
Surrogate: Tetrachloro-m-xylene		*99.1%*	*36.8-141*	*040813 1018*	*042313 2034*		*EPA 8082*	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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Original Lab Report

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-08

13D0368-07 (Solid) Sampled: 03/26/2013 09:40; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Decachlorobiphenyl		*99.5%*	*55.6-147*	*040813 1018*	*042313 2034*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Phenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2-Chlorophenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2-Methylphenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Hexachloroethane	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Nitrobenzene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Isophorone	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2-Nitrophenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Naphthalene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
4-Chloroaniline	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Hexachlorobutadiene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2-Methylnaphthalene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	380	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2,4,6-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2-Chloronaphthalene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	

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Original Lab Report

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-08

13D0368-07 (Solid) Sampled: 03/26/2013 09:40; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Acenaphthylene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Dimethylphthalate	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Acenaphthene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
3-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	380	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Dibenzofuran	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
4-Nitrophenol	ND	380	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Fluorene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Diethylphthalate	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
4-Nitroaniline	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Hexachlorobenzene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Pentachlorophenol	ND	380	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Phenanthrene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Anthracene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Carbazole	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Di-n-butylphthalate	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Fluoranthene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Pyrene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Butylbenzylphthalate	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Benz(a)anthracene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Chrysene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	

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Mark B. Horan, Laboratory Director

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-08

13D0368-07 (Solid) Sampled: 03/26/2013 09:40; Type: Composite

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TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Di-n-octylphthalate	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Benzo[a]pyrene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	200	ug/kg dry	040813 1400	042213 0018	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*51.3%*	*1.57-119*	*040813 1400*	*042213 0018*		*EPA 8270C*	
Surrogate: Phenol-d5		*56.1%*	*5.27-125*	*040813 1400*	*042213 0018*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*48.4%*	*2.5-130*	*040813 1400*	*042213 0018*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*63.8%*	*7.44-120*	*040813 1400*	*042213 0018*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*71.9%*	*7.77-132*	*040813 1400*	*042213 0018*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*83.2%*	*12.1-138*	*040813 1400*	*042213 0018*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Chloromethane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Vinyl chloride	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Bromomethane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	V6
Chloroethane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
1,1-Dichloroethene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Acetone	ND	1500	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Carbon disulfide	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Methylene Chloride	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
1,1-Dichloroethane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1500	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Chloroform	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Carbon Tetrachloride	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-08

13D0368-07 (Solid) Sampled: 03/26/2013 09:40; Type: Composite

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Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Benzene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
1,2-Dichloroethane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Trichloroethene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
1,2-Dichloropropane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Bromodichloromethane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1500	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Toluene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1500	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Tetrachloroethene	ND	580	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Dibromochloromethane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Chlorobenzene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Ethylbenzene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
m,p-Xylenes	ND	580	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
o-Xylene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Styrene	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Bromoform	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	290	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Total Xylenes	ND	870	ug/kg dry	040313 1806	040313 1806	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*106%*	*70-130*	*040313 1806*	*040313 1806*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*116%*	*70-130*	*040313 1806*	*040313 1806*		*EPA 8260B*	
Surrogate: Toluene-d8		*99.2%*	*70-130*	*040313 1806*	*040313 1806*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*94.3%*	*70-130*	*040313 1806*	*040313 1806*		*EPA 8260B*	

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-08

13D0368-07 (Solid) Sampled: 03/26/2013 09:40; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Wet Chemistry								
% Solids	**85.85**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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CERTIFICATE OF ANALYSIS

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-09

13D0368-08 (Solid) Sampled: 03/26/2013 10:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	ND	40	mg/kg dry	040513 1100	041913 1503	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*109%*	*50-150*	*040513 1100*	*041913 1503*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.1	mg/kg dry	040113 2122	040113 2122	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*103%*	*70-130*	*040113 2122*	*040113 2122*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	ND	0.028	mg/kg dry	041013 0809	041113 1355	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.2	mg/kg dry	040713 2123	040913 1145	APS	EPA 6010B	
Arsenic	ND	4.4	mg/kg dry	040713 2123	040913 1145	APS	EPA 6010B	
Barium	**77**	2.2	mg/kg dry	040713 2123	040913 1145	APS	EPA 6010B	
Cadmium	**2.2**	0.44	mg/kg dry	040713 2123	040913 1145	APS	EPA 6010B	
Chromium	**18**	2.2	mg/kg dry	040713 2123	040913 1145	APS	EPA 6010B	
Lead	**44**	4.4	mg/kg dry	040713 2123	040913 1145	APS	EPA 6010B	
Selenium	ND	4.4	mg/kg dry	040713 2123	040913 1145	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.11	mg/kg dry	040813 1018	042313 2022	GWP	EPA 8082	
Aroclor 1221	ND	0.11	mg/kg dry	040813 1018	042313 2022	GWP	EPA 8082	
Aroclor 1232	ND	0.11	mg/kg dry	040813 1018	042313 2022	GWP	EPA 8082	
Aroclor 1242	ND	0.11	mg/kg dry	040813 1018	042313 2022	GWP	EPA 8082	
Aroclor 1248	ND	0.11	mg/kg dry	040813 1018	042313 2022	GWP	EPA 8082	
Aroclor 1254	ND	0.11	mg/kg dry	040813 1018	042313 2022	GWP	EPA 8082	
Aroclor 1260	ND	0.11	mg/kg dry	040813 1018	042313 2022	GWP	EPA 8082	
Total PCBs	ND	0.11	mg/kg dry	040813 1018	042313 2022	GWP	EPA 8082	
Surrogate: Tetrachloro-m-xylene		*107%*	*36.8-141*	*040813 1018*	*042313 2022*		*EPA 8082*	

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Fax: 410-633-6553
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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-09

13D0368-08 (Solid) Sampled: 03/26/2013 10:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Decachlorobiphenyl		*110%*	*55.6-147*	*040813 1018*	*042313 2022*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Phenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2-Chlorophenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2-Methylphenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Hexachloroethane	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Nitrobenzene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Isophorone	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2-Nitrophenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Naphthalene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
4-Chloroaniline	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Hexachlorobutadiene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2-Methylnaphthalene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	370	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2,4,6-Trichlorophenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2-Chloronaphthalene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	

Microbac Laboratories, Inc., Baltimore Division

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Mark B. Horan, Laboratory Director

Original Lab Report

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-09

13D0368-08 (Solid) Sampled: 03/26/2013 10:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Nitroaniline	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Acenaphthylene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Dimethylphthalate	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Acenaphthene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
3-Nitroaniline	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	370	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Dibenzofuran	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
4-Nitrophenol	ND	370	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Fluorene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Diethylphthalate	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
4-Nitroaniline	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Hexachlorobenzene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Pentachlorophenol	ND	370	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Phenanthrene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Anthracene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Carbazole	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Di-n-butylphthalate	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Fluoranthene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Pyrene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Butylbenzylphthalate	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Benz(a)anthracene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Chrysene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-09

13D0368-08 (Solid) Sampled: 03/26/2013 10:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Di-n-octylphthalate	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Benzo[a]pyrene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	190	ug/kg dry	040813 1400	042113 2344	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*63.3%*	*1.57-119*	*040813 1400*	*042113 2344*		*EPA 8270C*	
Surrogate: Phenol-d5		*64.7%*	*5.27-125*	*040813 1400*	*042113 2344*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*56.7%*	*2.5-130*	*040813 1400*	*042113 2344*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*78.0%*	*7.44-120*	*040813 1400*	*042113 2344*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*87.4%*	*7.77-132*	*040813 1400*	*042113 2344*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*95.8%*	*12.1-138*	*040813 1400*	*042113 2344*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Chloromethane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Vinyl chloride	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Bromomethane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	V6
Chloroethane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
1,1-Dichloroethene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Acetone	ND	1400	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Carbon disulfide	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Methylene Chloride	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
1,1-Dichloroethane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1400	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Chloroform	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Carbon Tetrachloride	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-09

13D0368-08 (Solid) Sampled: 03/26/2013 10:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Benzene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
1,2-Dichloroethane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Trichloroethene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
1,2-Dichloropropane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Bromodichloromethane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1400	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Toluene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1400	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Tetrachloroethene	ND	560	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Dibromochloromethane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Chlorobenzene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Ethylbenzene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
m,p-Xylenes	ND	560	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
o-Xylene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Styrene	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Bromoform	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	280	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Total Xylenes	ND	840	ug/kg dry	040313 1741	040313 1741	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*104%*	*70-130*	*040313 1741*	*040313 1741*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*114%*	*70-130*	*040313 1741*	*040313 1741*		*EPA 8260B*	
Surrogate: Toluene-d8		*98.2%*	*70-130*	*040313 1741*	*040313 1741*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*91.8%*	*70-130*	*040313 1741*	*040313 1741*		*EPA 8260B*	

Microbac Laboratories, Inc., Baltimore Division

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-09

13D0368-08 (Solid) Sampled: 03/26/2013 10:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Wet Chemistry								
% Solids	**89.69**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-11

13D0368-09 (Solid) Sampled: 03/27/2013 12:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	ND	40	mg/kg dry	040513 1100	041913 1435	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*107%*	*50-150*	*040513 1100*	*041913 1435*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.1	mg/kg dry	040113 2049	040113 2049	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*106%*	*70-130*	*040113 2049*	*040113 2049*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	ND	0.025	mg/kg dry	041013 0809	041113 1357	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.7	mg/kg dry	040713 2123	040913 1149	APS	EPA 6010B	
Arsenic	ND	5.3	mg/kg dry	040713 2123	040913 1149	APS	EPA 6010B	
Barium	**8.6**	2.7	mg/kg dry	040713 2123	040913 1149	APS	EPA 6010B	
Cadmium	**1.5**	0.53	mg/kg dry	040713 2123	040913 1149	APS	EPA 6010B	
Chromium	**19**	2.7	mg/kg dry	040713 2123	040913 1149	APS	EPA 6010B	
Lead	ND	5.3	mg/kg dry	040713 2123	040913 1149	APS	EPA 6010B	
Selenium	ND	5.3	mg/kg dry	040713 2123	040913 1149	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.11	mg/kg dry	040813 1018	042313 2010	GWP	EPA 8082	
Aroclor 1221	ND	0.11	mg/kg dry	040813 1018	042313 2010	GWP	EPA 8082	
Aroclor 1232	ND	0.11	mg/kg dry	040813 1018	042313 2010	GWP	EPA 8082	
Aroclor 1242	ND	0.11	mg/kg dry	040813 1018	042313 2010	GWP	EPA 8082	
Aroclor 1248	ND	0.11	mg/kg dry	040813 1018	042313 2010	GWP	EPA 8082	
Aroclor 1254	ND	0.11	mg/kg dry	040813 1018	042313 2010	GWP	EPA 8082	
Aroclor 1260	ND	0.11	mg/kg dry	040813 1018	042313 2010	GWP	EPA 8082	
Total PCBs	ND	0.11	mg/kg dry	040813 1018	042313 2010	GWP	EPA 8082	
Surrogate: Tetrachloro-m-xylene		*91.3%*	*36.8-141*	*040813 1018*	*042313 2010*		*EPA 8082*	

Microbac Laboratories, Inc., Baltimore Division

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TJ-GP-11

13D0368-09 (Solid) Sampled: 03/27/2013 12:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Decachlorobiphenyl		*112%*	*55.6-147*	*040813 1018*	*042313 2010*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Phenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2-Chlorophenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2-Methylphenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Hexachloroethane	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Nitrobenzene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Isophorone	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2-Nitrophenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Naphthalene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
4-Chloroaniline	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Hexachlorobutadiene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2-Methylnaphthalene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	360	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2,4,6-Trichlorophenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2-Chloronaphthalene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-11

13D0368-09 (Solid) Sampled: 03/27/2013 12:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Nitroaniline	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Acenaphthylene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Dimethylphthalate	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Acenaphthene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
3-Nitroaniline	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	360	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Dibenzofuran	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
4-Nitrophenol	ND	360	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Fluorene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Diethylphthalate	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
4-Nitroaniline	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Hexachlorobenzene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Pentachlorophenol	ND	360	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Phenanthrene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Anthracene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Carbazole	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Di-n-butylphthalate	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Fluoranthene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Pyrene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Butylbenzylphthalate	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Benz(a)anthracene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Chrysene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-11

13D0368-09 (Solid) Sampled: 03/27/2013 12:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Di-n-octylphthalate	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Benzo[a]pyrene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	190	ug/kg dry	040813 1400	042113 2309	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*69.6%*	*1.57-119*	*040813 1400*	*042113 2309*		*EPA 8270C*	
Surrogate: Phenol-d5		*71.3%*	*5.27-125*	*040813 1400*	*042113 2309*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*58.3%*	*2.5-130*	*040813 1400*	*042113 2309*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*79.7%*	*7.44-120*	*040813 1400*	*042113 2309*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*86.0%*	*7.77-132*	*040813 1400*	*042113 2309*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*98.8%*	*12.1-138*	*040813 1400*	*042113 2309*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Chloromethane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Vinyl chloride	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Bromomethane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	V6
Chloroethane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
1,1-Dichloroethene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Acetone	ND	1400	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Carbon disulfide	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Methylene Chloride	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
1,1-Dichloroethane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1400	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Chloroform	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Carbon Tetrachloride	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	

Microbac Laboratories, Inc., Baltimore Division

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Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-11

13D0368-09 (Solid) Sampled: 03/27/2013 12:50; Type: Composite

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Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Benzene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
1,2-Dichloroethane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Trichloroethene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
1,2-Dichloropropane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Bromodichloromethane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1400	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Toluene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1400	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Tetrachloroethene	ND	540	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Dibromochloromethane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Chlorobenzene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Ethylbenzene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
m,p-Xylenes	ND	540	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
o-Xylene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Styrene	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Bromoform	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	270	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Total Xylenes	ND	820	ug/kg dry	040313 1717	040313 1717	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*103%*	*70-130*	*040313 1717*	*040313 1717*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*112%*	*70-130*	*040313 1717*	*040313 1717*		*EPA 8260B*	
Surrogate: Toluene-d8		*96.8%*	*70-130*	*040313 1717*	*040313 1717*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*88.4%*	*70-130*	*040313 1717*	*040313 1717*		*EPA 8260B*	

Microbac Laboratories, Inc., Baltimore Division

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RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-11

13D0368-09 (Solid) Sampled: 03/27/2013 12:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
% Solids	**91.83**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-13

13D0368-10 (Solid) Sampled: 03/27/2013 10:05; Type: Composite

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Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	ND	40	mg/kg dry	040513 1100	041913 1531	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*104%*	*50-150*	*040513 1100*	*041913 1531*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.3	mg/kg dry	040113 1944	040113 1944	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*102%*	*70-130*	*040113 1944*	*040113 1944*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	**0.058**	0.029	mg/kg dry	041013 0809	041113 1400	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.2	mg/kg dry	040713 2123	040913 1153	APS	EPA 6010B	
Arsenic	ND	4.4	mg/kg dry	040713 2123	040913 1153	APS	EPA 6010B	
Barium	**44**	2.2	mg/kg dry	040713 2123	040913 1153	APS	EPA 6010B	
Cadmium	**1.7**	0.44	mg/kg dry	040713 2123	040913 1153	APS	EPA 6010B	
Chromium	**23**	2.2	mg/kg dry	040713 2123	040913 1153	APS	EPA 6010B	
Lead	**13**	4.4	mg/kg dry	040713 2123	040913 1153	APS	EPA 6010B	
Selenium	ND	4.4	mg/kg dry	040713 2123	040913 1153	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.12	mg/kg dry	040813 1018	042313 1958	GWP	EPA 8082	
Aroclor 1221	ND	0.12	mg/kg dry	040813 1018	042313 1958	GWP	EPA 8082	
Aroclor 1232	ND	0.12	mg/kg dry	040813 1018	042313 1958	GWP	EPA 8082	
Aroclor 1242	ND	0.12	mg/kg dry	040813 1018	042313 1958	GWP	EPA 8082	
Aroclor 1248	ND	0.12	mg/kg dry	040813 1018	042313 1958	GWP	EPA 8082	
Aroclor 1254	ND	0.12	mg/kg dry	040813 1018	042313 1958	GWP	EPA 8082	
Aroclor 1260	ND	0.12	mg/kg dry	040813 1018	042313 1958	GWP	EPA 8082	
Total PCBs	ND	0.12	mg/kg dry	040813 1018	042313 1958	GWP	EPA 8082	
Surrogate: Tetrachloro-m-xylene		*91.8%*	*36.8-141*	*040813 1018*	*042313 1958*		*EPA 8082*	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-13

13D0368-10 (Solid) Sampled: 03/27/2013 10:05; Type: Composite

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Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Decachlorobiphenyl		*105%*	*55.6-147*	*040813 1018*	*042313 1958*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Phenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2-Chlorophenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2-Methylphenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Hexachloroethane	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Nitrobenzene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Isophorone	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2-Nitrophenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Naphthalene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
4-Chloroaniline	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Hexachlorobutadiene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2-Methylnaphthalene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	390	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2,4,6-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2-Chloronaphthalene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-13

13D0368-10 (Solid) Sampled: 03/27/2013 10:05; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Nitroaniline	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Acenaphthylene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Dimethylphthalate	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Acenaphthene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
3-Nitroaniline	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	390	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Dibenzofuran	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
4-Nitrophenol	ND	390	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Fluorene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Diethylphthalate	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
4-Nitroaniline	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Hexachlorobenzene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Pentachlorophenol	ND	390	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Phenanthrene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Anthracene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Carbazole	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Di-n-butylphthalate	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Fluoranthene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Pyrene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Butylbenzylphthalate	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Benz(a)anthracene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Chrysene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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Original Lab Report

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-13

13D0368-10 (Solid) Sampled: 03/27/2013 10:05; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Di-n-octylphthalate	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Benzo[a]pyrene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	200	ug/kg dry	040813 1400	042113 2234	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*71.0%*	*1.57-119*	*040813 1400*	*042113 2234*		*EPA 8270C*	
Surrogate: Phenol-d5		*74.9%*	*5.27-125*	*040813 1400*	*042113 2234*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*62.3%*	*2.5-130*	*040813 1400*	*042113 2234*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*90.2%*	*7.44-120*	*040813 1400*	*042113 2234*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*90.3%*	*7.77-132*	*040813 1400*	*042113 2234*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*106%*	*12.1-138*	*040813 1400*	*042113 2234*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Chloromethane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Vinyl chloride	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Bromomethane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	V6
Chloroethane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
1,1-Dichloroethene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Acetone	ND	1500	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Carbon disulfide	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Methylene Chloride	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
1,1-Dichloroethane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1500	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Chloroform	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Carbon Tetrachloride	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-13

13D0368-10 (Solid) Sampled: 03/27/2013 10:05; Type: Composite

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Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Benzene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
1,2-Dichloroethane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Trichloroethene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
1,2-Dichloropropane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Bromodichloromethane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1500	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Toluene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1500	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Tetrachloroethene	ND	590	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Dibromochloromethane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Chlorobenzene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Ethylbenzene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
m,p-Xylenes	ND	590	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
o-Xylene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Styrene	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Bromoform	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	300	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Total Xylenes	ND	890	ug/kg dry	040313 1652	040313 1652	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*107%*	*70-130*	*040313 1652*	*040313 1652*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*112%*	*70-130*	*040313 1652*	*040313 1652*		*EPA 8260B*	
Surrogate: Toluene-d8		*98.4%*	*70-130*	*040313 1652*	*040313 1652*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*92.8%*	*70-130*	*040313 1652*	*040313 1652*		*EPA 8260B*	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-13

13D0368-10 (Solid) Sampled: 03/27/2013 10:05; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
% Solids	**84.59**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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CERTIFICATE OF ANALYSIS

RK&K 81 Mosher St. Baltimore, MD 21217	Project: Takoma Junction Project Number: Takoma Junction - 10-031-05.2 Project Manager: Ted Chadeayne	Report: 13D0368 Reported: 04/24/2013 14:45

TJ-GP-14

13D0368-11 (Solid) Sampled: 03/27/2013 10:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	**230**	40	mg/kg dry	040513 1100	041913 1338	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*103%*	*50-150*	*040513 1100*	*041913 1338*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	**2.4**	2.3	mg/kg dry	040113 1911	040113 1911	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*117%*	*70-130*	*040113 1911*	*040113 1911*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	ND	0.029	mg/kg dry	041013 0809	041113 1402	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.0	mg/kg dry	040713 2123	040913 1157	APS	EPA 6010B	
Arsenic	ND	4.0	mg/kg dry	040713 2123	040913 1157	APS	EPA 6010B	
Barium	**41**	2.0	mg/kg dry	040713 2123	040913 1157	APS	EPA 6010B	
Cadmium	**0.98**	0.40	mg/kg dry	040713 2123	040913 1157	APS	EPA 6010B	
Chromium	**18**	2.0	mg/kg dry	040713 2123	040913 1157	APS	EPA 6010B	
Lead	**22**	4.0	mg/kg dry	040713 2123	040913 1157	APS	EPA 6010B	
Selenium	ND	4.0	mg/kg dry	040713 2123	040913 1157	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.12	mg/kg dry	040813 1018	042313 1947	GWP	EPA 8082	
Aroclor 1221	ND	0.12	mg/kg dry	040813 1018	042313 1947	GWP	EPA 8082	
Aroclor 1232	ND	0.12	mg/kg dry	040813 1018	042313 1947	GWP	EPA 8082	
Aroclor 1242	ND	0.12	mg/kg dry	040813 1018	042313 1947	GWP	EPA 8082	
Aroclor 1248	ND	0.12	mg/kg dry	040813 1018	042313 1947	GWP	EPA 8082	
Aroclor 1254	ND	0.12	mg/kg dry	040813 1018	042313 1947	GWP	EPA 8082	
Aroclor 1260	ND	0.12	mg/kg dry	040813 1018	042313 1947	GWP	EPA 8082	
Total PCBs	ND	0.12	mg/kg dry	040813 1018	042313 1947	GWP	EPA 8082	

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-14

13D0368-11 (Solid) Sampled: 03/27/2013 10:50; Type: Composite

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Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Tetrachloro-m-xylene		*95.0%*	*36.8-141*	*040813 1018*	*042313 1947*		*EPA 8082*	
Surrogate: Decachlorobiphenyl		*108%*	*55.6-147*	*040813 1018*	*042313 1947*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Phenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2-Chlorophenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2-Methylphenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Hexachloroethane	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Nitrobenzene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Isophorone	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2-Nitrophenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Naphthalene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
4-Chloroaniline	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Hexachlorobutadiene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2-Methylnaphthalene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	400	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2,4,6-Trichlorophenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-14

13D0368-11 (Solid) Sampled: 03/27/2013 10:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Chloronaphthalene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2-Nitroaniline	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Acenaphthylene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Dimethylphthalate	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Acenaphthene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
3-Nitroaniline	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	400	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Dibenzofuran	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
4-Nitrophenol	ND	400	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Fluorene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Diethylphthalate	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
4-Nitroaniline	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Hexachlorobenzene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Pentachlorophenol	ND	400	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Phenanthrene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Anthracene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Carbazole	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Di-n-butylphthalate	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Fluoranthene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Pyrene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Butylbenzylphthalate	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Benz(a)anthracene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Chrysene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-14

13D0368-11 (Solid) Sampled: 03/27/2013 10:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Ethylhexyl)phthalate	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Di-n-octylphthalate	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Benzo[a]pyrene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	210	ug/kg dry	040813 1400	042113 2159	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*90.2%*	*1.57-119*	*040813 1400*	*042113 2159*		*EPA 8270C*	
Surrogate: Phenol-d5		*93.0%*	*5.27-125*	*040813 1400*	*042113 2159*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*83.2%*	*2.5-130*	*040813 1400*	*042113 2159*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*99.3%*	*7.44-120*	*040813 1400*	*042113 2159*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*107%*	*7.77-132*	*040813 1400*	*042113 2159*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*126%*	*12.1-138*	*040813 1400*	*042113 2159*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Chloromethane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Vinyl chloride	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Bromomethane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	V6
Chloroethane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
1,1-Dichloroethene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Acetone	ND	1500	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Carbon disulfide	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Methylene Chloride	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
1,1-Dichloroethane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1500	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Chloroform	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	

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Mark B. Horan, Laboratory Director

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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-14

13D0368-11 (Solid) Sampled: 03/27/2013 10:50; Type: Composite

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Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Carbon Tetrachloride	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Benzene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
1,2-Dichloroethane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Trichloroethene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
1,2-Dichloropropane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Bromodichloromethane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1500	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Toluene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1500	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Tetrachloroethene	ND	610	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Dibromochloromethane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Chlorobenzene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Ethylbenzene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
m,p-Xylenes	ND	610	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
o-Xylene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Styrene	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Bromoform	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	310	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Total Xylenes	ND	920	ug/kg dry	040313 1627	040313 1627	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*113%*	*70-130*	*040313 1627*	*040313 1627*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*121%*	*70-130*	*040313 1627*	*040313 1627*		*EPA 8260B*	
Surrogate: Toluene-d8		*99.0%*	*70-130*	*040313 1627*	*040313 1627*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*95.6%*	*70-130*	*040313 1627*	*040313 1627*		*EPA 8260B*	

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-14

13D0368-11 (Solid) Sampled: 03/27/2013 10:50; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
% Solids	**81.70**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-15

13D0368-12 (Solid) Sampled: 03/27/2013 08:55; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Diesel Range Organics (C10 to C28)								
Diesel Range Organics (C10-C28)	**100**	40	mg/kg dry	040513 1100	041913 1406	GWP	EPA 8015B	
Surrogate: o-Terphenyl		*96.1%*	*50-150*	*040513 1100*	*041913 1406*		*EPA 8015B*	
Gasoline Range Organics (C6 to C10)								
Gasoline Range Organics (C6-C10)	ND	2.2	mg/kg dry	040113 1839	040113 1839	MPH	EPA 8015B	D
Surrogate: Bromofluorobenzene		*110%*	*70-130*	*040113 1839*	*040113 1839*		*EPA 8015B*	
Mercury, Total by EPA 7000 Series Methods								
Mercury	ND	0.028	mg/kg dry	041013 0809	041113 1404	APS	EPA 7471B	
Metals, Total by EPA 6000/7000 Series Methods								
Silver	ND	2.6	mg/kg dry	040713 2123	040913 1201	APS	EPA 6010B	
Arsenic	ND	5.2	mg/kg dry	040713 2123	040913 1201	APS	EPA 6010B	
Barium	**48**	2.6	mg/kg dry	040713 2123	040913 1201	APS	EPA 6010B	
Cadmium	**0.79**	0.52	mg/kg dry	040713 2123	040913 1201	APS	EPA 6010B	
Chromium	**9.6**	2.6	mg/kg dry	040713 2123	040913 1201	APS	EPA 6010B	
Lead	**88**	5.2	mg/kg dry	040713 2123	040913 1201	APS	EPA 6010B	
Selenium	ND	5.2	mg/kg dry	040713 2123	040913 1201	APS	EPA 6010B	
Polychlorinated Biphenyls by EPA Method 8082								
Aroclor 1016	ND	0.11	mg/kg dry	040813 1018	042313 1935	GWP	EPA 8082	
Aroclor 1221	ND	0.11	mg/kg dry	040813 1018	042313 1935	GWP	EPA 8082	
Aroclor 1232	ND	0.11	mg/kg dry	040813 1018	042313 1935	GWP	EPA 8082	
Aroclor 1242	ND	0.11	mg/kg dry	040813 1018	042313 1935	GWP	EPA 8082	
Aroclor 1248	ND	0.11	mg/kg dry	040813 1018	042313 1935	GWP	EPA 8082	
Aroclor 1254	ND	0.11	mg/kg dry	040813 1018	042313 1935	GWP	EPA 8082	
Aroclor 1260	ND	0.11	mg/kg dry	040813 1018	042313 1935	GWP	EPA 8082	
Total PCBs	ND	0.11	mg/kg dry	040813 1018	042313 1935	GWP	EPA 8082	
Surrogate: Tetrachloro-m-xylene		*71.9%*	*36.8-141*	*040813 1018*	*042313 1935*		*EPA 8082*	

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Mark B. Horan, Laboratory Director

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-15

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Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Surrogate: Decachlorobiphenyl		*72.7%*	*55.6-147*	*040813 1018*	*042313 1935*		*EPA 8082*	

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Bis(2-Chloroethyl)ether	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Phenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2-Chlorophenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
1,3-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
1,4-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
1,2-Dichlorobenzene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Bis(2-chloroisopropyl)ether	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2-Methylphenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Hexachloroethane	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
N-Nitroso-di-n-propylamine	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
4-Methylphenol, 3-Methylphenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Nitrobenzene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Isophorone	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2-Nitrophenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2,4-Dimethylphenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
bis(2-Chloroethoxy)methane	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2,4-Dichlorophenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
1,2,4-Trichlorobenzene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Naphthalene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
4-Chloroaniline	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Hexachlorobutadiene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
4-Chloro-3-methylphenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2-Methylnaphthalene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Hexachlorocyclopentadiene	ND	380	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2,4,6-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2,4,5-Trichlorophenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2-Chloronaphthalene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	

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RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-15

13D0368-12 (Solid) Sampled: 03/27/2013 08:55; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
2-Nitroaniline	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Acenaphthylene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Dimethylphthalate	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2,6-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Acenaphthene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
3-Nitroaniline	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2,4-Dinitrophenol	ND	380	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Dibenzofuran	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
2,4-Dinitrotoluene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
4-Nitrophenol	ND	380	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Fluorene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
4-Chlorophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Diethylphthalate	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
1,2-Diphenylhydrazine	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
4-Nitroaniline	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
4,6-Dinitro-2-methylphenol	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
N-Nitrosodiphenylamine	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
4-Bromophenyl-phenylether	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Hexachlorobenzene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Pentachlorophenol	ND	380	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Phenanthrene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Anthracene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Carbazole	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Di-n-butylphthalate	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Fluoranthene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Pyrene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Butylbenzylphthalate	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
3,3´-Dichlorobenzidine	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Benz(a)anthracene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Chrysene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Bis(2-Ethylhexyl)phthalate	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-15

13D0368-12 (Solid) Sampled: 03/27/2013 08:55; Type: Composite

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TCL Semi Volatiles Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Di-n-octylphthalate	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Benzo[b]fluoranthene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Benzo[k]fluoranthene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Benzo[a]pyrene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Indeno[1,2,3-cd]pyrene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Dibenz[a,h]anthracene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Benzo[g,h,i]perylene	ND	200	ug/kg dry	040813 1400	042113 2124	GWP	EPA 8270C	
Surrogate: 2-Fluorophenol		*76.8%*	*1.57-119*	*040813 1400*	*042113 2124*		*EPA 8270C*	
Surrogate: Phenol-d5		*75.2%*	*5.27-125*	*040813 1400*	*042113 2124*		*EPA 8270C*	
Surrogate: Nitrobenzene-d5		*60.4%*	*2.5-130*	*040813 1400*	*042113 2124*		*EPA 8270C*	
Surrogate: 2-Fluorobiphenyl		*86.8%*	*7.44-120*	*040813 1400*	*042113 2124*		*EPA 8270C*	
Surrogate: 2,4,6-Tribromophenol		*90.0%*	*7.77-132*	*040813 1400*	*042113 2124*		*EPA 8270C*	
Surrogate: Terphenyl-d14		*103%*	*12.1-138*	*040813 1400*	*042113 2124*		*EPA 8270C*	

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Chloromethane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Vinyl chloride	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Bromomethane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	V6
Chloroethane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
1,1-Dichloroethene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Acetone	ND	1400	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Carbon disulfide	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Methylene Chloride	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
trans-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
1,1-Dichloroethane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
cis-1,2-Dichloroethene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
2-Butanone (MEK)	ND	1400	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Chloroform	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
1,1,1-Trichloroethane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Carbon Tetrachloride	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	

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Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-15

13D0368-12 (Solid) Sampled: 03/27/2013 08:55; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Volatile Organic Compounds, TCL List

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
Benzene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
1,2-Dichloroethane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Trichloroethene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
1,2-Dichloropropane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Bromodichloromethane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Methyl Isobutyl Ketone	ND	1400	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
cis-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Toluene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
trans-1,3-Dichloropropene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
1,1,2-Trichloroethane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
2-Hexanone (MBK)	ND	1400	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Tetrachloroethene	ND	570	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Dibromochloromethane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Chlorobenzene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Ethylbenzene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
m,p-Xylenes	ND	570	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
o-Xylene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Styrene	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Bromoform	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	290	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Total Xylenes	ND	860	ug/kg dry	040313 1603	040313 1603	GWP	EPA 8260B	
Surrogate: Dibromofluoromethane		*113%*	*70-130*	*040313 1603*	*040313 1603*		*EPA 8260B*	
Surrogate: 1,2-Dichloroethane-d4		*115%*	*70-130*	*040313 1603*	*040313 1603*		*EPA 8260B*	
Surrogate: Toluene-d8		*97.3%*	*70-130*	*040313 1603*	*040313 1603*		*EPA 8260B*	
Surrogate: 4-Bromofluorobenzene		*93.0%*	*70-130*	*040313 1603*	*040313 1603*		*EPA 8260B*	

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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

Original Lab Report

Microbac Laboratories, Inc.
Baltimore Division
2101 Van Deman Street • Baltimore, MD 21224

Phone: 410-633-1800
Fax: 410-633-6553
www.microbac.com

CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

TJ-GP-15

13D0368-12 (Solid) Sampled: 03/27/2013 08:55; Type: Composite

Microbac Laboratories, Inc., Baltimore Division

Wet Chemistry

Analyte	Result	Reporting Limit	Units	Prepared	Analyzed	Analyst	Method	Notes
% Solids	**86.98**	0.05	% by Weight	041013 0621	041113 0000	LCR	SM (20) 2540G	

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CERTIFICATE OF ANALYSIS

RK&K 81 Mosher St. Baltimore, MD 21217	Project: Takoma Junction Project Number: Takoma Junction - 10-031-05.2 Project Manager: Ted Chadeayne	Report: 13D0368 Reported: 04/24/2013 14:45

Project Requested Certification(s):

State of Pennsylvania (NELAC)

Analyte Certification Exception Summary

Microbac Laboratories, Inc., Baltimore Division
Matrix: Solid

EPA 8082
Total PCBs: No Certification

EPA 8260B
1,1,1-Trichloroethane: No Certification

EPA 8270C
1,2-Diphenylhydrazine: No Certification
3,3´-Dichlorobenzidine: No Certification
4-Chlorophenyl-phenylether: No Certification
4-Methylphenol, 3-Methylphenol: No Certification

SM (20) 2540G
% Solids: No Certification

All analysis performed were analyzed under the required certification unless otherwise noted in the above summary.

Microbac Laboratories, Inc., Baltimore Division

Mark B. Horan, Laboratory Director

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81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

Certification List

Below is a list of certifications maintained by Microbac Laboratories, Inc. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. A complete list of individual analytes pursuant to each certification below is available upon request.

Code	Description	Certification Number	Expires
Microbac Laboratories, Inc., Baltimore Division			
A2LA1	A2LA (Biology)	410.02	04/30/2013
A2LA2	A2LA (Environmental)	410.01	04/30/2013
VA-B	Commonwealth of Virginia (NELAC) - Baltimore	460170-1829	06/14/2013
CPSC	CPSC Testing of Childrens Products and Jewelry	1115	04/30/2013
Pb	Environmental Lead (ELLAP)	410.01	04/30/2013
NJ	New Jersey	NLC120001	06/30/2013
MD	State of Maryland (Drinking Water)	109	06/30/2013
PA	State of Pennsylvania (NELAC)	68-00339	08/31/2013
USDA	US Department of Agriculture	P330-09-00021	02/19/2012
WV	West Virginia	054	08/31/2013
Microbac Laboratories, Inc., Richmond Division			
VA-R	Commonwealth of Virginia (NELAC) - Richmond	460022-1834	06/14/2013

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Baltimore Division
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CERTIFICATE OF ANALYSIS

RK&K	Project: Takoma Junction	Report: 13D0368
81 Mosher St.	Project Number: Takoma Junction - 10-031-05.2	Reported: 04/24/2013 14:45
Baltimore, MD 21217	Project Manager: Ted Chadeayne	

Qualifiers/Notes and Definitions

General Definitions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Analysis Qualifiers/Notes:

Microbac Laboratories, Inc., Baltimore Division

V6	CCV recovery was below acceptance limits. The reported result is estimated.
D	Sample Diluted

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Cooler Receipt Log

Cooler ID: Default Cooler **Cooler Temp:** 8.50 °C **Work Order:** 13D0368

Custody Seals Intact:	Yes	COC/Containers Agree:	Yes
Containers Intact:	Yes	Correct Preservation:	Yes
Received On Ice:	Yes	Correct Number of Containers Received:	Yes
Radiation Scan Acceptable:	Yes	Sufficient Sample Volume for Testing:	Yes
COC Present:	Yes	Samples Received in Proper Condition:	Yes

Comments:

13C1745

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Tel: 410-633-1800
Fax: 410-633-6553
www.microbac.com

Instructions for completing the Chain of Custody Record on back.

Chain of Custody Record

Customer
Name: RK&K
Address: 81 Mosher Street
Baltimore, MD 21217

Project Manager
Name: TED CHADEAYNE
Phone: (410) 462-9170
Email: tchadeayne@rkk.com

Turn Around Time
(✓) Normal ( ) RUSH*
Needed By:

Compliance
( ) Yes (✓) No
Agency:

QC Level
(•) I
( ) II**
( ) III**
( ) IV**

13D0368

Project Information
Name: Takoma Junction
Number: 10-031-05.2
PO:

Sampler
Name: Ted Chadeayne
Phone:
Cert ID:***

Report Options
(✓) EDD: Standard Excel
(✓) Email: tchadeayne@rkk.com
( ) Fax:

Client Sample ID	Matrix****	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analysis: 8260 TCL	8270 TCL	8082 PCB	DRO	GRO	RCRA METALS				Comments
TJ-GP-01	S	✓	✓		3-27	0805	3	✓	✓	✓	✓	✓	✓				One jar in each sample was collected immediately without compositing and labeled with "GRO/VOCs". These jars should be the ones tested for GRO and 8260 TCL.
TJ-GP-02	S	✓	✓		3-26	1410	3	✓	✓	✓	✓	✓	✓				
TJ-GP-03	S	✓	✓		3-26	1335	3	✓	✓	✓	✓	✓	✓				
TJ-GP-05	S	✓	✓		3-26	1225	3	✓	✓	✓	✓	✓	✓				
TJ-GP-06	S	✓	✓		3-26	1130	3	✓	✓	✓	✓	✓	✓				
TJ-GP-07	S	✓	✓		3-26	0845	3	✓	✓	✓	✓	✓	✓				
TJ-GP-08	S	✓	✓		3-26	0940	3	✓	✓	✓	✓	✓	✓				
TJ-GP-09	S	✓	✓		3-26	1050	3	✓	✓	✓	✓	✓	✓				
TJ-GP-11	S	✓	✓		3-27	1250	3	✓	✓	✓	✓	✓	✓				

Possible Hazard Identification ( ) Hazardous ( ) Non-Hazardous ( ) Radioactive
Sample Disposition (✓) Dispose as appropriate ( ) Return ( ) Archive

Number of Containers: / Cooler Number: / Temp upon receipt(°C): 8.5°C / Sample Received on Ice or Refrigerated from Client: Yes / No / Radiation Scan Acceptable Yes / No	Sampled By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
	S Chadeayne	Ted Chadeayne RK&K	03/29/13 0841	[signature]	N. Williams
	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
			03/29/13 1846		
	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

* Please notify lab prior to drop off.
WHITE - ORIGINAL LAB YELLOW - RECEIPT

rev.121112

** Surcharge May Apply to add'l QC Packages
*** Sampler certification ID needed for some agencies.
**** Matrix Types: Air(A), Childrens Product(CP), Food(F), Paint(P), Soil/Solid (S), Oil(O), Wipe(WI), Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (

Microbac

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Chain of Custody Record

Instructions for completing the Chain of Custody Record on back.

Customer
Name: RK&K
Address: 81 Mosher Street
Baltimore, MD 21217

Project Manager
Name: TED CHADEAYNE
Phone: (410) 462-9170
Email: tchadeayne@rkk.com

Turn Around Time
(✓) Normal ( ) RUSH*
Needed By:

Compliance
( ) Yes (✓) No
Agency:

QC Level
(•) I
( ) II**
( ) III**
( ) IV**

This space is reserved for lab use only.

Project Information
Name: Takoma Junction
Number: 10-031-05.2
PO:

Sampler
Name: Ted Chadeayne
Phone:
Cert ID:***

Report Options
(✓) EDD Standard Excel
(✓) Email tchadeayne@rkk.com
( ) Fax

Client Sample ID	Matrix****	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	Requested Analysis: 8260 TCL	8270 TCL	8082 PCB	DRO	GRO	RCRA METALS				Comments
TJ-GP-13		✓	✓		3-27	1005	3	✓	✓	✓	✓	✓	✓				One jar in each sample was collected immediately without compositing and labeled with "GRO/VOCs". These jars should be the ones tested for GRO and 8260 TCL
TJ-GP-14		✓	✓		3-27	1050	3	✓	✓	✓	✓	✓	✓				
TJ-GP-15		✓	✓		3-27	0855	3	✓	✓	✓	✓	✓	✓				

Possible Hazard Identification ( ) Hazardous ( ) Non-Hazardous [ ] Radioactive **Sample Disposition** (⊗) Dispose as appropriate ( ) Return ( ) Archive

Number of Containers: / Cooler Number: / Temp upon receipt(°C): 8.5°C / Sample Received on Ice or Refrigerated from Client: Yes / No / Radiation Scan Acceptable: Yes / No	Sampled By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
	Ted Chadeayne	Ted Chadeayne RK&K	03/29/13 1841	N.W. Willinger	N.W. Willinger
	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
	03/29/13 0841				
	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

* Please notify lab prior to drop off.
WHITE - ORIGINAL LAB YELLOW - RECEIPT

rev.121112

** Surcharge May Apply to add'l QC Packages
*** Sampler certification ID needed for some agencies.
**** Matrix Types: Air(A), Childrens Product(CP), Food(F), Paint(P), Soil/Solid (S), Oil(O), Wipe(WI), Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other