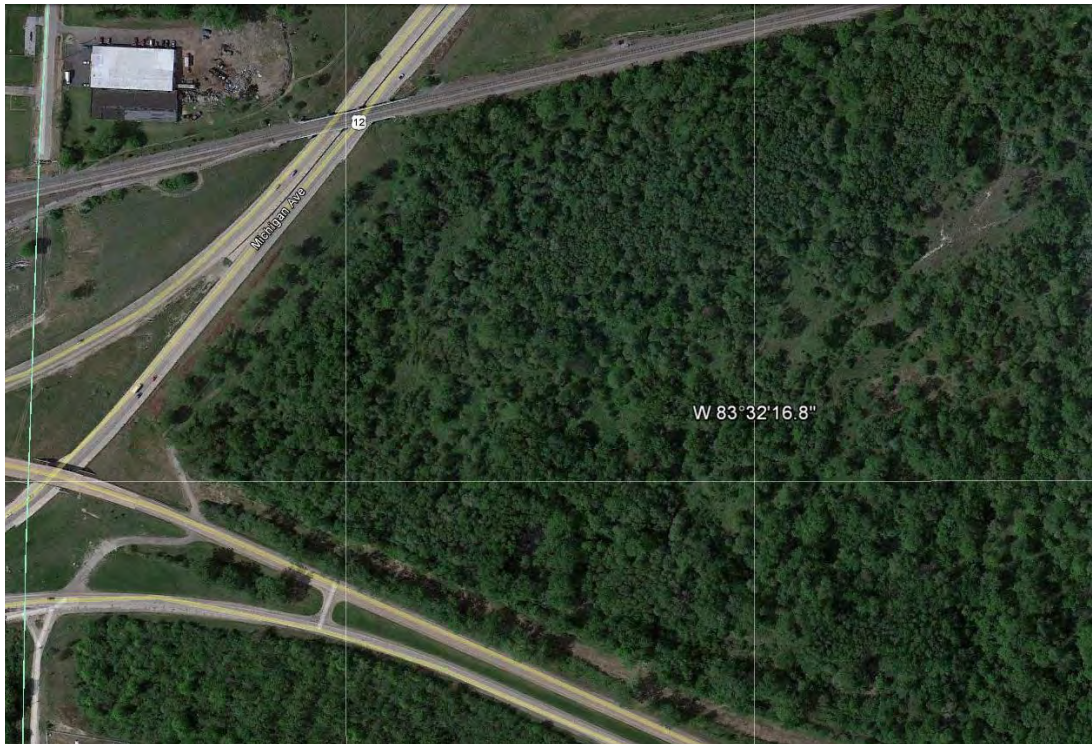


# PHASE IA SITE CHARACTERIZATION

---

VAN BUREN TOWNSHIP LANDFILL SITE  
RACER SITE No. 11070  
VAN BUREN TOWNSHIP, MICHIGAN



DECEMBER 2012

PREPARED FOR:  
**RACER TRUST**  
2930 ECORSE ROAD  
YPSILANTI, MICHIGAN 48198

## TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE NO.</u>
1.0 INTRODUCTION .....	1
2.0 SITE DESCRIPTION AND PROPERTY USE .....	1
2.1 Site Location and Property Usage.....	1
2.2 Current Property Ownership.....	2
2.3 PHYSICAL SETTING.....	2
2.4 Topography.....	3
2.5 Hydrogeologic Setting.....	3
3.0 SCOPE OF WORK.....	3
4.0 METHODOLGIES .....	4
4.1 Soil Borings and Soil Sample Collection .....	4
4.2 Test Pits and Waste Sample Collection .....	5
4.3 Monitoring Well Installation .....	6
4.4 Ground Water Sample Collection.....	6
5.0 INVESTIGATION ACTIVITIES AND RESULTS.....	6
5.1 Geology and Waste Fill.....	6
5.2 Hydrogeology.....	7
5.3 Soil Sample Results .....	8
5.4 Ground Water Sample Results.....	8
6.0 RECOMMENDATIONS .....	9

### FIGURES

Figure 1	Site Location Map
Figure 2	Site Schematic
Figure 3	Soil and Ground Water Sample Laboratory Analytical Results Map
Figure 4	Depth of Fill Map
Figure 5	Phase 1B Site Investigation

### TABLES

Table 1	Summary of Soil Sample Laboratory Analytical Detections
Table 2	Summary of Waste Sample Laboratory Analytical Detections
Table 3	Summary of Ground Water Sample Laboratory Analytical Detections

### APPENDICES

Appendix A	Soil Boring and Monitoring Well Construction Logs
Appendix B	Laboratory Analytical Data Reports
Appendix C	Test Pit Logs
Appendix D	Low Flow Ground Water Sampling Forms
Appendix E	Photo Log
Appendix F	Surface Water Sample Identification Report

## 1.0 INTRODUCTION

The Mannik & Smith Group, Inc. (MSG) was retained by Revitalizing Auto Communities Environmental Response (RACER) Trust to complete a site investigation of the Van Buren Landfill Property located northeast of the Ecorse Road / Michigan Avenue intersection in Van Buren Township, Wayne County, Michigan (Site). *Figure 1, Site Location Map*, depicts the location of the Site relative to nearby roads and major topographic features.

This site investigation was performed in general accordance with the United States Environmental Protection Agency (USEPA) approved Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP), dated June 2012. The purpose of this investigation was to define risks associated with the former landfilling activities at the Site. The characterization study is required to gain a more thorough understanding of the areas of interest (AOIs) and, if necessary, evaluate remedial alternatives to address any issues identified.

The scope of work for this site investigation consisted of the following field activities: the advancement of soil borings to collect soil samples; the installation of monitoring wells; ground water sample collection from monitoring wells; excavation of test pits to confirm the extents and types of disposed material and disposal cell construction details; and the inspection of the slope along the western perimeter of the Site to identify potential seep(s) for surface water sample collection. The contaminants of concern associated with the Site are primarily wastes.

## 2.0 SITE DESCRIPTION AND PROPERTY USE

In preparation for this project, MSG conducted a review of file information provided by RACER and obtained copies of pertinent reports and records. The following reports were obtained during the file review:

- Draft Current Conditions Report (CCR), dated September 2011, prepared by Conestoga-Rovers & Associates (CRA) including Appendices A through D (which provide a summary of recent activities associated with the site).

The following subsections summarize information obtained pertaining to the Site location and property use from the RACER project file.

### 2.1 Site Location and Property Usage

The Site is located northeast of the Ecorse Road / Michigan Avenue (US-12) intersection in Van Buren Township, Wayne County, Michigan (Site). *Figure 1, Site Location Map*, depicts the location of the Site relative to nearby roads and major topographic features. The Site is zoned for general industrial use and located in an area bounded by mixed commercial, agricultural, industrial, residential, and airport properties. The Site is bounded to the north by railroad tracks (operated by Norfolk Southern Railway), to the east by the former General Motors Corporation Service Parts Operations Warehouse, to the south by a Wayne County Utilities Easement and Ecorse Road and to the west by Michigan Avenue (US-12). The Site does not currently have an address associated with the Site. However, historical documentation referred to the Site being located at 5070 and/or 50700 Ecorse Road, Belleville, Michigan 48111.

Through a search of governmental records to support a potential sale of a portion of the former GMC Property, GMC became aware of the closed Van Buren Development Company landfill Site in August 1987. A Limited Phase I Environmental Site Assessment (ESA) was conducted by Encore Environmental Consortium, LLC (EEC) in 2002 and updated in 2007.

Results of the Phase I ESA indicated historical use of the Site remained undeveloped and cultivated for agricultural purposes as early as 1940. The Site remained vacant and undeveloped until approximately 1966 when it was occupied by Van Buren Development Company from approximately 1966 to 1969, where the Site was used to mine sand and subsequently operated as a landfill. The Site has been vacant since

the closure of the Van Buren Development Company landfill in 1969 when the Site was purchased by the General Motors Corporation (GMC).

The Phase I ESA identified one Recognized Environmental Condition (REC) at the Site related to the historical landfill. A geophysical survey was conducted at the Site in July 2003 by Blasland, Bouck & Lee, Inc. (BBL), which identified numerous potential disposal trenches / areas at the Site. The Phase I ESA describes the results the geophysical investigation, which revealed that landfilled waste may exist across approximately 30 to 40 acres in the western, northern and central portions of the Site. These areas potentially include four landfill trench cells (identified as Areas of Interest AOI-1 through AOI-4) in the northeastern portion of the Site, a landfill trench or fill area in the center of the Site (AOI-6), an additional potential landfill cell in the northwest corner of the Site (AOI-5) and several other smaller isolated potential landfill pocket areas across the western portion and center of the Site (AOI-7).

Historical records identified in the Phase I ESA indicate that various wastes were landfilled at the Site, including:

- Incinerator ash generated from the City of Detroit;
- Demolition waste and domestic refuse generated from the City of Dearborn;
- Waste Paper generated from the Ford Motor Company;
- Crankcase oil sludge (approximately 1,500 to 1,800 gallons) generated from Dearborn Refinery; and
- Liquid waste stored in 55-gallon drums.

Historical records from the Phase I ESA indicate that the crankcase oil sludge potentially had high levels of sulfuric acid, heavy metals, polychlorinated biphenyls (PCBs) and other organic chemicals. Additional evidence of aboveground waste discarded throughout the Site observed during the Phase I ESA, include general municipal waste, building construction materials, household appliances, furniture, piping, transportation equipment, electrical components, hazardous material containers, scrap metals, batteries and numerous unidentifiable items.

## **2.2 Current Property Ownership**

The most recent Site ownership changes are due to GMC filing for bankruptcy under Chapter 11 of the United States Bankruptcy Code on June 1, 2009. Pursuant to a bankruptcy court order on July 10, 2009, Motors Liquidation Company (MLC) (formerly GMC) retained ownership of the Site and on October 20, 2010, entered into a settlement agreement with federal and state governmental authorities regarding MLC's environmental obligations at its remaining properties. According to the settlement agreement, Revitalizing Auto Communities Environmental Response (RACER) Trust became effective March 31, 2011 and interests in the Site were then transferred to RACER. The Site is currently owned by RACER Properties, LLC, a wholly owned subsidiary of RACER Trust, and remains comprised of vacant land.

## **2.3 PHYSICAL SETTING**

MSG reviewed available soils information and geological resource information to determine the physical setting of the Site and surrounding area. This information was reviewed to assess the topographic and subsurface characteristics of the Site and surrounding area, and how those characteristics may ultimately influence potential environmental conditions at and surrounding the Site.

## 2.4 Topography

The United States Geological Survey (USGS) *Ypsilanti East, Michigan* 7.5 Minute Quadrangle map, dated 1967, photo revised 1983, and the *Denton, Michigan* 7.5 Minute Quadrangle map, dated 1969, photo revised 1973 and 1980, were reviewed for topographical information in the vicinity of the Site (Figure 1). Figure 1 depicts a majority of the surface topography in the vicinity of the Site gradually sloping to the south-southeast with the ground surface elevation ranging between approximately 715 feet above mean sea level (msl) to approximately 710 feet above msl. A section of divided highway (Michigan Avenue / US-12) lies adjacent west of the Site in a roadway cut at an elevation of approximately 700 to 705 feet above msl and the western edge of the property grades steeply down to the Michigan Avenue / US-12 roadway.

## 2.5 Hydrogeologic Setting

A United States Geological Survey (USGS) 7.5-minute topographical maps titled *Ypsilanti East, Michigan* and *Denton, Michigan* were reviewed for the Site and surrounding area (Figure 1). The nearest surface water bodies to the Site are Sines Drain, located approximately 2,000 feet north of the Site, an unnamed intermittent drain located approximately 4,000 feet west of the Site and an unnamed drain approximately 3,800 feet east of the Site. Based on the area topography and the presence of nearby wetland areas, the estimated depth to groundwater in the vicinity of the Site is approximately less than 10 feet below ground surface (bgs). As noted in the Phase I ESA, groundwater was previously encountered at the Site at depths ranging from 4.5 to 5.5 feet bgs. Based on the area topography and proximity of the drains, the inferred localized groundwater flow direction is likely to the east. In addition, during a subsurface investigation at the adjacent GM SPO Warehouse, the groundwater flow direction was determined to be towards the east. However, localized groundwater flow direction may vary based on several factors, especially due to the roadway cut for Michigan Avenue / US-12 located adjacent west of the Site.

Based on the map of the *Quaternary Geology of Southern Michigan*, compiled in 1982 by W.R. Farrand and published by the Michigan Geological Survey in Lansing, Michigan, the Site is located in an area that consists of lacustrine sand and gravel. Typically, these deposits contain pale brown to pale reddish brown fine to medium grained sand, occurring chiefly as former beach and near-offshore littoral deposits of the glacial Great Lakes.

According to the map titled *Bedrock Geology of Southern Michigan*, compiled in 1987 by Randall L. Milstein and published by the Michigan Department of Natural Resources, the bedrock beneath the site consists of the late Devonian-aged Antrim Shale formation. A review of historical water supply well logs from the surrounding area indicates bedrock lays approximately 90 to 97 feet bgs and approximately 70 to 80 feet of lacustrine clay deposits overlie bedrock in the site vicinity.

## 3.0 SCOPE OF WORK

As noted in the SAP, the characterization study is required to gain a more thorough understanding of the AOIs and, if necessary, evaluate remedial alternatives to address any issues identified. The proposed scope of work for this Site characterization study consisted of the following field activities: the advancement of seven soil borings to a depth of 15-feet bgs to collect soil samples; the installation of seven monitoring wells at the soil boring locations; ground water sample collection from these seven monitoring wells; and, installation of up to 36 test pits to determine the types of disposed material and disposal cell construction details. As noted in the SAP/QAPP, the final number and locations of the test pits were to be dependent on the confirmation of the location of the AOIs in the field and accessibility to these areas. The locations of the AOI-1 through AOI-7 as well as the proposed (and actual) soil boring, monitoring well and test pit locations are depicted on *Figure 2, Site Schematic*. A significant portion of the field investigation was independently observed by a U.S. EPA's contractor, TechLaw, Inc.

Due to the actual extent of waste encountered at the Site during the site investigation in comparison to the extent of waste presented in the SAP /QAPP (i.e. waste was encountered at locations extensively beyond each AOI's reported edge of waste), the following scope of work (herein noted as the Phase 1A scope of work) was performed:

- Thirteen (13) direct push soil borings were advanced to further determine subsurface lithology and allow collection of subsurface soil samples;
- Monitoring wells were installed using hollow stem auger (HSA) methods at three (3) of the direct push boring locations to allow collection of ground water samples (waste was encountered at ten (10) of the other proposed locations and thus monitoring wells were not installed);
- Test pits were excavated at 25 locations to determine the types of disposed material (at 14 locations) and disposal cell construction details (at 11 locations).

In addition, the proposed scope of work also consisted of the collection of a surface water sample (identified as SW-1 in the SAP/QAPP) along the Site's side slope adjacent to Michigan Avenue. However, no seep(s) was identified along the Site's side slope during our field investigation activities. A subsequent Site inspection conducted on September 25, 2012 identified a seep several hundred feet to the north of the Site's side slope. Also, surface water was not encountered on the site during our field activities (including the September 25, 2012 site inspection); however, as noted in the CCR frozen standing water was present at the southern portion of the Site in 2007 when the Phase I ESA site inspection was conducted.

#### 4.0 METHODOLOGIES

The investigative methodologies employed included the installation of soil borings and monitoring wells, the installation of test pits, soil, waste and ground water sample collection and laboratory sample analysis. The proposed soil boring, monitoring well and test pit locations as depicted in the SAP /QAPP were located by MSG using a Trimble 6000 series GeoXH GPS unit (which has a sub-decimeter horizontal and vertical accuracy). Clearing and grubbing, where required, was completed to access soil boring, monitoring well and test pit locations utilizing primarily a Caterpillar 283 Skidsteer with a Davco Manufacturing Ltd. 6470 Brushcutter and a Caterpillar 312CL excavator. The clearing and grubbing paths created by MSG were documented with the GPS unit and are depicted in Figures 2 through 4. All materials resultant of clearing and grubbing were stockpiled in a manner that will not hinder other on-site operations. The GPS unit was also used to confirm that the actual, as-built fence location was different than that depicted in as-built information provided by others (CRA, BBL, etc.).

##### 4.1 Soil Borings and Soil Sample Collection

Advancement of soil borings during the Site investigation activities was completed using direct push methodologies. During the period from July 11 through July 18, 2012, MSG advanced 13 soil borings, (SB-1, SB-2, SB-2A, SB-3, SB-4, SB-5, SB-5A, SB-6, SB-6A, SB-7, SB-7A, SB-7B AND SB-7C), in order to determine subsurface lithology and allow collection of subsurface soil samples. Soil boring locations are illustrated on *Figure 3, Summary of Soil / Waste and Ground Water Sample Results*. Continuous soil profiles were obtained at each boring by sampling at intervals up to five (5) feet from grade to boring terminus using dual tube 1.5-inch diameter, five-foot long standard and closed-piston macrocore sampling devices. Soil borings were advanced to depths of between 15 to 35 feet bgs with a track-mounted Geoprobe® 6620DT combination drill rig. Soil borings will be advanced 5 feet into the underlying clay layer. Prior to each boring, macrocore soil samplers were washed with a warm water Alconox® solution and thoroughly rinsed with deionized water and then a new clear polyvinyl chloride (PVC) liner was placed within the sampler. Boring logs for soil borings SB-1 through SB-7C are located in *Appendix A, Soil Boring / Monitoring Well Construction Logs*. Soil cuttings were containerized in steel 55-gallon drums and stored on-site pending proper disposal. Following completion, all borings were properly abandoned with bentonite and restored to match surrounding surface condition. Soil samples were field-screened for volatile organic compounds (VOCs) using a MiniRAE 10.6 eV photoionization detector (PID) and classified in general

accordance with ASTM D 2488, Standard Practice and Identification of Soils (Visual-Manual Procedure). Up to two (2) soil samples were collected from each boring for laboratory analysis. Generally, one soil sample was collected from the zone of highest impact based on PID readings and visual observations and one from just above water table or the final depth of the boring. Soil samples were preserved using United States Environmental Protection Agency (USEPA) Method 5035 and analyzed for Volatile Organic Compounds (VOCs) using USEPA Method 8260, analyzed for Semivolatile Organic Compounds (SVOCs) using USEPA Method 8270, Polychlorinated Biphenyls (PCBs) using USEPA Method 8082, Pesticides and Herbicides using USEPA Method 8081 and 8151, and the Target Analyte List (TAL) metals using USEPA Method 7471 and 6020A as detailed in the QAPP. Samples were placed on ice in a cooler and shipped to ALS Environmental under strict chain of custody protocols along with Quality Control Samples as described in the QAPP. Analytical results are located in Appendix B, *Laboratory Analytical Data Reports*, summarized in *Table 1, Summary of Soil / Waste Sample Results* and illustrated on Figure 3.

## 4.2 Test Pits and Waste Sample Collection

During the period from July 23 through July 27, 2012, MSG installed a total of 25 test pits at the Site. The general purpose of the test pits was to confirm the extents of disposed material, types of disposed material, and disposal cell construction details. Test pits were installed using a Caterpillar 312CL Hydraulic Excavator and proper decontamination methods were utilized to ensure no cross contamination was encountered between test pit locations.

Fourteen (14) test pits were excavated to identify the vertical limits of the waste material and to investigate the condition and type of the disposal cell liner, including: TP-2, TP-3, TP-4, TP-6, TP-7, TP-11, TP-12, TP-20, TP-22, TP-26, TP-28, TP-31, TP-33 and TP-35. Vertical limit test pit excavations extended from approximately five to 18 feet bgs until the vertical limit of waste was identified or ground water was encountered, whichever occurred first. An additional 11 test pits were installed to confirm the horizontal extents of the disposal areas and to investigate the disposal cell construction, including: TP-14, TP-21, TP-24, TP-25, TP-27, TP-29, TP-30, TP-32, TP-34 and TP-36.

Horizontal extent test pit excavations extended from approximately six to 17 feet bgs until the horizontal limit of waste was identified or the horizontal extent of the test pit was deemed significantly long per agreement with the EPA oversight contractor (TechLaw). Horizontal extent test pits ranged in length from approximately 15 feet to 80 feet in length. All excavated soil and waste materials were staged adjacent to the test pit locations on 20-foot wide polyethylene sheeting for the length of the test pit with the cover soil and waste segregated to the extent possible. All excavations were backfilled with the excavated material prior to leaving the site for the day.

Based on field observations of suspected ash materials encountered within the test pits, several waste samples were collected for analysis of polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) (dioxins and furans) using USEPA Method 8290. Based on elevated photoionization detector (PID) readings, one waste sample was collected for analysis of VOCs using USEPA Method 8260 and one waste sample was collected for a fingerprint analysis of organic compounds using USEPA Method 8015M. Samples were placed on ice in a cooler and shipped to ALS Environmental under strict chain of custody protocols along with Quality Control Samples as described in the SAP/QAPP. Grab samples for laboratory analyses were collected directly from the excavator bucket at select test pits. Test pit locations are illustrated on Figure 3 and a detailed test pit log containing the test pit dimensions, debris and soil types encountered and sample descriptions are contained in Appendix C, Test Pit Logs. Waste sample analytical results are located in Appendix C, *Laboratory Analytical Data Reports* and summarized in *Table 2, Summary of Waste Sample Analytical Results*.

### 4.3 Monitoring Well Installation

Due to the extent of waste encountered during the Site investigation (i.e. waste was encountered at four (4) of the seven (7) originally proposed monitoring well locations as well as at six (6) additional locations) only three monitoring wells (MW-3, MW-4 and MW-6) were installed at their respective soil boring location, as illustrated on Figure 3. Two (MW-3 and MW-4) of the monitoring wells were installed at their proposed locations whereas MW-6 was installed approximately 100 feet south of the proposed location due to waste encountered during drilling at the proposed location.

Monitoring wells were constructed of two-inch diameter polyvinylchloride (PVC) casing and 10-foot long 10-slot (0.010-inch) PVC screen. Filter pack sand was gravity installed to approximately two-feet above the well screen followed by a two-foot thick bentonite seal and then completed to approximately one-foot below grade with bentonite / cement grout. Each monitoring well was then finished with a stick-up steel protective casing set in concrete to grade. Monitoring well construction logs are located in Appendix A.

Approximately two weeks after monitoring well installation, the wells were developed until sediment free by surging and bailing using a weighted, disposable 1.5 inch-diameter 3-foot long polyethylene bailer. Purge water from monitoring well development was containerized in steel 55-gallon drums and stored on-site pending proper disposal.

### 4.4 Ground Water Sample Collection

Ground water samples were collected by MSG from monitoring wells MW-3, MW-4 and MW-6 on September 5, 2012. MSG sampled site monitoring wells in accordance with *USEPA Low-flow (Minimal Drawdown) Ground-Water Sampling Procedures* using a bladder pump. Ground water samples were collected using teflon-lined polyethylene bladders and tubing. Ground water parameters including pH, temperature, conductivity, dissolved oxygen, oxidation-reduction potential (ORP) and turbidity were monitored to ensure representative formation water was collected. Low flow sample collection data sheets are included in Appendix D. Samples were placed on ice in a cooler and shipped to ALS Environmental under strict chain of custody protocols along with Quality Control Samples as described QAPP. Ground water samples were for analysis of VOCs by USEPA Method 8260, SVOCs by USEPA Method 8270, Pesticides and Herbicides by USEPA Method 8151 and 8081 and TAL metals by USEPA Method 6020A and 7470. Ground water sample analytical results are located in Appendix C, Laboratory Analytical Data Reports, summarized in Table 3, *Summary of Ground Water Sample Laboratory Analytical Data* and illustrated on Figure 3. Purge water from low-flow monitoring well sampling activities was returned to the monitoring well after sample collection in accordance with MSG's proposal (not in accordance with the SAP and QAPP).

## 5.0 INVESTIGATION ACTIVITIES AND RESULTS

The following section describes the results of soil borings and test pits with regard to confirming the extents and types of disposed material and disposal cell construction details.

### 5.1 Geology and Waste Fill

A total of 13 direct push soil borings and 25 test pits discerned the subsurface conditions. The location of the direct push borings and test pits are shown on Figure 3. Several of the soil borings were offset from their proposed location due to clearance issues with large diameter trees while the proposed location of other borings was outside of the Site perimeter fence. Soil boring and test pit logs are contained in *Appendix A and B*, respectively, and their locations illustrated on *Figure 3*.

The maximum depth of exploration was 35 feet bgs. Generally the soil profiles consisted of silty fine to coarse grained sand, ranging in thickness from 0.2 feet to 19.2 feet, overlying at least five feet of silty clay.

The silty clay unit is shallowest in the eastern portion of the Site at 8 feet bgs and deepest in the northwest portion of the Site at 27.1 feet bgs. Waste fill was not encountered in soil borings SB-3, SB-4 and SB-6A. However, the remainder of the soil borings and all of the test pits encountered fill containing typical municipal landfill waste and / or construction and demolition debris of varying thickness. Depth of waste fill encountered in the remainder of the soil borings and all the test pits ranged from approximately four feet bgs to 27 feet bgs, as illustrated in *Figure 4, Depth of Fill*.

The 11 test pits conducted to confirm the horizontal extent of waste disposed in the AOIs ranged in length from approximately 15 feet to 80 feet in length. The extent or edge of waste was only encountered in TP-29, located in the northeast portion of the Site, and TP-32 and TP-34, located along the eastern portion of the Site. While the extent of waste was not encountered on the southeast portion of the Site, it could be inferred to be located between SB-6 and SB-6A and between TP-23 and SB-4.

AOIs described in the USEPA approved SAP / QAPP were based on earlier non-intrusive investigations at the Site, including an electromagnetic geophysical survey conducted in July 2003. There did appear to be a correlation between the anomalies detected in the geophysical survey and the amount of metallic waste fill that was encountered in the test pits. However, based on the results of the soil borings and test pits, the limit of waste did not appear to be defined by the AOIs. Waste was encountered beyond the AOI boundaries and appears to extend beyond the Site perimeter fence on the north, west and southwest portion of the Site.

Due to this discrepancy, the CCR (and specifically the correspondence and notes regarding permitting and operation of the landfill which were incorporated into the Phase I ESA attached as an appendix to the CCR) was reviewed in detail to gain a better understanding of the landfill's operations and potential extent of impact. Several historical aerial photographs of the site were also reviewed to identify the extent of site disturbance. The extent of earth or site disturbance depicted in the April 1970 aerial photograph contained within the Phase I ESA is depicted in *Figure 4*.

Since the presence of waste was more extensive than what was expected per the SAP/QAPP and the limit of waste encountered extended beyond the Site perimeter fence, the remainder of the investigation was halted in order to evaluate the exact Site Property Boundary as well as determine the need for permits to conduct additional soil borings in the Michigan Avenue / US-12 right-of-way on the west portion of the Site and Wayne County utility easement on the south portion of the Site.

## 5.2 Hydrogeology

Three of the direct push borings that did not encounter fill were extended to the water table and were converted to monitoring wells, including MW-3, MW-4 and MW-6. Monitoring well construction logs are included in Appendix A and the locations of the monitoring wells are depicted on *Figure 3*. Additional monitoring wells were not installed due to the issues listed in Section 7.1 due to the extent of waste.

Since all proposed Site monitoring wells have yet to be installed and monitoring wells MW-3, MW-4 and MW-6 are in a linear formation, limited ground water flow direction information would be obtained by surveying of monitoring well top-of-casing at this point in time. Surveying of all monitoring wells should be conducted after the additional proposed monitoring wells have been installed.

Most of the soil borings and test pits encountering waste also encountered ground water within the waste, as depicted on *Figure 4*. Ground water impacts due to waste in contact with ground water is a concern and should be addressed with the additional monitoring wells to be installed on the north, west and southwest portions of the Site.

As noted previously, water seepage along the Site's western side slope was not identified during our soil boring, monitoring well installation and test pit excavation Site investigation activities. Also, while historical maps and aerial photographs also indicate a small body of standing or surface water within the southeastern quadrant of the site, surface water was not identified within the Site during our soil boring, monitoring well installation and test pit investigation activities. However, water seepage was identified several hundred feet north of the Site property boundary and proposed SW-1 sampling location during a subsequent investigation conducted on September 25, 2012. Observations from the perimeter visual investigation are summarized in the daily field report provided in *Appendix F, Surface Water Sample Identification Report*. (Do not know enough yet to state with any certainty that this seep is truly from the RACER property.....agree it should not be referenced as leachate (will revise field report). Sample not collected due to uncertainty from origins of seep.

### 5.3 Soil Sample Results

Eighteen (18) soil samples were collected to gain a more thorough understanding of the AOIs and, if necessary, evaluate remedial alternatives to address any issues identified. A summary of the detected compounds in soil samples collected from soil borings compared to Michigan Part 201 Generic Nonresidential Cleanup Criteria are presented in *Table 1*. Sample locations and results are depicted on *Figure 3*.

Laboratory analytical results from a soil sample collected at SB-6 from 1.5 to 2.5 feet bgs had detected concentrations of parameters that exceeded Ground water / Surface water Interface (GSI) criteria for Ethylbenzene and Total Xylenes (VOCs). Soil sample SB-7 from 10 to 11 feet bgs had parameters exceeding GSI criteria for Napthalene and Phenanthrene (SVOCs). All soil samples did not have any detection of pesticides or herbicides and all detections of PCBs were below Part 201 nonresidential cleanup criteria.

Various metals were detected in laboratory analysis from soil samples collected from soil borings. These included soil samples from soil borings SB-1 from 0 to 2 feet bgs, SB-2 from 0 to 2 feet bgs, SB-2 (DUP) from 0 to 2 feet bgs, SB-2 from 10 to 12 feet bgs SB-5 from 0 to 2 feet bgs, SB-5 from 25 to 27 feet bgs, SB-6 from 1.5 to 3 feet bgs, SB-6 (DUP) from 1.5 to 3 feet bgs, SB-6 from 6 to 7 feet bgs, SB-6A from 0 to 2 feet bgs, SB-7 from 0 to 2 feet bgs and SB-7 from 10 to 11 feet bgs. Laboratory analytical results from these soil samples exceeded Michigan Part 201 Drinking Water (DW) Protection and / or GSI Criteria for various metal parameters. Laboratory analytical results from waste sample SB-5 from 25 to 27 feet bgs also exceeded Michigan Part 201 Nonresidential Direct Contact Criteria for arsenic.

### 5.4 Ground Water Sample Results

Ground water samples were collected by MSG from Site monitoring wells MW-3, MW-4 and MW-6 in accordance with *USEPA Low-flow (Minimal Drawdown) Ground-Water Sampling Procedures*. Laboratory analytical results of ground water samples are listed in *Table 3, Summary of Ground Water Sample Laboratory Analytical Data*, and illustrated on *Figure 3*.

Review of laboratory analytical data indicates exceedances of Michigan Part 201 Nonresidential DW Criteria for ground water samples collected from monitoring well MW-3, MW-4 and MW-6 for iron and manganese. Laboratory analytical results from the ground water sample collected from monitoring well MW-3 also exceeded Michigan Part 201 Nonresidential GSI Criteria for arsenic.

Laboratory analytical results for ground water samples collected from MW-3, MW-4 and MW-6 for Pesticides and Herbicides were below detection limits and all detections of VOCs and SVOCs from these samples were below all Michigan Part 201 Nonresidential Criteria.

## 6.0 RECOMMENDATIONS

MSG recommends the following Phase 1B activities in order to continue with the investigation. The Phase 1B investigation activities, in terms of procedures (but not scope) would be completed in accordance with the SAP/QAPP prepared by CRA. The soil and ground water samples collected in this phase would be analyzed for VOCs, SVOCs and metals with the soil samples also analyzed for PCBs. The soil and ground water samples will not be analyzed for pesticides and herbicides based on the Phase 1A results. The Phase 1B proposed sampling locations are depicted in *Figure 5, Phase 1B Site Investigation*.

- Obtain Michigan Department of Transportation Right-of-Way (MDOT ROW) Permit for the installation of one soil boring and associated monitoring well on the west portion of the Site. The well, MW-5, would be installed outside the Site's perimeter fence as well as outside the property line.
- Obtain Wayne County Permit for the installation of one soil boring and associated monitoring well, MW-7, on the southwest portion of the Site within the Wayne County utility easement (or MDOT ROW permit if MW-7 location is within the MDOT ROW in lieu of the Wayne County ROW).
- Install one soil boring and associated monitoring well, MW-1, outside and to the north of the Site's perimeter fence, but within the property line.
- Obtain and review, if available, historical landfill engineering plans (referenced in documentation provided in the Phase I ESA) submitted to the Wayne County Health Department. Compare this information to the AOI limits depicted in the SAP/QAPP and the extent of earth disturbance depicted in *Figures 4 and 5*. Subsequently revise, if necessary, the extent of waste limits and compare it to the proposed MW-1, MW-5 and MW-7 locations (prior to the completion of the Phase 1B field effort).
- Survey and set property line stakes for the entire property boundary in order to continue the installation of soil borings and monitoring wells for the north, west and southwest portions of the Site.
- Install the soil borings and monitoring wells MW-1, MW-5 and MW-7 north, west and southwest of the Site outside of the Site perimeter fence beyond the extent of waste in order to obtain soil and ground water samples at these locations.
- Collect ground water samples from all six (6) Site monitoring wells at least one week after the next phase of monitoring well installation and development.
- Collect surface water samples from the reported seep location SW-1 identified in the SAP/QAPP or another representative location along the side slope of the Site's western property line and from surface water in the southeastern quadrant of the Site.
- Survey the top-of-casing of all Site monitoring wells in order to determine ground water flow direction and gradient across the Site.
- Prepare an executive style summary report associated with these activities including a second phase (i.e. Phase II) of recommendations (which have already been generally described in the 2013 Budget Request) that upon their implementation will support completion of the CA 725 EI report per the U.S. EPA Agreement Schedule.

TABLES

---

*THE MANNIK & SMITH GROUP, INC.*

**Table 1**  
**Summary of Soil / Waste Sample Results**  
 Van Buren Landfill Site  
 Michigan Avenue and Ecorse Road  
 Van Buren Township, Wayne County, Michigan

SOIL: Part 201 Generic Non-Residential Cleanup Criteria Revised March 25, 2011 Units: ug/Kg	Volatile Organic Compounds (VOCs)										Semivolatile Organic Compounds (SVOCs)									
	Acetone	Benzene	Chlorobenzene	Cyclohexane	Ethylbenzene	Isopropylbenzene	Methylcyclohexane	Toluene	Total Xylenes	Acenaphthene	Anthracene	Benzaldehyde	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzo(a)pyrene			
Statewide Default Background Levels (X)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Drinking Water Protection Criteria (XXI)	45,000	100	2,000	NA	1,500	2.6E+05	NA	16,000	5,600	8.8E+05	41,000	NA	NLL	NLL	NLL	NLL				
Groundwater/Surface Water Interface Protection Criteria (XII)	34,000	4,000 (X)	500	NA	360	3,200	NA	5,400	820	8,700	ID	NA	NLL	NLL	NLL	NLL				
Groundwater Contact Protection Criteria (XIII)	1.1E+8 (C)	220,000	2.6E+5 (C)	NA	1.4E+05 (C)	3.9E+05 (C)	NA	2.5E+05 (C)	1.5E+05 (C)	9.7E+05	41,000	NA	NLL	NLL	NLL	NLL				
Soil Vapor Intrusion Concentration(I) (Draft)	1.9E+05	50	220	642	99.8	250	NA	6,350	183	2.72E+05	2.24E+07	NA	ID	NLV	NLV	NLV				
Soil Volatilization to Indoor Air Inhalation (XXII)	1.1E+8 (C)	8,400	2.2E+5 (C)	NA	1.4E+05 (C)	3.9E+05 (C)	NA	2.5E+05 (C)	1.5E+05 (C)	3.5E+08	1.0E+09 (D)	NA	NLV	ID	NLV	NLV				
Infinite Source Volatile Soil Inhalation Criteria (XXIII)	1.6E+08	45,000	9.E+05	NA	2.4E+06	2.0E+06	NA	3.3E+06	5.4E+07	9.7E+07	1.6E+09	NA	NLV	ID	NLV	NLV				
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)	1.6E+08	99,000	1.E+06	NA	3.1E+06	2.0E+06	NA	3.6E+07	6.5E+07	9.7E+07	1.6E+09	NA	NLV	ID	NLV	NLV				
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)	2.0E+08	230,000	2.E+06	NA	6.5E+06	3.0E+06	NA	3.6E+07	1.3E+08	9.7E+07	1.6E+09	NA	NLV	ID	NLV	NLV				
Particulate Soil Inhalation Criteria (XXVI)	1.7E+11	4.7E+08	2.E+09	NA	1.3E+10	2.6E+09	NA	1.2E+10	1.3E+11	6.2E+09	2.9E+10	NA	ID	ID	3.5E+08	ID				
Non-Residential Direct Contact Criteria (XXVII)	7.30E+07	4.0E+5 (C)	2.6E+5 (C)	NA	1.4E+05 (C)	3.9E+5 (C)	NA	2.5E+05 (C)	1.5E+05 (C)	1.3E+08	7.3E+08	NA	80,000	80,000	7.0E+06	8.0E+05				
Soil Saturation Concentration Screening Levels (Csat) (XXX)	1.1E+8 (C)	400,000	2.6E+5 (C)	NA	1.4E+05	3.9E+05	NA	2.5E+05	1.5E+05	NA	NA	NA	NA	NA	NA	NA				
<b>BORING ID</b>	<b>DEPTH</b>	<b>SAMPLE ID</b>	<b>SAMPLE DATE</b>																	
SB-1	0'-2'	S-R2330004-071212-MF-006	7/12/2012	<170	<51	<51	41 J	67	<51	130	78	270	<320	<320	<3500	210 J	350	<320	280 J	210 J
SB-1	8'-9'	S-R2330004-071212-MF-007	7/12/2012	<170	<52	<52	<52	25 J	<52	<52	<52	65 J	<32	<32	<360	<32	18 J	<32	<32	<32
SB-2	0'-2'	S-R2330004-071212-MF-010	7/12/2012	<140	<41	<41	<41	<41	<41	<41	<41	<120	<30	<30	16 J	35	49	<30	34	32
SB-2	0'-2'	S-R2330004-071212-MF-011 (DUP)	7/12/2012	<110	<34	<34	<34	<34	<34	<34	<34	<100	<310	<310	480 J	<310	<310	<310	<310	<310
SB-2	10'-12'	S-R2330004-071212-MF-012	7/12/2012	<180	<55	<55	<55	<55	<55	<55	<55	<160	<32	<32	<350	<32	<32	<32	<32	<32
SB-3	0'-2'	S-R2330004-071112-MF-005	7/11/2012	<120	<37	<37	<37	<37	<37	<37	<37	<110	<32	<32	<350	<32	<32	<32	<32	<32
SB-4	0'-2'	S-R2330004-071212-MF-008	7/12/2012	<120	<37	<37	<37	<37	<37	<37	<37	<110	<31	<31	<340	17 J	31 J	<31	23 J	22 J
SB-4	10'-11'	S-R2330004-071212-MF-009	7/12/2012	<160	<47	<47	<47	<47	<47	<47	<47	<140	<33	<33	<360	<33	<33	<33	<33	<33
SB-5	0'-2'	S-R2330004-071112-MF-001	7/11/2012	<120	<37	<37	<37	<37	<37	280	34 J	220	<310	<310	<3400	230 J	700	<310	280 J	500
SB-5	25'-27'	S-R2330004-071112-MF-002	7/11/2012	<120	41	<37	<37	<37	<37	<37	22 J	47 J	32 J	50	<400	130	190	80	110	140
SB-6	1.5'-2.5'	S-R2330004-071212-MF-013	7/12/2012	<190	<56	<56	<56	420	50 J	<56	410	1,500	NS	NS	NS	NS	NS	NS	NS	NS
SB-6	1.5'-3'	S-R2330004-071212-MF-013	7/12/2012	NS	NS	NS	NS	NS	NS	NS	NS	NS	<330	360	<3600	1,200	1,700	470	980	1,300
SB-6	1.5'-3'	S-R2330004-071212-MF-017 (DUP)	7/12/2012	170 J	<56	<56	<56	190	<56	<56	350	620	<330	500	<3600	2,000	2,500	570	1,400	1,800
SB-6	6'-7'	S-R2330004-071212-MF-014	7/12/2012	<130	<39	<39	<39	<39	<39	<39	<39	<120	<33	<33	<370	<33	<33	<33	<33	<33
SB-6A	0'-2'	S-R2330004-071612-MF-015	7/16/2012	<260	<79	<79	<79	65 J	<79	<79	410	360	<310	<310	<3500	<310	<310	<310	<310	<310
SB-6A	2.5'-4.5'	S-R2330004-071612-MF-016	7/16/2012	<150	<44	<44	<44	<44	<44	<44	<44	<130	80	160	<390	250	270	60	180	210
SB-7	0'-2'	S-R2330004-071112-MF-003	7/11/2012	<130	<40	<40	<40	18 J	<40	<40	23 J	140	<320	180 J	<3500	620	940	290 J	520	750
SB-7	10'-11'	S-R2330004-071112-MF-004	7/11/2012	230 B	59	69	<48	200	41 J	<48	350	610	610	640	<3800	1,100	1,500	410	760	1,100

Notes:  
**Bold** indicates concentration above method detection limits.  
 Roman numerals indicate DEQ criterion number  
 Exceeds MDEQ Generic Drinking Water Protection Cleanup Criteria (XXI)  
 Exceeds MDEQ Groundwater Surface Water Interface Protection Cleanup Criteria (XII)  
 Exceeds MDEQ Generic Drinking Water Criteria and Groundwater Surface Water Interface Protection Cleanup Criteria  
 Exceeds MDEQ Generic Drinking Water Criteria and Direct Contact Cleanup Criteria  
 ND = Not Detected Above Method Detection Limits  
 NS = Not Sampled or Not Analyzed  
 J = Analyte detected below quantitation limit.  
 B = Analyte detected in the associated Method Blank above the Reporting Limit.

**Table 1**  
**Summary of Soil / Waste Sample Results**  
 Van Buren Landfill Site  
 Michigan Avenue and Ecorse Road  
 Van Buren Township, Wayne County, Michigan

SOIL: Part 201 Generic Non-Residential Cleanup Criteria Revised March 25, 2011 Units: ug/Kg				Semivolatile Organic Compounds (SVOCs)															
				Bis(2-ethylhexyl)phthalate	Butyl Benzyl Phthalate	Caprolactam	Carbazole	Chrysene	2,4-Dinitrotoluene	Dibenzo(a,h)anthracene	Dibenzofuran	Diethyl Phthalate	Di-n-butyl Phthalate	Di-n-octyl Phthalate	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Isothorone	2-Methylnaphthalene
Statewide Default Background Levels (X)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Drinking Water Protection Criteria (XXI)				NLL	3.1E+05 (C)	3.4E+05	39,000	NLL	640	NLL	ID	3.2E+05	7.6E+05 (C)	1.4E+08 (C)	7.3E+05	8.9E+05	NLL	62,000	1.7E+05
Groundwater/Surface Water Interface Protection Criteria (XII)				NLL	1.2E+05 (X)	NA	1,100	NLL	NA	NLL	1,700	2,200	11,000	ID	5,500	5,300	NLL	26,000 (X)	4,200
Groundwater Contact Protection Criteria (XIII)				NLV	3.1E+05 (C)	1.0E+09 (D)	8.2E+05	NLL	1.7E+05	NLL	ID	7.4E+05 (C)	7.6E+05 (C)	1.4E+08 (C)	7.3E+05	8.9E+05	NLL	2.4E+06 (C)	5.5E+06
Soil Vapor Intrusion Concentration(I) (Draft)				NLV	NLV	NLV	NLV	NA	NLV	NLV	330	NLV	NLV	NLV	NA	4.47E+05	NLV	NLV	4,710
Soil Volatilization to Indoor Air Inhalation (XXII)				NLV	NLV	NLV	NLV	ID	NLV	NLV	3,600,000	NLV	NLV	NLV	1.0E+09 (D)	1.0E+09 (D)	NLV	NLV	4.9E+06
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				NLV	NLV	NLV	NLV	ID	NLV	NLV	160,000	NLV	NLV	NLV	8.9E+08	1.5E+08	NLV	NLV	1.8E+06
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				NLV	NLV	NLV	NLV	ID	NLV	NLV	160,000	NLV	NLV	NLV	8.8E+08	1.5E+08	NLV	NLV	1.8E+06
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				NLV	NLV	NLV	NLV	ID	NLV	NLV	160,000	NLV	NLV	NLV	8.8E+08	1.5E+08	NLV	NLV	1.8E+06
Particulate Soil Inhalation Criteria (XXVI)				8.9E+08	2.1E+10	2.9E+08	7.8E+07	ID	2.0E+06	ID	2,900,000	1.5E+09	1.5E+09	1.4E+10	4.1E+09	4.1E+09	ID	8.2E+09	2.9E+08
Non-Residential Direct Contact Criteria (XXVII)				1.0E+07 (C)	3.1E+05 (C)	3.1E+08 (DD)	2.4E+06	8.0E+06	2.2E+05	8,000	ID	7.4E+05 (C)	7.6E+05 (C)	2.0E+06	1.3E+08	8.7E+07	80,000	2.4E+06 (C)	2.6E+07
Soil Saturation Concentration Screening Levels (Csat) (XXX)				1.0E+06	3.1E+05	NA	NA	NA	NA	NA	NA	7.4E+05	7.6E+05	1.4E+08	NA	NA	NA	2.4E+06	NA
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE																
SB-1	0'-2'	S-R2330004-071212-MF-006	7/12/2012	740 J	<1700	<3500	<1700	270 J	<1700	<320	<1700	<3500	200 J	<1700	410	<320	<320	<1700	<840
SB-1	8'-9'	S-R2330004-071212-MF-007	7/12/2012	47 J	<170	<360	<170	22 J	<170	<32	<170	32 J	32 J	<170	28 J	<32	<32	54 J	<86
SB-2	0'-2'	S-R2330004-071212-MF-010	7/12/2012	400	<160	35 J	<160	46	<160	<30	<160	<330	<330	<160	67	<30	<30	20 J	<80
SB-2	0'-2'	S-R2330004-071212-MF-011 (DUP)	7/12/2012	390 J	<1600	<3400	<1600	<310	<1600	<310	<1600	<3400	<3400	<1600	<310	<310	<310	<1600	<820
SB-2	10'-12'	S-R2330004-071212-MF-012	7/12/2012	94 J	<170	<350	<170	19 J	<170	<32	<170	<350	<350	<170	19 J	<32	<32	<170	<85
SB-3	0'-2'	S-R2330004-071112-MF-005	7/11/2012	48 J	<170	<350	<170	<32	<170	<32	<170	<350	<350	<170	<32	<32	<32	<170	<86
SB-4	0'-2'	S-R2330004-071212-MF-008	7/12/2012	<340	<160	<340	<160	29 J	<160	<31	<160	<340	<340	<160	54	<31	<31	<160	<82
SB-4	10'-11'	S-R2330004-071212-MF-009	7/12/2012	<360	<180	<360	<180	<33	<180	<33	<180	<360	<360	<180	21 J	<33	<33	<180	<88
SB-5	0'-2'	S-R2330004-071112-MF-001	7/11/2012	420 J	540 J	<3400	<1700	390	<1700	<310	<1700	<3400	<3400	<1700	230 J	<310	<310	<1700	<830
SB-5	25'-27'	S-R2330004-071112-MF-002	7/11/2012	130 J	70 J	<400	32 J	140	<190	21 J	48 J	<400	<400	<190	210	73	64	<190	40 J
SB-6	1.5'-2.5'	S-R2330004-071212-MF-013	7/12/2012	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-6	1.5'-3'	S-R2330004-071212-MF-013	7/12/2012	1,900 J	<1800	<3600	<1800	1,400	<1800	<330	<1800	<3600	<3600	<1800	2,700	<330	440	<1800	<880
SB-6	1.5'-3'	S-R2330004-071212-MF-017 (DUP)	7/12/2012	520 J	290 J	<3600	<1800	2,100	<1800	<330	<1800	<3600	<3600	<1800	3,900	<330	540	<1800	<880
SB-6	6'-7'	S-R2330004-071212-MF-014	7/12/2012	<370	<180	<370	<180	<33	<180	<33	<180	<370	<370	<180	18 J	<33	<33	<180	<89
SB-6A	0'-2'	S-R2330004-071612-MF-015	7/16/2012	270 J	350 J	<3500	<1700	<310	<1700	<310	<1700	<3500	<3500	<1700	180 J	<310	<310	<1700	<840
SB-6A	2.5'-4.5'	S-R2330004-071612-MF-016	7/16/2012	<390	<190	<390	<190	250	<190	21 J	64 J	<390	<390	<190	650	97	60	<190	<95
SB-7	0'-2'	S-R2330004-071112-MF-003	7/11/2012	7,400	590 J	<3500	<1700	610	<1700	<320	<1700	<3500	<3500	440 J	1,100	<320	220 J	<1700	<840
SB-7	10'-11'	S-R2330004-071112-MF-004	7/11/2012	2,300 J	750 J	<3800	<1900	1,100	440 J	<350	390 J	<3800	<3800	<1900	3,000	570	310 J	<1900	410 J

Notes:  
**Bold** indicates concentration above method detection limits.  
 Roman numerals indicate DEQ criterion number  
 Exceeds MDEQ Generic Drinking Water Protection Cleanup Criteria (XXI)  
 Exceeds MDEQ Groundwater Surface Water Interface Protection Cleanup Criteria (XII)  
 Exceeds U.S. EPA Regional Screening Level and MDEQ Generic Drinking Water Criteria and Groundwater Surface Water Interface Protection Cleanup Criteria  
 Exceeds U.S. EPA Regional Screening Level and MDEQ Generic Drinking Water Criteria and Direct Contact Cleanup Criteria  
 ND = Not Detected Above Method Detection Limits  
 NS = Not Sampled or Not Analyzed  
 J = Analyte detected below quantitation limit.  
 B = Analyte detected in the associated Method Blank above the Reporting Limit.

**Table 1**  
**Summary of Soil / Waste Sample Results**  
 Van Buren Landfill Site  
 Michigan Avenue and Ecorse Road  
 Van Buren Township, Wayne County, Michigan

SOIL: Part 201 Generic Non-Residential Cleanup Criteria Revised March 25, 2011 Units: ug/Kg				Semivolatile Organic Compounds (SVOCs)					Metals									
				4-Methylphenol	Naphthalene	Phenanthrene	Phenol	Pyrene	Aluminum (B)	Antimony	Arsenic (B)	Barium (B)	Beryllium	Cadmium (B)	Chromium	Cobalt	Copper (B)	Iron (B)
Statewide Default Background Levels (X)				NA	NA	NA	NA	NA	6.9E+06	NA	5,800	75,000	NA	1,200	18,000	68,000	32,000	1.2E+07
Drinking Water Protection Criteria (XXI)				NA	1.0E+05	1.6E+05	2.6E+05	4.8E+05	1.0E+03	4,300	4,600	1.3E+06	51,000	6,000	30,000	2,000	5.8E+06	6,000
Groundwater/Surface Water Interface Protection Criteria (XII)				NA	730	2,100	9,000	ID	NA	94,000 (X)	4,600	(G)	(G)	(G,X)	3,300	2,000	(G)	NA
Groundwater Contact Protection Criteria (XIII)				NA	2.1E+06	1.1E+06	1.2E+07 (C)	4.8E+05	1.0E+09 (D)	4.9E+07	NLV	1.0E+09 (D)	1.0E+09 (D)	2.3E+08	1.4E+08	4.8E+07	1.0E+09 (D)	1.0E+09 (D)
Soil Vapor Intrusion Concentration(I) (Draft)				NA	330	3,240	NLV	4.08E+07	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Soil Volatilization to Indoor Air Inhalation (XXII)				NA	4.7E+05	5.1E+06	NLV	1.0E+09 (D)	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				NA	3.5E+05	1.9E+05	NLV	7.8E+08	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				NA	3.5E+05	1.9E+05	NLV	7.8E+08	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				NA	3.5E+05	1.9E+05	NLV	7.8E+08	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV
Particulate Soil Inhalation Criteria (XXVI)				NA	8.8E+07	2.9E+06	1.8E+10	2.9E+07	ID	5.9E+06	9.1E+05	1.5E+08	5.9E+05	2.2E+06	2.4E+05	5.9E+06	5.9E+07	ID
Non-Residential Direct Contact Criteria (XXVII)				NA	5.2E+07	5.2E+06	1.2E+07 (C, DD)	8.4E+07	3.7E+08 (DD)	6.7E+05	37,000	1.3E+08	1.6E+06	2.1E+06	9.2E+06	9.0E+06	7.3E+07	5.8E+08
Soil Saturation Concentration Screening Levels (Csat) (XXX)				NA	NA	NA	1.2E+07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE	4-Methylphenol	Naphthalene	Phenanthrene	Phenol	Pyrene	Aluminum (B)	Antimony	Arsenic (B)	Barium (B)	Beryllium	Cadmium (B)	Chromium	Cobalt	Copper (B)	Iron (B)
SB-1	0'-2'	S-R2330004-071212-MF-006	7/12/2012	<1700	<320	<320	<1700	420	9,500,000	5,800	6,100	140,000	500 J	1,500	24,000	8,200	130,000	20,000,000
SB-1	8'-9'	S-R2330004-071212-MF-007	7/12/2012	<170	22 J	<32	<170	24 J	3,600,000	430	2,800	44,000	140 J	390	7,100	3,000	15,000	12,000,000
SB-2	0'-2'	S-R2330004-071212-MF-010	7/12/2012	<160	<30	44	<160	52	4,500,000	1,600	2,800	45,000	120 J	860	8,500	2,700	31,000	15,000,000
SB-2	0'-2'	S-R2330004-071212-MF-011 (DUP)	7/12/2012	<1600	<310	<310	<1600	<310	4,100,000	1,800	2,700	70,000	120 J	840	9,000	2,600	27,000	14,000,000
SB-2	10'-12'	S-R2330004-071212-MF-012	7/12/2012	<170	<32	<32	<170	19 J	3,300,000	550	3,000	22,000	120 J	250	5,800	2,400	13,000	9,800,000
SB-3	0'-2'	S-R2330004-071112-MF-005	7/11/2012	<170	<32	<32	<170	<32	2,700,000	150 J	2,100	8,000	97 J	88 J	5,200	1,900	5,200	5,400,000
SB-4	0'-2'	S-R2330004-071212-MF-008	7/12/2012	<160	<31	<31	<160	38	6,300,000	150 J	2,600	20,000	140 J	160	6,300	1,800	3,300	7,100,000
SB-4	10'-11'	S-R2330004-071212-MF-009	7/12/2012	<180	<33	<33	<180	<33	6,900,000	140 J	3,000	41,000	240	120 J	18,000	2,300	5,500	9,800,000
SB-5	0'-2'	S-R2330004-071112-MF-001	7/11/2012	<1700	<310	<310	<1700	170 J	6,900,000	2,900	5,600	92,000	350 J	1,600	17,000	5,500	120,000	20,000,000
SB-5	25'-27'	S-R2330004-071112-MF-002	7/11/2012	32 J	81	190	<190	180	5,400,000	5,300	8,200	430,000	160 J	5,600	22,000	5,300	150,000	53,000,000
SB-6	1.5'-2.5'	S-R2330004-071212-MF-013	7/12/2012	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-6	1.5'-3'	S-R2330004-071212-MF-013	7/12/2012	<1800	<330	1,700	<1800	1,900	9,100,000	5,900	7,300	290,000	200	5,000	38,000	5,600	240,000	50,000,000
SB-6	1.5'-3'	S-R2330004-071212-MF-017 (DUP)	7/12/2012	<1800	<330	2,100	<1800	2,900	9,000,000	4,300	6,600	360,000	180	5,100	58,000	5,600	180,000	42,000,000
SB-6	6'-7'	S-R2330004-071212-MF-014	7/12/2012	<180	<33	<33	<180	<33	3,700,000	170 J	1,900	15,000	130 J	110 J	7,900	2,300	6,100	6,100,000
SB-6A	0'-2'	S-R2330004-071612-MF-015	7/16/2012	<1700	<310	<310	<1700	<310	7,600,000	1,500	4,300	89,000	160 J	2,100	22,000	3,500	110,000	17,000,000
SB-6A	2.5'-4.5'	S-R2330004-071612-MF-016	7/16/2012	<190	49	550	<190	490	3,800,000	170 J	2,500	15,000	140 J	200	8,600	2,800	8,800	7,300,000
SB-7	0'-2'	S-R2330004-071112-MF-003	7/11/2012	<1700	<320	700	<1700	880	12,000,000	18,000	12,000	540,000	220	9,300	53,000	7,800	1,500,000	74,000,000
SB-7	10'-11'	S-R2330004-071112-MF-004	7/11/2012	540 J	1,000	2,700	290 J	2,100	5,900,000	8,800	9,800	200,000	150 J	7,100	40,000	7,000	160,000	51,000,000

Notes:  
**Bold** indicates concentration above method detection limits.  
 Roman numerals indicate DEQ criterion number  
 Exceeds MDEQ Generic Drinking Water Protection Cleanup Criteria (XXI)  
 Exceeds MDEQ Groundwater Surface Water Interface Protection Cleanup Criteria (XII)  
 Exceeds U.S. EPA Regional Screening Level and MDEQ Generic Drinking Water Criteria and Groundwater Surface Water Interface Protection Cleanup Criteria  
 Exceeds U.S. EPA Regional Screening Level and MDEQ Generic Drinking Water Criteria and Direct Contact Cleanup Criteria  
 ND = Not Detected Above Method Detection Limits  
 NS = Not Sampled or Not Analyzed  
 J = Analyte detected below quantitation limit.  
 B = Analyte detected in the associated Method Blank above the Reporting Limit.

**Table 1**  
**Summary of Soil / Waste Sample Results**  
 Van Buren Landfill Site  
 Michigan Avenue and Ecorse Road  
 Van Buren Township, Wayne County, Michigan

SOIL: Part 201 Generic Non-Residential Cleanup Criteria Revised March 25, 2011 Units: ug/Kg				Metals								PCBs			
				Lead (B)	Manganese (B)	Mercury (B,Z)	Nickel (B)	Selenium (B)	Silver (B)	Thallium (B)	Vanadium	Zinc (B)	Aroclor 1248	Aroclor 1254	Total PCBs
Statewide Default Background Levels (X)				21,000	4.4E+05	130	20,000	410	1,000	NA	NA	47,000	NA	NA	NA
Drinking Water Protection Criteria (XXI)				7.0E+05	1,000	1,700	1.0E+05	4,000	13,000	2,300	9.9E+05	5.0E+06	NA	NA	NLL
Groundwater/Surface Water Interface Protection Criteria (XII)				(G,X)	(G,X)	50 (M); 1.2	(G)	400	100 (M); 27	4,200 (X)	1.9E+05	(G)	NA	NA	NLL
Groundwater Contact Protection Criteria (XIII)				ID	1.8E+08	47,000	1.0E+09 (D)	7.8E+07	2.0E+08	1.5E+07	1.0E+09 (D)	1.0E+09 (D)	NA	NA	NLL
Soil Vapor Intrusion Concentration(I) (Draft)				NLV	NLV	NA	NLV	NLV	NLV	NLV	NLV	NLV	NA	NA	330
Soil Volatilization to Indoor Air Inhalation (XXII)				NLV	NLV	89,000	NLV	NLV	NLV	NLV	NLV	NLV	NA	NA	3.0E+06
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				NLV	NLV	62,000	NLV	NLV	NLV	NLV	NLV	NLV	NA	NA	2.4E+05
Finite Source Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				NLV	NLV	62,000	NLV	NLV	NLV	NLV	NLV	NLV	NA	NA	7.9E+06
Finite Source Source Volatile Soil Inhalation Criteria (2 m) (XXV)				NLV	NLV	62,000	NLV	NLV	NLV	NLV	NLV	NLV	NA	NA	7.9E+06
Particulate Soil Inhalation Criteria (XXVI)				4.4E+07	1.5E+06	8.8E+06	1.6E+07	5.9E+07	2.9E+06	5.9E+06	ID	ID	NA	NA	5.2E+06
Non-Residential Direct Contact Criteria (XXVII)				9.0E+05 (DD)	9.0E+07	5.8E+05	1.5E+08	9.6E+06	9.0E+06	1.3E+05	5.5E+06 (DD)	6.3E+08	NA	NA	(T)
Soil Saturation Concentration Screening Levels (Csat) (XXX)				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE	Lead (B)	Manganese (B)	Mercury (B,Z)	Nickel (B)	Selenium (B)	Silver (B)	Thallium (B)	Vanadium	Zinc (B)	Aroclor 1248	Aroclor 1254	Total PCBs
SB-1	0'-2'	S-R2330004-071212-MF-006	7/12/2012	190,000	220,000	72	19,000	580	500 J	160 J	18,000	280,000	340	840	1,180
SB-1	8'-9'	S-R2330004-071212-MF-007	7/12/2012	52,000	270,000	11 J	8,200	440	78 J	83 J	9,500	38,000	<42	75	75
SB-2	0'-2'	S-R2330004-071212-MF-010	7/12/2012	64,000	360,000	620	9,800	320	390 J	86 J	9,100	98,000	<40	140	140
SB-2	0'-2'	S-R2330004-071212-MF-011 (DUP)	7/12/2012	69,000	360,000	710	10,000	270 J	490 J	77 J	9,300	100,000	<39	160	160
SB-2	10'-12'	S-R2330004-071212-MF-012	7/12/2012	16,000	380,000	160	7,300	380	130 J	94 J	8,600	40,000	<42	<42	ND
SB-3	0'-2'	S-R2330004-071112-MF-005	7/11/2012	4,000	170,000	6.4 J	5,600	320	18 J	56 J	8,900	22,000	<42	<42	ND
SB-4	0'-2'	S-R2330004-071212-MF-008	7/12/2012	10,000	77,000	27	4,600	250 J	16 J	89 J	13,000	24,000	<41	150	150
SB-4	10'-11'	S-R2330004-071212-MF-009	7/12/2012	7,300	140,000	27	6,900	390	26 J	63 J	18,000	19,000	<42	<42	ND
SB-5	0'-2'	S-R2330004-071112-MF-001	7/11/2012	99,000	470,000	210	18,000	830	800 J	210 J	17,000	510,000	250	110	360
SB-5	25'-27'	S-R2330004-071112-MF-002	7/11/2012	2,600,000	570,000	30	26,000	270 J	410 J	94 J	15,000	730,000	<49	<49	ND
SB-6	1.5'-2.5'	S-R2330004-071212-MF-013	7/12/2012	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-6	1.5'-3'	S-R2330004-071212-MF-013	7/12/2012	540,000	500,000	240	90,000	570	1,300	100 J	15,000	990,000	620	750	1,370
SB-6	1.5'-3'	S-R2330004-071212-MF-017 (DUP)	7/12/2012	410,000	330,000	220	83,000	410	1,100 J	71 J	18,000	970,000	640	790	1,430
SB-6	6'-7'	S-R2330004-071212-MF-014	7/12/2012	5,000	140,000	15 J	6,800	430	12 J	67 J	10,000	16,000	<45	<45	ND
SB-6A	0'-2'	S-R2330004-071612-MF-015	7/16/2012	130,000	240,000	100	62,000	240 J	300 J	75 J	12,000	320,000	280	410	690
SB-6A	2.5'-4.5'	S-R2330004-071612-MF-016	7/16/2012	5,700	130,000	18 J	7,900	340 J	14 J	84 J	12,000	41,000	<47	<47	ND
SB-7	0'-2'	S-R2330004-071112-MF-003	7/11/2012	770,000	600,000	450	60,000	690	4,200 J	65 J	18,000	2,400,000	240	270	510
SB-7	10'-11'	S-R2330004-071112-MF-004	7/11/2012	960,000	820,000	190	31,000	340 J	950	56 J	12,000	800,000	390	280	ND

Notes:

**Bold** indicates concentration above method detection limits.

Roman numerals indicate DEQ criterion number

Exceeds MDEQ Generic Drinking Water Protection Cleanup Criteria (XXI)

Exceeds MDEQ Groundwater Surface Water Interface Protection Cleanup Criteria (XII)

Exceeds U.S. EPA Regional Screening Level and MDEQ Generic Drinking Water Criteria and Groundwater Surface Water Interface Protection Cleanup Criteria

Exceeds U.S. EPA Regional Screening Level and MDEQ Generic Drinking Water Criteria and Direct Contact Cleanup Criteria

ND = Not Detected Above Method Detection Limits

NS = Not Sampled or Not Analyzed

J = Analyte detected below quantitation limit.

B = Analyte detected in the associated Method Blank above the Reporting Limit.

**Table 2  
Summary of Waste Sample Analytical Results**

Van Buren Landfill Site  
Michigan Avenue and Ecorse Road  
Van Buren Township, Wayne County, Michigan

SOL: Part 201 Generic Non-Residential Cleanup Criteria Revised March 25, 2011 Units: ug/Kg				Volatile Organic Compounds (VOCs)					TCDDs & TCDFs (TEQ)
				Cyclohexane	Ethylbenzene	Styrene/Hexane	Toluene	Total Xylenes	
Statewide Default Background Levels (X)				NA	NA	NA	NA	NA	NA
Drinking Water Protection Criteria (XXI)				NA	1,500	2.4E+05	16,000	5,600	NLL
Groundwater/Surface Water Interface Protection Criteria (XII)				NA	360	3,200	5,400	820	NLL
Groundwater Contact Protection Criteria (XIII)				NA	1.4E+05 (C)	3.9E+05 (C)	2.5E+05 (C)	1.5E+05 (C)	NLL
Soil Volatilization to Indoor Air Inhalation (XXII)				NA	1.4E+05 (C)	3.9E+05 (C)	2.5E+05 (C)	1.5E+05 (C)	NLV
Infinite Source Volatile Soil Inhalation Criteria (XXIII)				NA	2.4E+06	2.0E+06	3.3E+06	5.4E+07	NLV
Finite Source Volatile Soil Inhalation Criteria (5 m) (XXIV)				NA	3.1E+06	2.0E+06	3.6E+07	6.5E+07	NLV
Finite Source Volatile Soil Inhalation Criteria (2 m) (XXV)				NA	6.5E+06	3.0E+06	3.6E+07	1.3E+08	NLV
Particulate Soil Inhalation Criteria (XXVI)				NA	1.3E+10	2.6E+09	1.2E+10	1.3E+11	59 (O)
Non-Residential Direct Contact Criteria (XXVII)				NA	1.4E+05 (C)	3.9E+05 (C)	2.5E+05 (C)	1.5E+05 (C)	0.99 (O)
Soil Saturation Concentration Screening Levels (Csat) (XXX)				NA	1.4E+05	3.9E+05	2.5E+05	1.5E+05	NA
BORING ID	DEPTH	SAMPLE ID	SAMPLE DATE						
TP-33	4'-5'	W-R2330004-072312-MF-001	7/23/2012	NS	NS	NS	NS	NS	1.120E-02
TP-12	5'-6'	W-R2330004-072412-MF-002	7/24/2012	NS	NS	NS	NS	NS	1.090E-02
TP-7	5'-6'	W-R2330004-072412-MF-003	7/24/2012	NS	NS	NS	NS	NS	1.630E-02
TP-21	1.5'-2.5'	W-R2330004-072512-MF-004	7/25/2012	NS	NS	NS	NS	NS	8.010E-04
TP-25	2'	W-R2330004-072512-MF-005	7/25/2012	NS	NS	NS	NS	NS	3.350E-05
TP-30	2'-3'	W-R2330004-072512-MF-006	7/25/2012	Fingerprint analysis indicates this sample is composed of mostly lighter-end hydrocarbons.					
TP-24	5'-8'	W-R2330004-072512-MF-007	7/25/2012	NS	NS	NS	NS	NS	1.490E-01
NA	NA	W-R2330004-072512-MF-008	7/25/2012	27,000	2,900,000	110,000	129,000	12,000,000	NS

Notes:  
**Bold** indicates concentration above method detection limits.  
 Roman numerals indicate DEQ criterion number  
 Exceeds MDEQ Generic Drinking Water Protection Cleanup Criteria (XXI)  
 Exceeds MDEQ Groundwater Surface Water Interface Protection Cleanup Criteria (XII)  
 Exceeds MDEQ Soil Vapor Intrusion Concentration Draft Criteria  
 Exceeds MDEQ Soil Vapor Intrusion Concentration Draft and MDEQ Groundwater Surface Water Interface Protection Cleanup Criteria (XII)  
 Exceeds MDEQ Soil Vapor Intrusion Concentration Draft, MDEQ Groundwater Surface Water Interface Protection (XII), and MDEQ Generic Drinking Water Protection Criteria  
 Exceeds MDEQ Direct Contact Cleanup Criteria (XXVII-XXX)  
 Exceeds MDEQ Generic Drinking Water Protection (XXI) and Groundwater Surface Water Interface Protection (XII) Cleanup Criteria  
 Exceeds MDEQ Generic Drinking Water Protection (XXI) and Soil Volatilization to Indoor Air Cleanup (XXII) Criteria  
 Exceeds MDEQ Generic Drinking Water Protection (XXI), Ground Water Surface Water Interface Protection (XII), and Soil Volatilization to Indoor Air (XXI) Cleanup Criteria  
 Exceeds Four or More Cleanup Criteria  
**Exceeds or Exceeds SCS Saturation Concentration Screening Level (XXX)**  
 NA = Data not available  
 ND = Not Detected Above Method Detection Limits  
 NS = Not Sampled or Not Analyzed  
 NR = Not Reported (Data missing from provided report).  
 J = Analyte detected below quantitation limit.  
 B = Analyte detected in the associated Method Blank above the Reporting Limit.  
 TEQ = Total Equivalence Quotient is the concentration of all polychlorinated and polybrominated dibenzodioxin and dibenzofuran isomers present expressed as an equivalent concentration of 2,3,7,8-tetrachlorodibenzo-p-dioxin based upon their relative potency.

**TABLE 3  
SUMMARY OF GROUND WATER SAMPLE LABORATORY ANALYTICAL DATA**

Van Buren Landfill Site  
Van Buren Township, Wayne County, Michigan

GROUND WATER: Part 201 Generic Non-Residential Cleanup Criteria Revised March 25, 2011 Units: ug/L	VOCs		SVOCs		Metals															
	Acetone	Benzene	4-Chloroaniline	Carbazole	Aluminum	Antimony	Arsenic	Barium	Chromium	Cobalt	Copper (B)	Iron (B)	Lead (B)	Manganese (B)	Nickel	Selenium (B)	Vanadium	Zinc		
Drinking Water Criteria (II)	2,100	5.0 (A)	NA	350	50 (V)	6.0 (A)	10 (A)	2,000 (A)	100 (A)	100	1,000 (E)	300 (E)	4.0 (L)	50 (E)	100 (A)	50 (A)	62	5,000 (E)		
Ground Water Surface Water Interface Criteria (GSI) (III)	1,700	200 (X)	NA	10 (M); 4.0	NA	130 (X)	10	(G)	11	100	(G)	NA	(G,X)	(G,X)	(G)	5.0	12	(G)		
GSI Final Acute Value (FAV)	30,000	1,900	ID	72	NA	2,300	680	(G)	(G)	740	(G)	NA	(G)	(G)	(G)	120	220	(G)		
Groundwater Volatilization to Indoor Air Inhalation Criteria (V)	1.0E+09 (D,S)	35,000	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV		
Groundwater Contact Criteria (VI)	3.1E+07	11,000	NA	7,400	6.40E+07	68,000	4,300	1.4E+07	4.60E+05	2.40E+06	7.4E+06	5.8E+07	ID	9.1E+06	7.4E+07	9.7E+05	9.7E+05	1.1E+08		
Non-Residential Groundwater Screening Levels (GW <sub>V</sub> SL <sub>(c,d)</sub> )	1.1E+07	100	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV		
Ground Water Concentration for Vapor Intrusion (GW <sub>V</sub> nonres) (Draft)	3.4E+07	92	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV		
Ground Water Sump Concentration for Vapor Intrusion (GWVI-SUMP-nonres)(Draft)	34,000	5.0 (d)	NA	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV		
Water Solubility (VII)	1.0E+09	1.75E+06	NA	7,480	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Flammability & Explosivity Screening Level (VIII)	1.5E+07	68,000	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID		
Acute Inhalation Screening Level (IX)	1.0E+09 (D)	67,000	NA	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID		
MONITORING WELL ID	SAMPLE ID	SAMPLE DATE	Acetone	Benzene	4-Chloroaniline	Carbazole	Aluminum	Antimony	Arsenic	Barium	Chromium	Cobalt	Copper (B)	Iron (B)	Lead (B)	Manganese (B)	Nickel	Selenium (B)	Vanadium	Zinc
MW-3	W-R2330004-090512-MJF-01	9/5/2012	<0.33	0.66 J	4.2 J	0.85 J	6.0 J	0.29 J	14	900	1.1 J	4.2 J	0.39 J	9,300	0.12 J	86	15 J	0.91 J	0.60 J	3.7 J
MW-4	W-R2330004-090512-MJF-02	9/5/2012	12 J	0.39 J	<1.1	<0.84	7.6 J	0.097 J	1.4 J	470	1.1 J	1.2 J	<0.12	14,000	<0.027	56	2.4 J	0.46 J	0.75 J	1.9 J
MW-4 (DUP)	W-R2330004-090512-MJF-03	9/5/2012	8.5 J	0.43 J	<1.1	<0.84	11 J	0.14 J	1.2 J	480	0.85 J	1.3 J	0.26 J	15,000	0.034 J	55	2.4 J	<0.41	0.73 J	2.4 J
MW-6	W-R2330004-090512-MJF-04	9/5/2012	11 J	4.9	<1.1	<0.84	17 J	0.16 J	9.4	580	1.0 J	2.4 J	0.31 J	26,000	0.057 J	500	3.8 J	0.051 J	1.2 J	1.5 J
--	Equipment Blank	9/5/2012	120	<0.18	<1.1	<0.84	2.9 J	<0.039	<0.72	0.59 J	0.14 J	0.26 J	0.70 J	24 J	0.27 J	1.5 J	0.42 J	0.48 J	<0.30	15 J

Notes:

**Bold** indicates concentration above method detection limits.

Roman numerals indicate DEQ criterion number

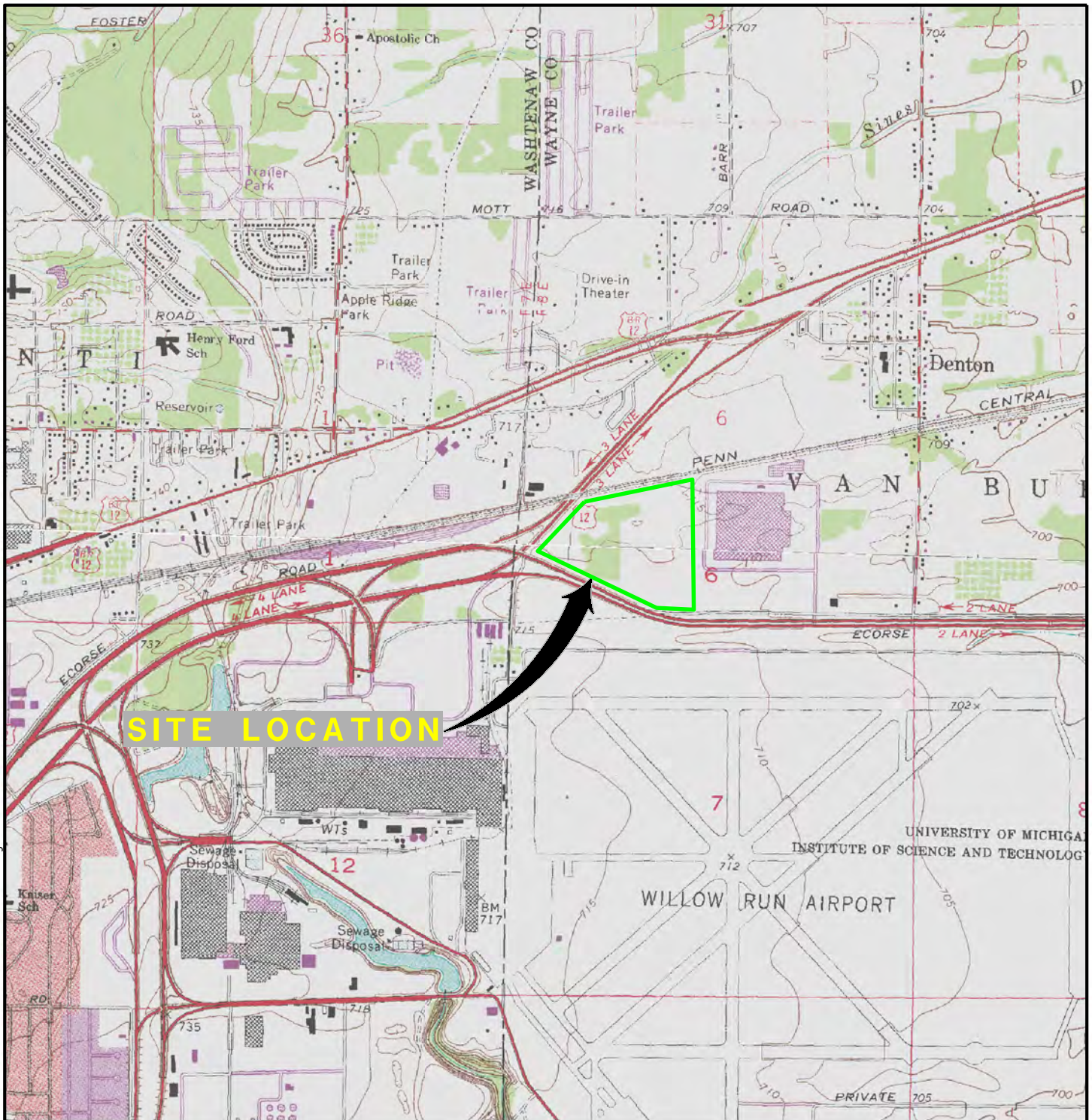
Exceeds Generic Drinking Water Cleanup Criteria (I)

Exceeds Generic Drinking Water (I) and Groundwater Surface Water Interface (III) Cleanup Criteria

FIGURES

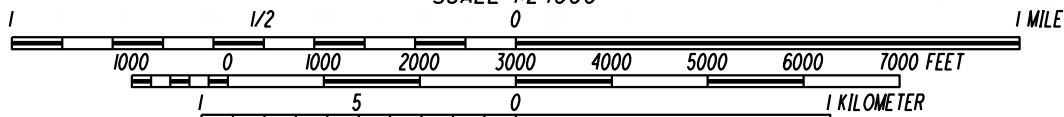
---

*THE MANNIK & SMITH GROUP, INC.*

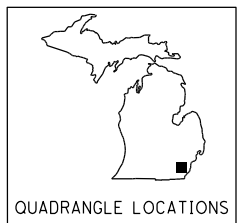


**SITE LOCATION**

SCALE 1:24000



CONTOUR INTERVAL 10 FEET  
NATIONAL GEODETIC VERTICAL DATUM OF 1929



NOTE: MAP ADAPTED FROM USGS TOPOGRAPHIC QUADRANGLES, (MICHIGAN 7.5 MINUTE SERIES) DENTON, MICHIGAN (PHOTOGRAPHS TAKEN 1952 AND REVISE FROM PHOTOGRAPHS TAKEN 1966 AND FIELD CHECKED 1969, REVISED AGAIN IN 1982) AND YPSILANTI EAST, MICHIGAN, (PHOTOGRAPHS TAKEN 1952, AND REVISIONS TAKEN FROM PHOTOGRAPHS TAKEN 1966, AND FIELD CHECKED 1967, REVISED AGAIN IN 1982)

**Mannik <sup>The</sup> & Smith**  
Group, Inc.

2365 Haggerty Road South Canton, Michigan 48188  
Telephone: (734) 397-3100

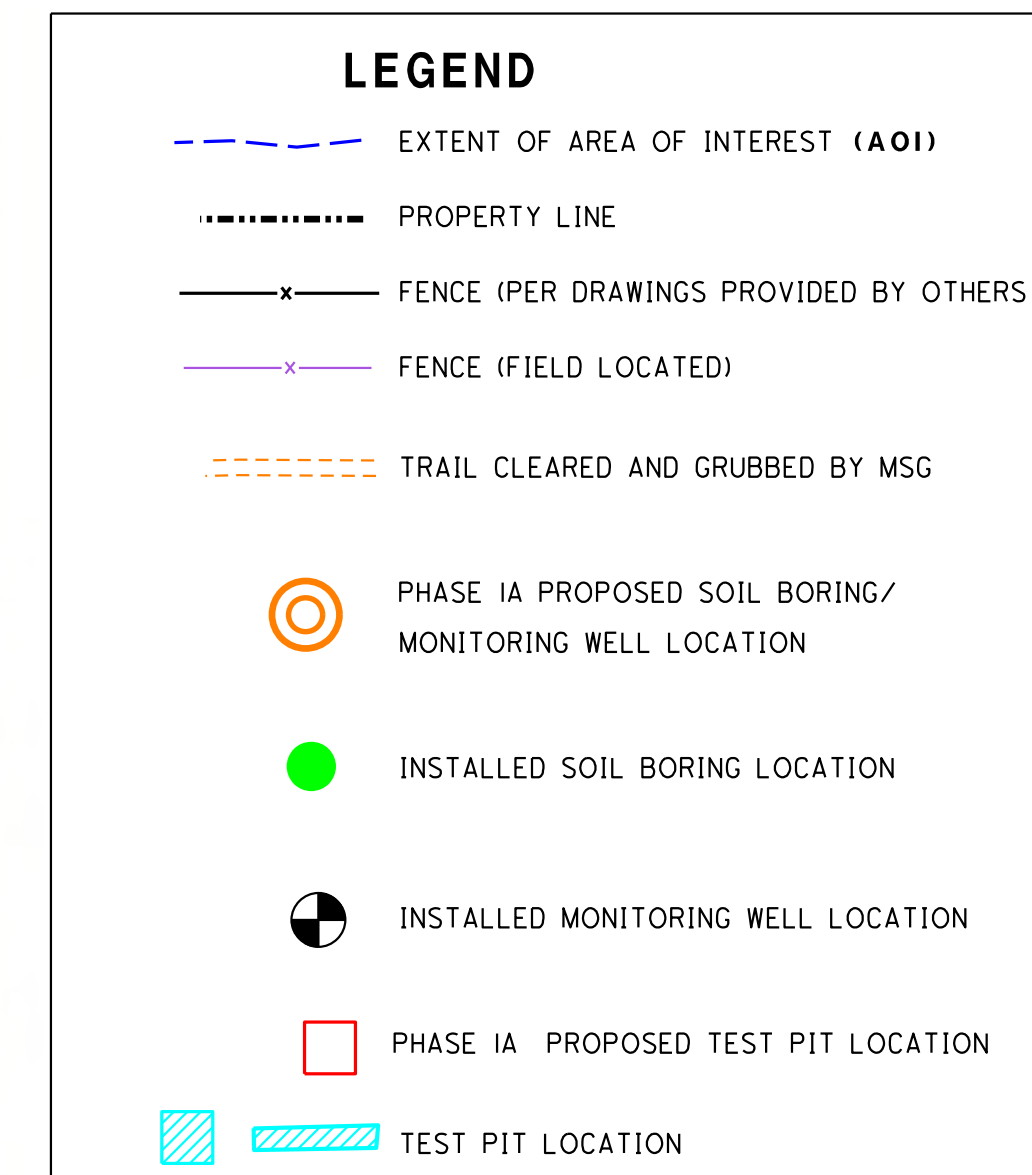
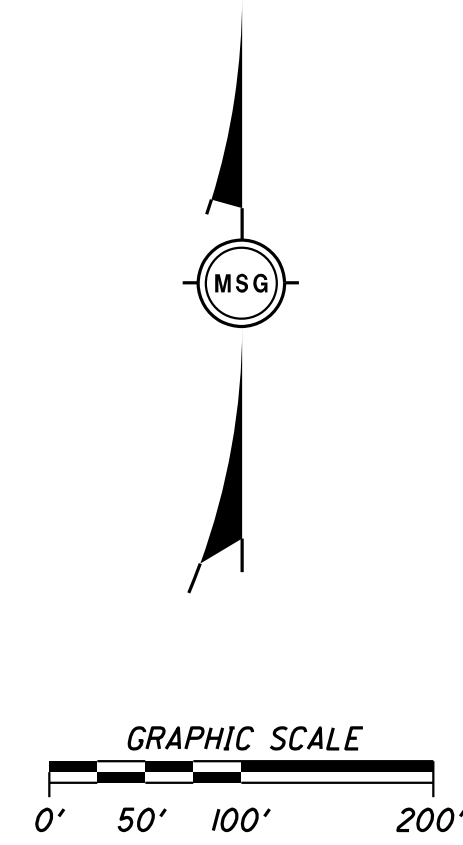
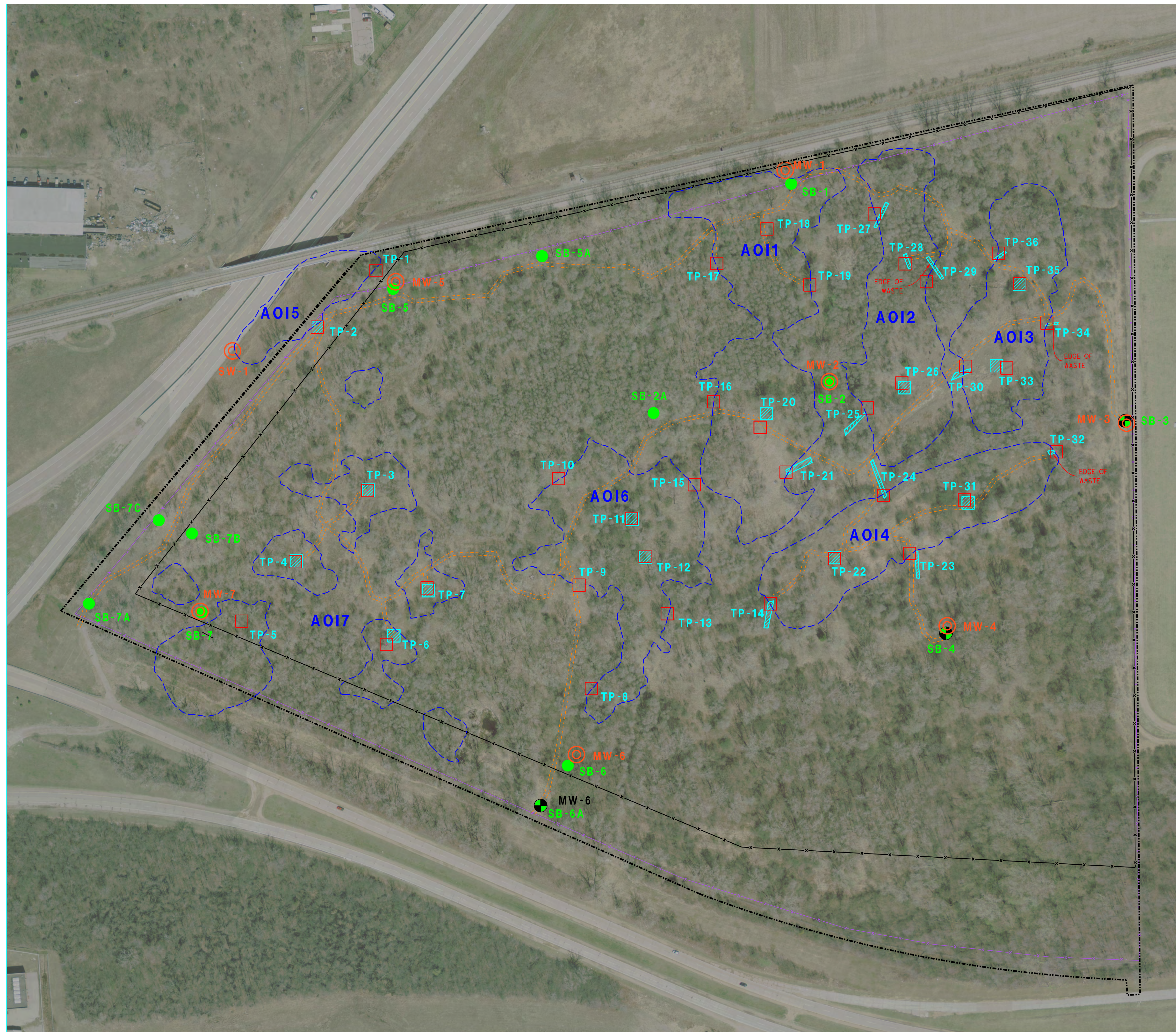
**FIGURE I**  
**SITE LOCATION MAP**

VAN BUREN LANDFILL SITE  
MICHIGAN AVE. & ECORSE RD.  
VAN BUREN TOWNSHIP, WAYNE COUNTY, MICHIGAN

DATE 11/12	DRAWN BY HMW	DESIGNED BY MJF	PROJECT NO. R2330004
---------------	-----------------	--------------------	-------------------------

11/30/2012

W:\Projects\Projects P-T\AR2330004\CAD\BASE\AR2330004-FIGURE 2- SITE\_SCHEMATIC.dgn



- NOTES:
- AERIAL PHOTO FROM SEMCOG DATED 2010.
  - AREAS OF INTEREST (AOIs), PHASE IA PROPOSED SOIL BORINGS, MONITORING WELLS AND APPROXIMATE FENCE LOCATIONS FROM SAMPLING AND ANALYSIS PLAN AND QUALITY ASSURANCE PROJECT PLAN - REVISION 1 (CONESTOGA-ROVERS & ASSOCIATES, JUNE 2012).
  - PERIMETER FENCE, SOIL BORING, MONITORING WELL AND TEST PIT LOCATIONS AND CLEARED AND GRUBBED TRAIL SURVEYED JULY 2012 BY MSG USING SUBDECIMETER ACCURACY GLOBAL POSITIONING SYSTEM (GPS) UNIT.
  - BASED ON FEBRUARY 5TH, 1968 NOTES, PROPOSED CELLS 1, 2 & 3 DIMENSIONS WERE 800' (L) BY 100' (W) BY 16' (D).

NO.	DATE	BY	DESCRIPTION
1			
2			

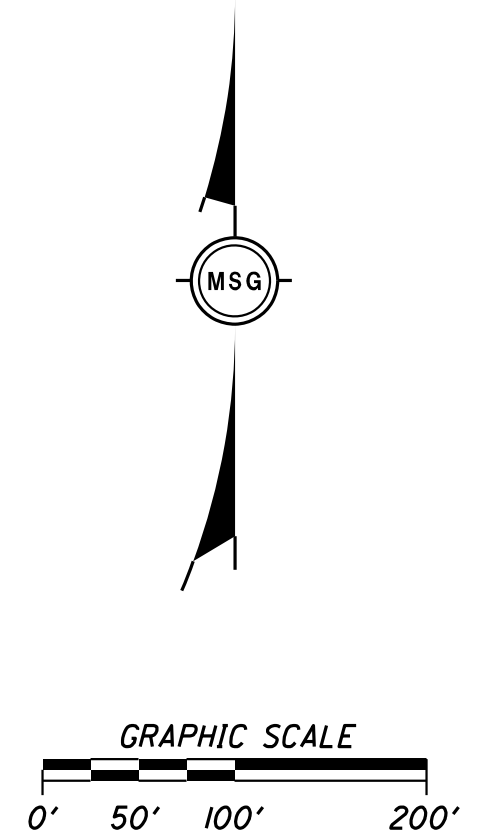
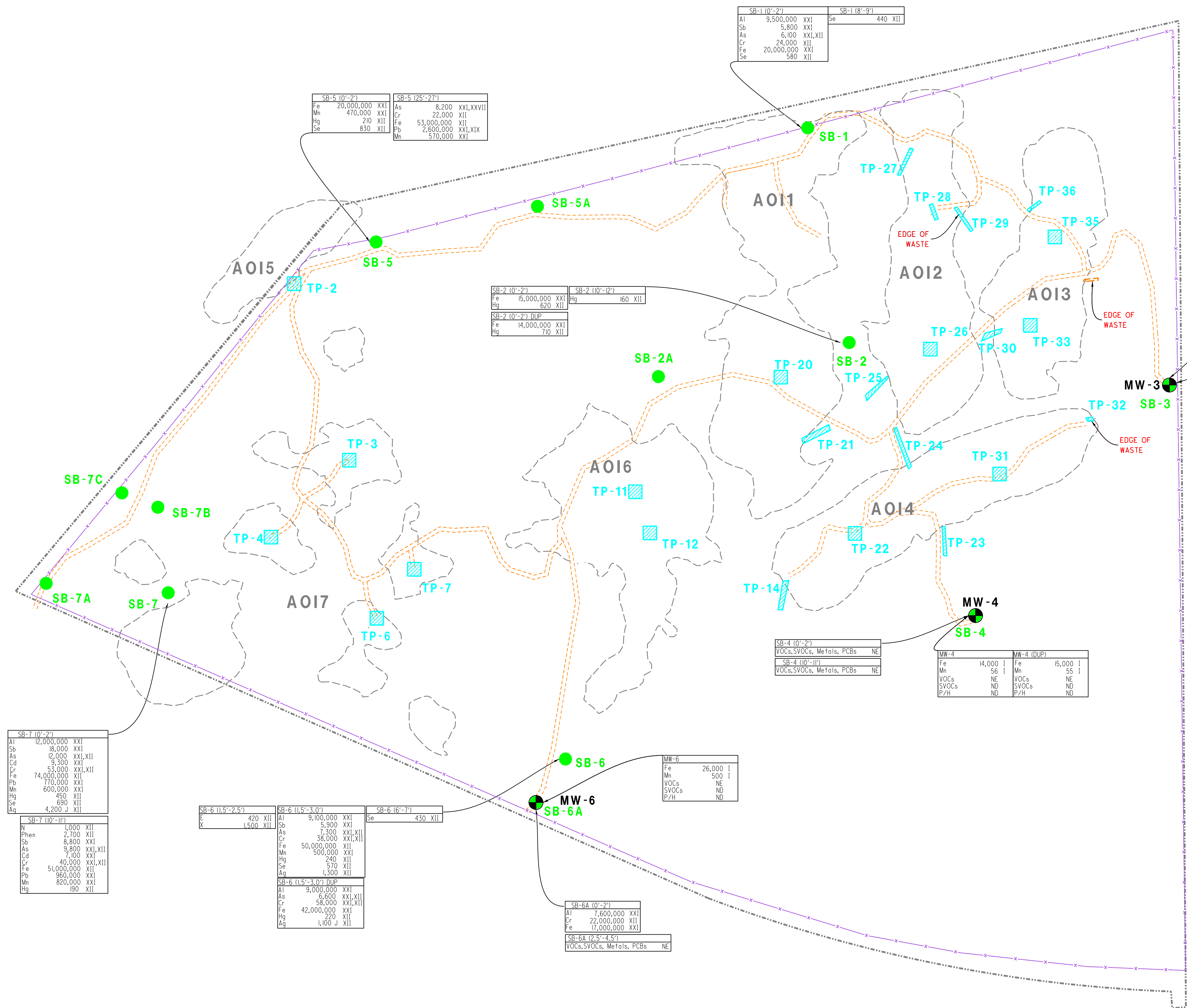
**Mannik & Smith**  
Group, Inc.  
Civil Engineering, Surveying and Environmental Consulting

**PAGER**  
Publishing and Consulting  
Environmental Response Trust

**FIGURE 2**  
**SITE SCHEMATIC**

VAN BUREN LANDFILL SITE (11070)  
MICHIGAN AVE. & ECORSE RD.  
VAN BUREN TWP., WAYNE CO. MICHIGAN

2 / 5



**LEGEND**

- EXTENT OF AREA OF INTEREST (AOI)
- PROPERTY LINE
- FENCE
- TRAIL CLEARED AND GRUBBED BY MSG
- SOIL BORING LOCATION
- ⊙ MONITORING WELL LOCATION
- ▣ TEST PIT LOCATION

**SOIL/WASTE SAMPLE LEGEND**

CHEMICAL ABBREVIATIONS - UNITS ARE MICROGRAMS PER KILOGRAM (ug/kg)

- E = Ethylbenzene
- F = Total Xylenes
- N = Naphthalene
- Phen = Phenanthrene
- Al = Aluminum
- Sb = Antimony
- As = Arsenic
- Cd = Cadmium
- Cr = Chromium
- Fe = Iron
- Pb = Lead
- Mn = Manganese
- Hg = Mercury
- Se = Selenium
- Ag = Silver
- NE = NONE EXCEEDING

EXCEEDANCE OF APPLICABLE PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS (REVISED MARCH 25, 2011)

- XXI EXCEEDS MDEQ DRINKING WATER CLEANUP CRITERIA
- XII EXCEEDS MDEQ GROUNDWATER SURFACE WATER INTERFACE PROTECTION CRITERIA
- XXVII EXCEEDS MDEQ DIRECT CONTACT CRITERIA

**GROUND WATER SAMPLE LEGEND**

CHEMICAL ABBREVIATIONS - UNITS ARE MICROGRAMS PER LITER (ug/L)

- As = Arsenic
- Fe = Iron
- Mn = Manganese
- VOCs = Volatile Organic Compounds
- SVOCs = Semi-Volatile Organic Compounds
- P/H = Pesticides and Herbicides
- NE = NONE EXCEEDING
- ND = NOT DETECTED

EXCEEDANCE OF APPLICABLE NONRESIDENTIAL PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS (REVISED MARCH 25, 2011)

- I EXCEEDS MDEQ DRINKING WATER CRITERIA
- III EXCEEDS MDEQ GROUNDWATER SURFACE WATER INTERFACE CRITERIA

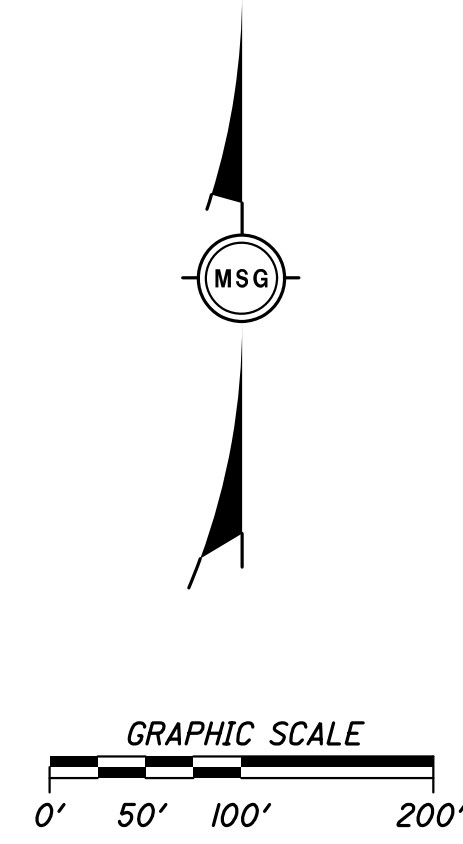
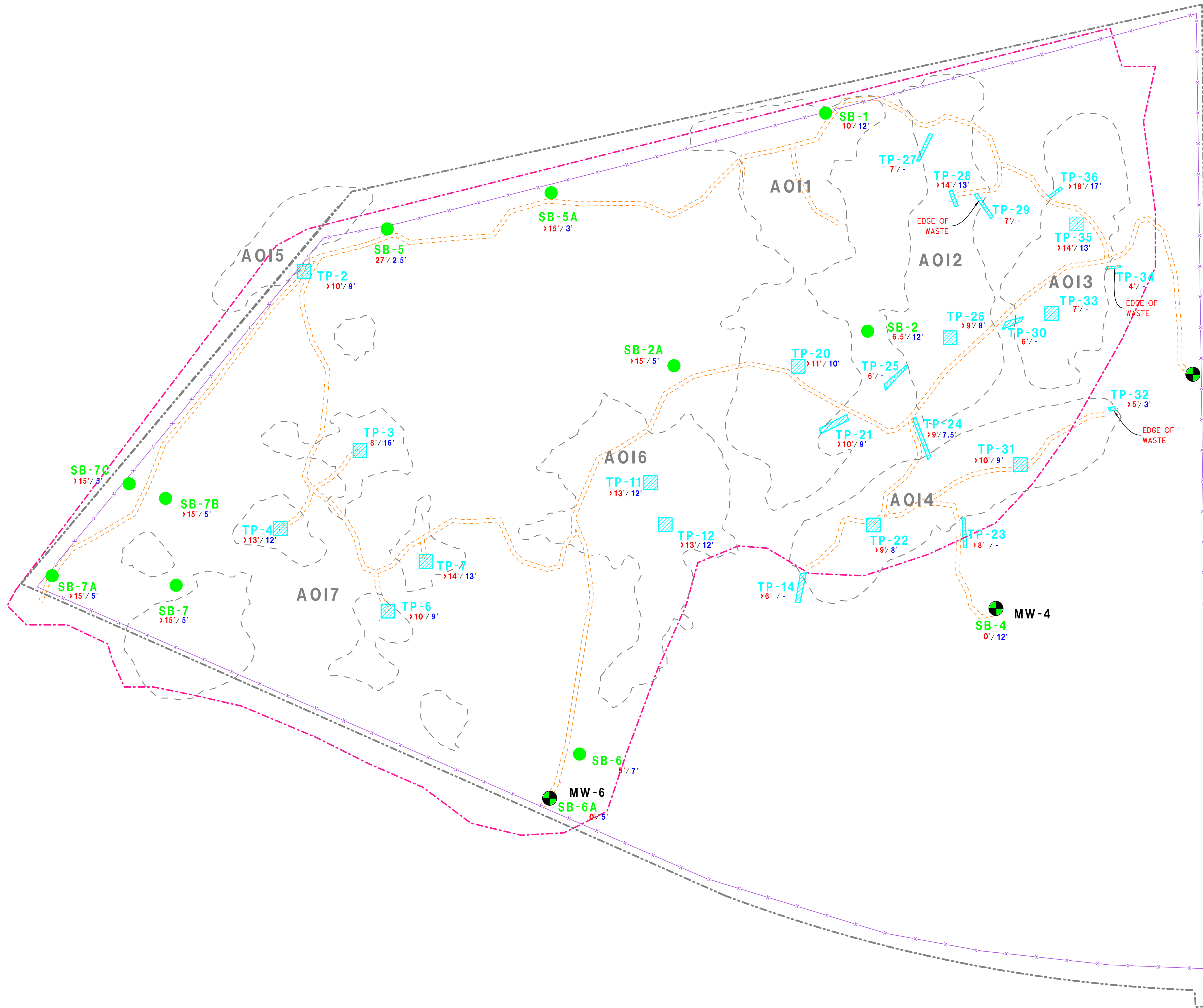
NOTE:  
"EDGE OF WASTE" IDENTIFIED IN TP-29, TP-32, AND TP-34.

**FIGURE 3 SOIL/WASTE & GROUND WATER SAMPLE LABORATORY ANALYTICAL RESULTS MAP**

VAN BUREN LANDFILL SITE (11070)  
MICHIGAN AVE. & ECORSE RD.  
VAN BUREN TWP., WAYNE CO. MICHIGAN

NO.	DATE	BY	DESCRIPTION
3			

**Mannik & Smith**  
Group, Inc.  
Civil Engineering, Surveying and Environmental Consulting



**LEGEND**

- - - - - EXTENT OF AREA OF INTEREST (AOI)
- PROPERTY LINE
- x—x—x— FENCE
- - - - - TRAIL CLEARED AND GRUBBED BY MSG
- - - - - EXTENT OF EARTH DISTURBANCE BASED ON APRIL 26, 1970 AERIAL PHOTO
- SOIL BORING LOCATION  
10' / 12' DEPTH OF FILL / DEPTH TO WATER (FT. BELOW GROUND SURFACE)
- ⊗ MONITORING WELL LOCATION
- ▭ TEST PIT LOCATION

NOTE: SEE SOIL BORING LOGS AND TEST PIT LOGS IN APPENDIX A AND APPENDIX C, RESPECTIVELY FOR WRITTEN DESCRIPTIONS OF EXTENT OF WASTE.

4	5	<p><b>FIGURE 4</b> <b>EXTENT OF FILL</b></p>	<p>VAN BUREN LANDFILL SITE (11070) MICHIGAN AVE. &amp; ECORSE RD. VAN BUREN TWP., WAYNE CO. MICHIGAN</p>		<p>Providing a Comprehensive Environmental Response Trust</p>	<p><b>Mannik &amp; Smith</b> Group, Inc. Civil Engineering, Surveying and Environmental Consulting</p>	NO.	DATE	BY	DESCRIPTION



**APPENDIX A**

---

SOIL BORING AND MONITORING WELL CONSTRUCTION LOGS  
*THE MANNIK & SMITH GROUP, INC.*

# EXHIBIT A, GENERAL SOIL SAMPLE NOTES

Unless noted, all terms utilized herein refer to the Standard Definitions presented in ASTM D 653.

Standard Penetration Test (ASTM D 1586) - A 2.0" outside-diameter, 1-3/8" inside-diameter split barrel sampler is driven into undisturbed soil by means of a 140-pound weight falling freely through a vertical distance of 30 inches. The sampler is normally driven three successive 6-inch increments. The total number of blows required for the final 12 inches of penetration is the Standard Penetration Resistance (N).

COHESIVE SOILS			COHESIONLESS SOILS	
Consistency	Approximate Range of (N)	Unconfined Compressive Strength (psf)	Classification	Approximate Range of (N)
Very Soft	0-2	Below 500	Very Loose	0-4
Soft	3-4	500-1,000	Loose	5-10
Medium	5-8	1,000-2,000	Medium Compact	11-30
Stiff	9-15	2,000-4,000	Compact	31-50
Very Stiff	16-30	4,000-8,000	Very Compact	Over 50
Hard	31-50	8,000-16,000		
Very Hard	Over 50	Over 16,000		

\*If Clay content is sufficient so that clay dominates soil properties, clay becomes the principal noun with the other major soil constituent as modifier: i.e., silty clay. Other minor soil constituents may be included in accordance with the classification breakdown for cohesionless soils: i.e., silty clay, trace of Sand, little gravel.

## CLASSIFICATION

The major soil constituent is the principal noun, i.e. sand, silt, gravel. The second major soil constituent and other minor constituents are reported as follows:

Second Major Constituent (percent by weight)	Minor constituents (percent by weight)
Trace - 1% to 11%	Trace - 1% to 11%
Adjective - 12% to 35% (clayey, silty, etc.)	Little - 12% to 22%
And - Over 35%	Some - 23% to 33%

## PARTICLE SIZES

Boulders	- Greater than 12 inches (305 mm)
Cobbles	- 3 inches (76.2 mm) to 12 inches (305 mm)
Gravel: Coarse	- ¾ inches (19.05 mm) to 3 inches (76.2 mm)
Fine	- No. 4 - 3/16 inches (4.75 mm) to ¾ inches (19.05 mm)
Sand: Coarse	- No. 10 (2.00 mm) to No. 4 (4.75 mm)
Medium	- No. 40 (0.425 mm) to No. 10 (2.00 mm)
Fine	- No. 200 (0.074 mm) to No. 40 (0.425 mm)
Silt	- 0.005 mm to 0.074 mm
Clay	- Less than 0.005 mm

If sand particle size is greater than 11% by weight of the total sample weight, the adjective (i.e. fine, medium or coarse) is added to the soil description for the sand portion of the sample, provided sand is the major or second major constituent.

## SAMPLE DESIGNATIONS

AS	Auger Sample - Directly from auger flight	ST	Shelby Tube Sample - 3 inch diameter unless otherwise noted
BS	Miscellaneous Samples - Bottle or Bag	PS	Piston Sample - 3 inch diameter unless otherwise noted
MC	Macro-Core Sample - with 2 inch diameter, 4 foot long polyethylene liner	RC	Rock Core - NX core unless otherwise noted
LB	Large-Bore (micro-core) Sample - with 1 inch diameter, 2 foot long polyethylene liner	CS	CME Continuous Sampler - 5 feet long, 3 inch diameter unless otherwise noted
SS	Split Spoon Sample, 1-inch or 2-inch outer-diameter	HA	Hand Auger
LS	Split Spoon Sample (SS) with 3-inch long liner insert	DP	Drive Point
		CM	Coring Machine










CLIENT RACER Trust

PROJECT NAME Van Buren Landfill



PROJECT NUMBER R2330004

PROJECT LOCATION Michigan and Ecorse, Van Buren Township, MI





**LITHOLOGIC SYMBOLS**  
*(Unified Soil Classification System)*

-  CH-MH: Silty CLAY-High Plasticity
-  CL-ML: Silty CLAY-Low Plasticity
-  FILL: (FILL)
-  MH: SILT (Elastic)
-  MLS: Sandy SILT
-  SM: Silty SAND
-  SP-SM: Poorly-graded Silty SAND
-  SW: Well-graded SAND
-  SW-SM: Well-graded Silty SAND

**SAMPLER SYMBOLS**

-  Macro-core Sample
-  Macro-core Sampler-Discrete Sample

**WELL CONSTRUCTION SYMBOLS**

-  Bentonite Seal: 1 pipe group, 1 pipe
-  Cement Seal: 1 pipe group, 1 pipe
-  Filter Pack: 1 pipe group, 1 pipe
-  Well Screen: 1 pipe group, 1 pipe

**ABBREVIATIONS**

- |                                      |  |
|--------------------------------------|--|
| LL - LIQUID LIMIT (%)                | TV - TORVANE                                 |
| PI - PLASTIC INDEX (%)               | PID - PHOTOIONIZATION DETECTOR               |
| W - MOISTURE CONTENT (%)             | UC - UNCONFINED COMPRESSION                  |
| DD - DRY DENSITY (PCF)               | ppm - PARTS PER MILLION                      |
| NP - NON PLASTIC                     |  |
| -200 - PERCENT PASSING NO. 200 SIEVE | ∇ Water Level at Time                        |
| PP - POCKET PENETROMETER (TSF)       | Drilling as measured in temporary well       |
|                                      | ▼ Water Level as measured in monitoring well |


<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/12/12	<b>COMPLETED</b> 7/12/12
<b>DRILLING CONTRACTOR</b> MSG	<b>BORING DIAMETER:</b> 2"
<b>DRILLING METHOD</b> MacroCore	<b>SURVEY COORDINATES:</b> N/A
<b>LOGGED BY</b> MJF	<b>CHECKED BY</b> FJB
<b>NOTES</b> Soil boring backfilled with medium bentonite chips.	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> 12 FEET BGS
	<b>WATER LEVEL AFTER DRILLING:</b> N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0							
1.2				Loose, tan, fine to coarse grained SAND; trace fine grained angular Gravel (fill); moist.			SB-1 (0'-2') Soil Sample Collected @ 0815 (Sample ID: S-R2330004-071212-MF-006)
2.5	MC 1	2.5		Loose, dark orange/black FILL (including plastic, brick & glass fragments); little to some fine to coarse grained Sand; trace fine grained angular Gravel; dry to moist.	0.0		
5							SB-1 (8'-9') Soil Sample Collected @ 0915 (Sample ID: S-R2330004-071212-MF-007)
2.7	MC 2	2.7			0.0		
10							
4.3	MC 3	4.3		Loose, gray, fine to medium grained SAND; trace coarse grained rounded Sand; dry.  -Becomes wet at 12.0 feet bgs  -1.5 inch Sandy CLAY seam (at 13.2 feet)  Grading to medium to coarse grained rounded SAND.	0.0		
15							
17.3	MC-DS 4	5.0		Loose gray fine to medium grained SAND; wet (at 17.3').	1.8		
20							

(Continued Next Page)

**CLIENT** RACER Trust **PROJECT NAME** Van Buren Landfill  
**PROJECT NUMBER** R2330004 **PROJECT LOCATION** Michigan and Ecorse, Van Buren Township, MI  
**DATE STARTED** 7/12/12 **COMPLETED** 7/12/12 **BORING DIAMETER:** 2"  
**DRILLING CONTRACTOR** MSG **SURVEY COORDINATES:** N/A  
**DRILLING METHOD** MacroCore **TOP OF CASING ELEV.:** N/A  
**LOGGED BY** MJF **CHECKED BY** FJB **GROUND WATER ENCOUNTERED DURING DRILLING:** 12 FEET BGS  
**NOTES** Soil boring backfilled with medium bentonite chips. **WATER LEVEL AFTER DRILLING:** N/A

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:50 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ




DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
20							
	MC-DS 5	4.3		Soft, dark gray Silty CLAY; trace Silt partings; moist.	0.5		
25				Bottom of borehole at 25.0 feet.			

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/12/12</u> <b>COMPLETED</b> <u>7/12/12</u>	<b>BORING DIAMETER:</b> <u>2"</u>
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>MacroCore</u>	<b>TOP OF CASING ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> <u>12 FEET BGS</u>
<b>NOTES</b> <u>Soil boring backfilled with medium bentonite chips.</u>	<b>WATER LEVEL AFTER DRILLING:</b> <u>N/A</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0							
0 - 5	MC 1	5.0		Loose, tan, Silty fine to coarse grained rounded SAND; little to some fill (including glass, plastic, & metal fragments); dry.	0	X	SB-2 (0'-2') Soil Sample Collected @ 1415 (Sample ID: S-R2330004-071212-MF-010) SB-2 (0'-2') Soil Sample Collected @ 1415 (Sample ID: S-R2330004-071212-MF-011) -for Matrix Spike
5 - 6.5	MC 2	5.0		Loose, tan, fine to coarse grained rounded SAND; trace fine grained rounded Gravel; moist.	6.2		
6.5 - 12.0	MC 3	5.0		-wet at 12.0 feet bgs	10.9	X	SB-2 (10'-12') Soil Sample Collected @ 1430 (Sample ID: S-R2330004-071212-MF-012)
12.0 - 18.0	MC-DS 1	4.0		Compact, gray, Silty fine grained SAND; trace medium to coarse grained rounded Sand; wet.	11.9		
18.0 - 20							

(Continued Next Page)

**CLIENT** RACER Trust **PROJECT NAME** Van Buren Landfill  
**PROJECT NUMBER** R2330004 **PROJECT LOCATION** Michigan and Ecorse, Van Buren Township, MI  
**DATE STARTED** 7/12/12 **COMPLETED** 7/12/12 **BORING DIAMETER:** 2"  
**DRILLING CONTRACTOR** MSG **SURVEY COORDINATES:** N/A  
**DRILLING METHOD** MacroCore **TOP OF CASING ELEV.:** N/A  
**LOGGED BY** MJF **CHECKED BY** FJB **GROUND WATER ENCOUNTERED DURING DRILLING:** 12 FEET BGS  
**NOTES** Soil boring backfilled with medium bentonite chips. **WATER LEVEL AFTER DRILLING:** N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
20							
	MC-DS 2	5.0		Compact, gray, Silty fine grained SAND; trace medium to coarse grained rounded Sand; wet. (continued)			
				22.0			
				Soft, dark gray Silty CLAY; trace Silt partings; moist.	11.9		
25							
	MC-DS 3	5.0					
					2.9		
30							
				30.0			Bottom of borehole at 30.0 feet.

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:50 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/11/12	<b>COMPLETED</b> 7/11/12
<b>DRILLING CONTRACTOR</b> MSG	<b>BORING DIAMETER:</b> 2"
<b>DRILLING METHOD</b> MacroCore	<b>SURVEY COORDINATES:</b> N/A
<b>LOGGED BY</b> MJF	<b>CHECKED BY</b> FJB
<b>NOTES</b> Soil boring backfilled with medium bentonite chips.	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> 1.5 FEET BGS
	<b>WATER LEVEL AFTER DRILLING:</b> 2.5 FEET BGS

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0								Stickup Pro-Casing
0 - 5.0	MC 1	5.0		Loose, gray, fine to coarse SAND; trace fine round Gravel; dry  Becomes wet at 1.5 feet bgs	4.2		SB-3 (0'-2') Soil Sample Collected @ 1545 (Sample ID: S-R2330004-071112-MF-005)	<ul style="list-style-type: none"> <li>Bentonite Seal (Medium Bentonite Chips)</li> <li>2-Inch Diameter PVC Riser</li> <li>Sand Filter Pack</li> </ul>
5.0 - 8.0	MC 2	5.0		Soft, dark gray, Silty CLAY; moist	7.7			
8.0 - 15.0	MC 3	5.0		Soft, dark gray, Silty CLAY; trace round Gravel; moist	4.2			2-Inch Diameter PVC Well Screen (10-Slot)
15.0				Bottom of borehole at 15.0 feet.				

ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:51 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/12/12	<b>COMPLETED</b> 7/12/12
<b>DRILLING CONTRACTOR</b> MSG	<b>BORING DIAMETER:</b> 2"
<b>DRILLING METHOD</b> MacroCore	<b>SURVEY COORDINATES:</b> N/A
<b>LOGGED BY</b> MJF	<b>CHECKED BY</b> FJB
<b>NOTES</b> Soil boring backfilled with medium bentonite chips.	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> 12 FEET BGS
	<b>WATER LEVEL AFTER DRILLING:</b> 14 FEET BGS

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0								Stickup Pro-Casing
0 - 5.0	MC 1	5.0		Loose, brown, fine to medium SAND; trace coarse angular Sand & Gravel; dry to moist	0.0	SB-4 (0'-2') Soil Sample Collected @ 1030 (Sample ID: S-R2330004-071212-MF-008)		Annular Seal (95% Neat Cement / 5% Bentonite Grout) 2-Inch Diameter PVC Riser
5.0 - 10.0	MC 2	5.0		Loose, brown-gray, fine to medium SAND; trace coarse angular Gravel; moist	1.4			Bentonite Seal (Medium Bentonite Chips)
10.0 - 15.0	MC 3	5.0		Loose, gray, fine to coarse SAND; moist Becomes wet at 12.0 feet bgs	4.9	SB-4 (10'-11') Soil Sample Collected @ 1115 (Sample ID: S-R2330004-071212-MF-009)		Sand Filter Pack 2-Inch Diameter PVC Well Screen (10-Slot)
15.0 - 18.0	MC-DS 1	5.0		Loose, gray, fine to coarse SAND; trace fine round Gravel; wet	3.6			
18.0 - 18.7				Soft, fine Sandy SILT; wet				
18.7 - 19.2				Soft, dark gray, Silty fine SAND; trace fine angular Gravel; wet				
19.2 - 20.0				Soft, dark gray Silty CLAY; moist				

(Continued Next Page)

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/12/12</u> <b>COMPLETED</b> <u>7/12/12</u>	<b>BORING DIAMETER:</b> <u>2"</u>
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>MacroCore</u>	<b>TOP OF CASING ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> <u>12 FEET BGS</u>
<b>NOTES</b> <u>Soil boring backfilled with medium bentonite chips.</u>	<b>WATER LEVEL AFTER DRILLING:</b> <u>14 FEET BGS</u>

ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:51 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ


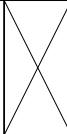


DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
20				Soft, dark gray fine Sandy SILT; wet				
	MC-DS 2	5.0		Soft, dark gray Silty CLAY; wet	3.5			
25								
	MC-DS 3	5.0			0.9			
30				Bottom of borehole at 30.0 feet.				

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/11/12</u> <b>COMPLETED</b> <u>7/11/12</u>	<b>BORING DIAMETER:</b> <u>2"</u>
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>MacroCore</u>	<b>TOP OF CASING ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> <u>2.3 FEET BGS</u>
<b>NOTES</b> <u>Soil boring backfilled with medium bentonite chips.</u>	<b>WATER LEVEL AFTER DRILLING:</b> <u>N/A</u>

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0							
0 - 2.3				Loose, tan, Silty fine to coarse SAND; trace to little angular Gravel; dry			SB-5 (0'-2') Soil Sample Collected @ 1115 (Sample ID: S-R2330004-071112-MF-001)
2.3 - 2.8	MC 1	2.8		Loose, black FILL (including plastic, metal shavings, debris); little to some fine to coarse Sand; wet	2.5		
2.8 - 5	MC 2	1.9		Wood fragments & bricks present	40.2		
5 - 10	MC 3	2.9			40.7		
10 - 15							
15 - 20	MC 4	0.7		Glass present	40.2		
20							

(Continued Next Page)

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/11/12	<b>COMPLETED</b> 7/11/12
<b>DRILLING CONTRACTOR</b> MSG	<b>BORING DIAMETER:</b> 2"
<b>DRILLING METHOD</b> MacroCore	<b>SURVEY COORDINATES:</b> N/A
<b>LOGGED BY</b> MJF	<b>CHECKED BY</b> FJB
<b>NOTES</b> Soil boring backfilled with medium bentonite chips.	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> 2.3 FEET BGS
	<b>WATER LEVEL AFTER DRILLING:</b> N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
20							
	MC 5	0.0		Loose, black FILL (including plastic, metal shavings, debris); little to some fine to coarse Sand; wet (continued)	NA		
25				Trace coarse angular gravel present	47.2		SB-5 (25'-27') Soil Sample Collected @ 1145 (Sample ID: S-R2330004-071112-MF-002)
	MC 6	4.5		Soft, dark gray, Silty CLAY; trace to little fine to coarse round Sand; moist	5.1		
30							
	MC 7	5.0			3.3		
35				Bottom of borehole at 35.0 feet.			

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:50 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/18/12	<b>COMPLETED</b> 7/18/12
<b>DRILLING CONTRACTOR</b> MSG	<b>BORING DIAMETER:</b> 2"
<b>DRILLING METHOD</b> MacroCore	<b>SURVEY COORDINATES:</b> N/A
<b>LOGGED BY</b> MJF	<b>CHECKED BY</b> FJB
<b>NOTES</b> Soil boring backfilled with medium bentonite chips.	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> 10 FEET BGS
	<b>WATER LEVEL AFTER DRILLING:</b> N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0							
0.6				Loose, tan, Silty fine SAND; some roots; trace medium to coarse round Sand; dry			
2.9	MC 1	2.9		Loose, tan/brown/black FILL (including glass, brick, wood, & paper fragments); little fine to coarse angular Sand; dry to moist	0.0		
5							
8.0	MC 2	2.4		Becomes moist at 8.0 feet bgs	0.0		
10							
11.0	MC 3	1.6		Becomes wet at 11.0 feet bgs	0.0		
15				Bottom of borehole at 15.0 feet.			

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:50 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/12/12 <b>COMPLETED</b> 7/12/12	<b>BORING DIAMETER:</b> 2"
<b>DRILLING CONTRACTOR</b> MSG	<b>SURVEY COORDINATES:</b> N/A
<b>DRILLING METHOD</b> MacroCore	<b>TOP OF CASING ELEV.:</b> N/A
<b>LOGGED BY</b> MJF <b>CHECKED BY</b> FJB	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> 7 FEET BGS
<b>NOTES</b> Soil boring backfilled with medium bentonite chips.	<b>WATER LEVEL AFTER DRILLING:</b> N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0							
1.5				Loose, gray, Silty fine to coarse SAND; trace fine round Gravel; dry			
4.2	MC 1	4.2		Loose, brown/orange/black fine to medium SAND; little to some fill (including glass & brick fragments and paper); moist	1.7	X	SB-6 (1.5'-2.5') Soil Sample Collected @ 1600 (Sample ID: S-R2330004-071212-MF-013); Duplicate Soil Sample Collected @ 1600 (Sample ID: S-R2330004-071212-MF-017)
5.0				Loose, fine to coarse round SAND; trace fine round Gravel; moist			
4.0	MC 2	4.0		Becomes wet at 7.0 feet bgs	3.0	X	SB-6 (6'-7') Soil Sample Collected @ 1615 (Sample ID: S-R2330004-071212-MF-014)
12.5				Soft, dark gray Clayey SILT; wet	3.5		
13.0				Soft to medium stiff dark gray Silty CLAY			
3.2	MC 3	3.2					
5.0	MC-DS 1	5.0			0.2		
20.0							


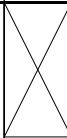







Bottom of borehole at 20.0 feet.

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/16/12	<b>COMPLETED</b> 7/16/12
<b>DRILLING CONTRACTOR</b> MSG	<b>BORING DIAMETER:</b> 2"
<b>DRILLING METHOD</b> MacroCore	<b>SURVEY COORDINATES:</b> N/A
<b>LOGGED BY</b> MJF	<b>CHECKED BY</b> FJB
<b>NOTES</b> Soil boring backfilled with medium bentonite chips.	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> 4.7 FEET BGS
	<b>WATER LEVEL AFTER DRILLING:</b> 7 FEET BGS

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS	WELL DIAGRAM
0								Stickup Pro-Casing
0.9				Loose, brown, Silty fine to medium SAND; little to some roots; trace coarse round Sand, trace fine Gravel; dry			- SB-6A (0'-2') Soil Sample Collected @ 0915 (Sample ID: S-R2330004-071612-MF-015)	Annular Seal (95% Neat Cement / 5% Bentonite Grout)
1.2				Loose, brown, Silty fine to medium SAND; some fill (including plastic, paper, & glass fragments); dry				Bentonite Seal (Medium Bentonite Chips)
5.0	MC 1	5.0		Loose, dark gray, Silty fine to medium SAND; trace coarse subrounded Sand, trace fine subrounded Gravel; moist to wet	0.0		SB-6A (2.5'-4.5') Soil Sample Collected @ 0925 (Sample ID: S-R2330004-071612-MF-016)	2-Inch Diameter PVC Riser
5				Becomes wet at 4.7 feet bgs				
7.9	MC 2	5.0		Loose, dark gray, medium to coarse subrounded SAND; little to some fine subrounded Gravel; trace fine Sand; wet	0.0			Sand Filter Pack
10.0				Soft to medium stiff, dark gray, Silty CLAY; trace to little coarse subrounded Sand; moist				2-Inch Diameter PVC Well Screen (10-Slot)
15.0	MC 3	5.0		Bottom of borehole at 15.0 feet.	0.0			


ENV BORING/WELL LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:51 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/11/12</u> <b>COMPLETED</b> <u>7/11/12</u>	<b>BORING DIAMETER:</b> <u>2"</u>
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>MacroCore</u>	<b>TOP OF CASING ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>GROUND WATER ENCOUNTERED DURING DRILLING:</b> <u>15 FEET BGS</u>
<b>NOTES</b> <u>Soil boring backfilled with medium bentonite chips.</u>	<b>WATER LEVEL AFTER DRILLING:</b> <u>N/A</u>




DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0							
0 - 2.3	MC 1	2.6		Loose, gray, fine to coarse SAND; trace fill (glass, wood & brick fragments); dry			SB-7 (0'-2') Soil Sample Collected @ 1315 (Sample ID: S-R2330004-071112-MF-003)
2.3 - 3.2				Loose, black FILL (including glass, plastic, bricks, & wood fragments); little to some fine to coarse Sand; moist	242.3		
3.2 - 10.1	MC 2	3.2			122.2		
10.1 - 11.1				Loose, black FILL (including bricks & glass fragments); moist			SB-7 (10'-11') Soil Sample Collected @ 1345 (Sample ID: S-R2330004-071112-MF-004)
11.1 - 15.0	MC 3	1.1			13.3		
15.0 - 17.4				Becomes wet at 15.0 feet bgs	55.0		
17.4 - 20.0	MC 4	5.0		Soft, dark gray, Silty CLAY; trace Silt partings; moist	83		

**CLIENT** RACER Trust **PROJECT NAME** Van Buren Landfill  
**PROJECT NUMBER** R2330004 **PROJECT LOCATION** Michigan and Ecorse, Van Buren Township, MI  
**DATE STARTED** 7/11/12 **COMPLETED** 7/11/12 **BORING DIAMETER:** 2"  
**DRILLING CONTRACTOR** MSG **SURVEY COORDINATES:** N/A  
**DRILLING METHOD** MacroCore **TOP OF CASING ELEV.:** N/A  
**LOGGED BY** MJF **CHECKED BY** FJB **GROUND WATER ENCOUNTERED DURING DRILLING:** 15 FEET BGS  
**NOTES** Soil boring backfilled with medium bentonite chips. **WATER LEVEL AFTER DRILLING:** N/A

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:50 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ





DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
20							
25	MC 5	5.0		Soft, dark gray, Silty CLAY; trace Silt partings; moist (continued)	4.2		
				Bottom of borehole at 25.0 feet.			

**CLIENT** RACER Trust **PROJECT NAME** Van Buren Landfill  
**PROJECT NUMBER** R2330004 **PROJECT LOCATION** Michigan and Ecorse, Van Buren Township, MI  
**DATE STARTED** 7/18/12 **COMPLETED** 7/18/12 **BORING DIAMETER:** 2"  
**DRILLING CONTRACTOR** MSG **SURVEY COORDINATES:** N/A  
**DRILLING METHOD** MacroCore **TOP OF CASING ELEV.:** N/A  
**LOGGED BY** MJF **CHECKED BY** FJB  **GROUND WATER ENCOUNTERED DURING DRILLING:** N/A  
**NOTES** Soil boring backfilled with medium bentonite chips.  **WATER LEVEL AFTER DRILLING:** N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0							
2.0	MC 1	5.0		Loose, gray, fine to coarse SAND; trace fill (glass, wood & brick fragments); dry			
5.0	MC 2	4.7		Loose, black FILL (including glass, plastic, bricks, & wood fragments); little to some fine to coarse Sand; moist	0.0		
10.0	MC 3	5.0			0.0		
15.0				Bottom of borehole at 15.0 feet.			





ENV BORING LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:50 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

**CLIENT** RACER Trust **PROJECT NAME** Van Buren Landfill  
**PROJECT NUMBER** R2330004 **PROJECT LOCATION** Michigan and Ecorse, Van Buren Township, MI  
**DATE STARTED** 7/18/12 **COMPLETED** 7/18/12 **BORING DIAMETER:** 2"  
**DRILLING CONTRACTOR** MSG **SURVEY COORDINATES:** N/A  
**DRILLING METHOD** MacroCore **TOP OF CASING ELEV.:** N/A  
**LOGGED BY** MJF **CHECKED BY** FJB  **GROUND WATER ENCOUNTERED DURING DRILLING:** N/A  
**NOTES** Soil boring backfilled with medium bentonite chips.  **WATER LEVEL AFTER DRILLING:** N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0							
1.8				Loose, gray, fine to coarse SAND; trace fill (glass, wood & brick fragments); dry			
4.5	MC 1	4.5		Loose, black FILL (including glass, plastic, bricks, & wood fragments); little to some fine to coarse Sand; moist	0.0		
5.0	MC 2	5.0			0.0		
10.0	MC 3	5.0			0.0		
15.0				Bottom of borehole at 15.0 feet.			

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:50 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

**CLIENT** RACER Trust **PROJECT NAME** Van Buren Landfill  
**PROJECT NUMBER** R2330004 **PROJECT LOCATION** Michigan and Ecorse, Van Buren Township, MI  
**DATE STARTED** 7/18/12 **COMPLETED** 7/18/12 **BORING DIAMETER:** 2"  
**DRILLING CONTRACTOR** MSG **SURVEY COORDINATES:** N/A  
**DRILLING METHOD** MacroCore **TOP OF CASING ELEV.:** N/A  
**LOGGED BY** MJF **CHECKED BY** FJB **GROUND WATER ENCOUNTERED DURING DRILLING:** N/A  
**NOTES** Soil boring backfilled with medium bentonite chips. **WATER LEVEL AFTER DRILLING:** N/A

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (FEET)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0							
0 to 2.3	MC 1	5.0		Loose, gray, fine to coarse SAND; trace fill (glass, wood & brick fragments); dry	0.0		
2.3 to 4.2				Loose, black FILL (including glass, plastic, bricks, & wood fragments); little to some fine to coarse Sand; moist	0.0		
4.2 to 4.5	MC 2	4.2			0.0		
4.5 to 15.0	MC 3	4.5			0.0		
15.0				Bottom of borehole at 15.0 feet.			

ENV BORING LOG (PID) - GINT STD US LAB.GDT - 11/27/12 11:50 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

**APPENDIX B**

---

LABORATORY ANALYTICAL DATA REPORTS  
*THE MANNIK & SMITH GROUP, INC.*

# Work Order: 1207530

**Project Name:**

**RACER - Van Buren Landfill**

**The Mannik & Smith Group, Inc.**

Frank Biehl

2365 Haggerty Road South

Suite 100

Canton, MI 48188

(734) 397-3100

**30-Jul-2012**



Certificate No: MN331938

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Work Order:** 1207530

**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1207530-01	S-R2330004-071112-MF-001	Soil		07/11/12 11:15	07/19/12 07:30	<input type="checkbox"/>
1207530-02	S-R2330004-071112-MF-002	Soil		07/11/12 11:45	07/19/12 07:30	<input type="checkbox"/>
1207530-03	S-R2330004-071112-MF-003	Soil		07/11/12 13:15	07/19/12 07:30	<input type="checkbox"/>
1207530-04	S-R2330004-071112-MF-004	Soil		07/11/12 13:45	07/19/12 07:30	<input type="checkbox"/>
1207530-05	S-R2330004-071112-MF-005	Soil		07/11/12 15:45	07/19/12 07:30	<input type="checkbox"/>
1207530-06	S-R2330004-071212-MF-006	Soil		07/12/12 08:15	07/19/12 07:30	<input type="checkbox"/>
1207530-07	S-R2330004-071212-MF-007	Soil		07/12/12 09:15	07/19/12 07:30	<input type="checkbox"/>
1207530-08	S-R2330004-071212-MF-008	Soil		07/12/12 10:30	07/19/12 07:30	<input type="checkbox"/>
1207530-09	S-R2330004-071212-MF-009	Soil		07/12/12 11:15	07/19/12 07:30	<input type="checkbox"/>
1207530-10	S-R2330004-071212-MF-010	Soil		07/12/12 14:15	07/19/12 07:30	<input type="checkbox"/>
1207530-11	S-R2330004-071212-MF-011	Soil		07/12/12 14:15	07/19/12 07:30	<input type="checkbox"/>
1207530-12	S-R2330004-071212-MF-012	Soil		07/12/12 14:30	07/19/12 07:30	<input type="checkbox"/>
1207530-13	S-R2330004-071212-MF-013	Soil		07/12/12 16:00	07/19/12 07:30	<input type="checkbox"/>
1207530-14	S-R2330004-071212-MF-014	Soil		07/12/12 16:15	07/19/12 07:30	<input type="checkbox"/>
1207530-15	S-R2330004-071612-MF-015	Soil		07/16/12 09:15	07/19/12 07:30	<input type="checkbox"/>
1207530-16	S-R2330004-071612-MF-016	Soil		07/16/12 09:25	07/19/12 07:30	<input type="checkbox"/>
1207530-17	S-R2330004-071212-MF-017	Soil		07/12/12 16:00	07/19/12 07:30	<input type="checkbox"/>
1207530-18	Trip Blank #1	Soil		07/11/12	07/19/12 07:30	<input type="checkbox"/>
1207530-19	Trip Blank #2	Soil		07/11/12	07/19/12 07:30	<input type="checkbox"/>

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**WorkOrder:** 1207530

**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
SD	Serial Dilution
TDL	Target Detection Limit

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry	Micrograms per Kilogram Dry Weight
mg/Kg-dry	Milligrams per Kilogram Dry Weight



30-Jul-2012

Frank Biehl  
The Mannik & Smith Group, Inc.  
2365 Haggerty Road South  
Suite 100  
Canton, MI 48188

Re: **RACER - Van Buren Landfill**

Work Order: **1207530**

Dear Frank,

ALS Environmental received 19 samples on 19-Jul-2012 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 157.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Beamish".

Electronically approved by: Tom Beamish

Tom Beamish  
Senior Project Manager



Certificate No: MN331938

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

---

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Work Order:** 1207530

---

**Case Narrative****Analytical Comments:**

Batch 42468, Method PCB\_8082\_S, Sample 1207530-01B: PCB surrogate recovery out of range high due to matrix interference.

Batch 42425, Method VOC\_8260\_S, Sample 1207530-04A: The "B" flag for Acetone is likely due to lab contamination.

Batch R107494, Method MOISTURE, Sample 1207530-01B through 1207530-05B: The hold time for Moisture analysis expired prior to sample receipt. The samples were analyzed at the request of the client, and the reported results should be considered estimated.

**QC Comments:**

Batch 42469, Method PEST\_8081\_S, Sample 1207530-02B MS: The MS recovery for gamma-Chlordane is out low due to matrix interference. The corresponding result in the parent sample may be biased low.

Batch 42527, Method ICP\_6020\_S, Sample 1207530-01BMS: The MS and/or MSD recoveries were outside the control limits for several elements. The corresponding results in the parent sample may be biased accordingly.

Batch 42513, Method SVO\_8270\_S, Sample 1207530-02B MS: The MS and/or MSD recoveries were outside the control limits for several compounds. The corresponding results in the parent sample may be biased accordingly.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-001  
**Collection Date:** 07/11/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42453</u>							
2,4,5-T	U		0.10	5.2	µg/Kg-dry	1	07/24/12 11:05
2,4,5-TP (Silvex)	U		0.070	10	µg/Kg-dry	1	07/24/12 11:05
2,4-D	U		0.075	5.2	µg/Kg-dry	1	07/24/12 11:05
Surr: DCAA	130			30-150	%REC	1	07/24/12 11:05
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		36	40	µg/Kg-dry	1	07/24/12 11:44
Aroclor 1221	U		36	40	µg/Kg-dry	1	07/24/12 11:44
Aroclor 1232	U		36	40	µg/Kg-dry	1	07/24/12 11:44
Aroclor 1242	U		36	40	µg/Kg-dry	1	07/24/12 11:44
<b>Aroclor 1248</b>	<b>250</b>		<b>36</b>	<b>40</b>	<b>µg/Kg-dry</b>	1	07/24/12 11:44
<b>Aroclor 1254</b>	<b>110</b>		<b>11</b>	<b>40</b>	<b>µg/Kg-dry</b>	1	07/24/12 11:44
Aroclor 1260	U		11	40	µg/Kg-dry	1	07/24/12 11:44
Surr: Tetrachloro-m-xylene	101			45-124	%REC	1	07/24/12 11:44
Surr: Decachlorobiphenyl	193	S		40-140	%REC	1	07/24/12 11:44
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		32	100	µg/Kg-dry	10	07/25/12 13:37
4,4'-DDE	U		20	100	µg/Kg-dry	10	07/25/12 13:37
4,4'-DDT	U		23	100	µg/Kg-dry	10	07/25/12 13:37
Aldrin	U		9.1	100	µg/Kg-dry	10	07/25/12 13:37
alpha-BHC	U		32	100	µg/Kg-dry	10	07/25/12 13:37
alpha-Chlordane	U		28	100	µg/Kg-dry	10	07/25/12 13:37
beta-BHC	U		38	100	µg/Kg-dry	10	07/25/12 13:37
Chlordane, Technical	U		100	250	µg/Kg-dry	10	07/25/12 13:37
delta-BHC	U		37	100	µg/Kg-dry	10	07/25/12 13:37
Dieldrin	U		8.6	100	µg/Kg-dry	10	07/25/12 13:37
Endosulfan I	U		13	100	µg/Kg-dry	10	07/25/12 13:37
Endosulfan II	U		11	100	µg/Kg-dry	10	07/25/12 13:37
Endosulfan sulfate	U		12	100	µg/Kg-dry	10	07/25/12 13:37
Endrin	U		29	100	µg/Kg-dry	10	07/25/12 13:37
Endrin aldehyde	U		25	100	µg/Kg-dry	10	07/25/12 13:37
Endrin ketone	U		39	100	µg/Kg-dry	10	07/25/12 13:37
gamma-BHC (Lindane)	U		47	100	µg/Kg-dry	10	07/25/12 13:37
gamma-Chlordane	U		17	100	µg/Kg-dry	10	07/25/12 13:37
Heptachlor	U		52	100	µg/Kg-dry	10	07/25/12 13:37

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-001  
**Collection Date:** 07/11/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		16	100	µg/Kg-dry	10	07/25/12 13:37
Methoxychlor	U		25	100	µg/Kg-dry	10	07/25/12 13:37
Toxaphene	U		120	610	µg/Kg-dry	10	07/25/12 13:37
<i>Surr: Decachlorobiphenyl</i>	190	S		45-135	%REC	10	07/25/12 13:37
<i>Surr: Tetrachloro-m-xylene</i>	110			45-124	%REC	10	07/25/12 13:37
<b>MERCURY BY CVAA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
<u>BatchID: 42450</u>							
<b>Mercury</b>	<b>0.21</b>		<b>0.0010</b>	<b>0.020</b>	<b>mg/Kg-dry</b>	1	07/23/12 16:22
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
<u>BatchID: 42527</u>							
<b>Aluminum</b>	<b>6,900</b>		<b>0.054</b>	<b>0.75</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Antimony</b>	<b>2.9</b>		<b>0.0091</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Arsenic</b>	<b>5.6</b>		<b>0.045</b>	<b>0.15</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Barium</b>	<b>92</b>		<b>0.014</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Cadmium</b>	<b>1.6</b>		<b>0.0015</b>	<b>0.15</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Chromium</b>	<b>17</b>		<b>0.011</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Cobalt</b>	<b>5.5</b>		<b>0.0015</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Copper</b>	<b>120</b>		<b>0.011</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Nickel</b>	<b>18</b>		<b>0.0045</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Selenium</b>	<b>0.83</b>		<b>0.027</b>	<b>0.30</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Thallium</b>	<b>0.21</b>	J	<b>0.0060</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<b>Vanadium</b>	<b>17</b>		<b>0.020</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 05:00
<u>BatchID: 42527</u>							
<b>Beryllium</b>	<b>0.35</b>	J	<b>0.045</b>	<b>1.5</b>	<b>mg/Kg-dry</b>	10	07/25/12 15:35
<b>Iron</b>	<b>20,000</b>		<b>13</b>	<b>60</b>	<b>mg/Kg-dry</b>	10	07/25/12 15:35
<b>Lead</b>	<b>99</b>		<b>0.015</b>	<b>3.8</b>	<b>mg/Kg-dry</b>	10	07/25/12 15:35
<b>Manganese</b>	<b>470</b>		<b>0.11</b>	<b>3.8</b>	<b>mg/Kg-dry</b>	10	07/25/12 15:35
<b>Silver</b>	<b>0.80</b>	J	<b>0.015</b>	<b>1.5</b>	<b>mg/Kg-dry</b>	10	07/25/12 15:35
<b>Zinc</b>	<b>510</b>		<b>0.39</b>	<b>7.5</b>	<b>mg/Kg-dry</b>	10	07/25/12 15:35
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
<u>BatchID: 42513</u>							
1,1'-Biphenyl	U		51	3,400	µg/Kg-dry	10	07/25/12 01:35
2,4,5-Trichlorophenol	U		83	1,700	µg/Kg-dry	10	07/25/12 01:35
2,4,6-Trichlorophenol	U		83	1,700	µg/Kg-dry	10	07/25/12 01:35
2,4-Dichlorophenol	U		100	1,700	µg/Kg-dry	10	07/25/12 01:35
2,4-Dimethylphenol	U		420	3,400	µg/Kg-dry	10	07/25/12 01:35
2,4-Dinitrophenol	U		440	6,800	µg/Kg-dry	10	07/25/12 01:35
2,4-Dinitrotoluene	U		93	1,700	µg/Kg-dry	10	07/25/12 01:35

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-001  
**Collection Date:** 07/11/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		97	1,700	µg/Kg-dry	10	07/25/12 01:35
2-Chloronaphthalene	U		95	830	µg/Kg-dry	10	07/25/12 01:35
2-Chlorophenol	U		93	1,700	µg/Kg-dry	10	07/25/12 01:35
2-Methylnaphthalene	U		100	830	µg/Kg-dry	10	07/25/12 01:35
2-Methylphenol	U		100	1,700	µg/Kg-dry	10	07/25/12 01:35
2-Nitroaniline	U		79	6,800	µg/Kg-dry	10	07/25/12 01:35
2-Nitrophenol	U		90	1,700	µg/Kg-dry	10	07/25/12 01:35
3,3'-Dichlorobenzidine	U		97	6,800	µg/Kg-dry	10	07/25/12 01:35
3-Nitroaniline	U		840	6,800	µg/Kg-dry	10	07/25/12 01:35
4,6-Dinitro-2-methylphenol	U		500	3,400	µg/Kg-dry	10	07/25/12 01:35
4-Bromophenyl phenyl ether	U		90	1,700	µg/Kg-dry	10	07/25/12 01:35
4-Chloro-3-methylphenol	U		94	1,700	µg/Kg-dry	10	07/25/12 01:35
4-Chloroaniline	U		130	3,400	µg/Kg-dry	10	07/25/12 01:35
4-Chlorophenyl phenyl ether	U		95	1,700	µg/Kg-dry	10	07/25/12 01:35
4-Methylphenol	U		100	1,700	µg/Kg-dry	10	07/25/12 01:35
4-Nitroaniline	U		150	6,800	µg/Kg-dry	10	07/25/12 01:35
4-Nitrophenol	U		420	6,800	µg/Kg-dry	10	07/25/12 01:35
Acenaphthene	U		95	310	µg/Kg-dry	10	07/25/12 01:35
Acenaphthylene	U		98	310	µg/Kg-dry	10	07/25/12 01:35
Acetophenone	U		52	3,400	µg/Kg-dry	10	07/25/12 01:35
Anthracene	U		110	310	µg/Kg-dry	10	07/25/12 01:35
Atrazine	U		100	520	µg/Kg-dry	10	07/25/12 01:35
Benzaldehyde	U		130	3,400	µg/Kg-dry	10	07/25/12 01:35
<b>Benzo(a)anthracene</b>	<b>230</b>	J	<b>130</b>	<b>310</b>	<b>µg/Kg-dry</b>	10	07/25/12 01:35
<b>Benzo(a)pyrene</b>	<b>500</b>		<b>160</b>	<b>310</b>	<b>µg/Kg-dry</b>	10	07/25/12 01:35
<b>Benzo(b)fluoranthene</b>	<b>700</b>		<b>170</b>	<b>310</b>	<b>µg/Kg-dry</b>	10	07/25/12 01:35
Benzo(g,h,i)perylene	U		240	310	µg/Kg-dry	10	07/25/12 01:35
<b>Benzo(k)fluoranthene</b>	<b>280</b>	J	<b>140</b>	<b>310</b>	<b>µg/Kg-dry</b>	10	07/25/12 01:35
Bis(2-chloroethoxy)methane	U		85	1,700	µg/Kg-dry	10	07/25/12 01:35
Bis(2-chloroethyl)ether	U		86	1,700	µg/Kg-dry	10	07/25/12 01:35
Bis(2-chloroisopropyl)ether	U		81	1,700	µg/Kg-dry	10	07/25/12 01:35
<b>Bis(2-ethylhexyl)phthalate</b>	<b>420</b>	J	<b>100</b>	<b>3,400</b>	<b>µg/Kg-dry</b>	10	07/25/12 01:35
<b>Butyl benzyl phthalate</b>	<b>540</b>	J	<b>140</b>	<b>1,700</b>	<b>µg/Kg-dry</b>	10	07/25/12 01:35
Caprolactam	U		150	3,400	µg/Kg-dry	10	07/25/12 01:35
Carbazole	U		120	1,700	µg/Kg-dry	10	07/25/12 01:35
<b>Chrysene</b>	<b>390</b>		<b>120</b>	<b>310</b>	<b>µg/Kg-dry</b>	10	07/25/12 01:35
Dibenzo(a,h)anthracene	U		180	310	µg/Kg-dry	10	07/25/12 01:35
Dibenzofuran	U		95	1,700	µg/Kg-dry	10	07/25/12 01:35
Diethyl phthalate	U		86	3,400	µg/Kg-dry	10	07/25/12 01:35
Dimethyl phthalate	U		86	3,400	µg/Kg-dry	10	07/25/12 01:35

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-001  
**Collection Date:** 07/11/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate		U	100	3,400	µg/Kg-dry	10	07/25/12 01:35
Di-n-octyl phthalate		U	130	1,700	µg/Kg-dry	10	07/25/12 01:35
<b>Fluoranthene</b>	<b>230</b>	J	<b>120</b>	<b>310</b>	<b>µg/Kg-dry</b>	10	07/25/12 01:35
Fluorene		U	91	310	µg/Kg-dry	10	07/25/12 01:35
Hexachlorobenzene		U	94	1,700	µg/Kg-dry	10	07/25/12 01:35
Hexachlorobutadiene		U	88	520	µg/Kg-dry	10	07/25/12 01:35
Hexachlorocyclopentadiene		U	360	3,400	µg/Kg-dry	10	07/25/12 01:35
Hexachloroethane		U	91	1,700	µg/Kg-dry	10	07/25/12 01:35
Indeno(1,2,3-cd)pyrene		U	200	310	µg/Kg-dry	10	07/25/12 01:35
Isophorone		U	90	1,700	µg/Kg-dry	10	07/25/12 01:35
Naphthalene		U	88	310	µg/Kg-dry	10	07/25/12 01:35
Nitrobenzene		U	90	1,700	µg/Kg-dry	10	07/25/12 01:35
N-Nitrosodi-n-propylamine		U	91	1,700	µg/Kg-dry	10	07/25/12 01:35
N-Nitrosodiphenylamine		U	620	1,700	µg/Kg-dry	10	07/25/12 01:35
Pentachlorophenol		U	150	210	µg/Kg-dry	10	07/25/12 01:35
Phenanthrene		U	310	310	µg/Kg-dry	10	07/25/12 01:35
Phenol		U	88	1,700	µg/Kg-dry	10	07/25/12 01:35
<b>Pyrene</b>	<b>170</b>	J	<b>130</b>	<b>310</b>	<b>µg/Kg-dry</b>	10	07/25/12 01:35
Surr: 2,4,6-Tribromophenol	35.2			34-140	%REC	10	07/25/12 01:35
Surr: 2-Fluorobiphenyl	47.4			12-100	%REC	10	07/25/12 01:35
Surr: 2-Fluorophenol	59.8			33-117	%REC	10	07/25/12 01:35
Surr: 4-Terphenyl-d14	70.4			25-137	%REC	10	07/25/12 01:35
Surr: Nitrobenzene-d5	50.8			37-107	%REC	10	07/25/12 01:35
Surr: Phenol-d6	50.8			40-106	%REC	10	07/25/12 01:35

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: AK

BatchID: 42425

1,1,1-Trichloroethane	U		14	37	µg/Kg-dry	1	07/23/12 13:50
1,1,2,2-Tetrachloroethane	U		16	37	µg/Kg-dry	1	07/23/12 13:50
1,1,2-Trichloroethane	U		13	37	µg/Kg-dry	1	07/23/12 13:50
1,1,2-Trichlorotrifluoroethane	U		14	37	µg/Kg-dry	1	07/23/12 13:50
1,1-Dichloroethane	U		14	37	µg/Kg-dry	1	07/23/12 13:50
1,1-Dichloroethene	U		16	37	µg/Kg-dry	1	07/23/12 13:50
1,2,4-Trichlorobenzene	U		19	37	µg/Kg-dry	1	07/23/12 13:50
1,2-Dibromo-3-chloropropane	U		18	37	µg/Kg-dry	1	07/23/12 13:50
1,2-Dibromoethane	U		15	37	µg/Kg-dry	1	07/23/12 13:50
1,2-Dichlorobenzene	U		15	37	µg/Kg-dry	1	07/23/12 13:50
1,2-Dichloroethane	U		18	37	µg/Kg-dry	1	07/23/12 13:50
1,2-Dichloropropane	U		12	37	µg/Kg-dry	1	07/23/12 13:50
1,3-Dichlorobenzene	U		15	37	µg/Kg-dry	1	07/23/12 13:50

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-001  
**Collection Date:** 07/11/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		14	37	µg/Kg-dry	1	07/23/12 13:50
2-Butanone	U		91	250	µg/Kg-dry	1	07/23/12 13:50
2-Hexanone	U		9.1	37	µg/Kg-dry	1	07/23/12 13:50
4-Methyl-2-pentanone	U		12	37	µg/Kg-dry	1	07/23/12 13:50
Acetone	U		78	120	µg/Kg-dry	1	07/23/12 13:50
Benzene	U		15	37	µg/Kg-dry	1	07/23/12 13:50
Bromodichloromethane	U		8.3	37	µg/Kg-dry	1	07/23/12 13:50
Bromoform	U		7.3	37	µg/Kg-dry	1	07/23/12 13:50
Bromomethane	U		14	92	µg/Kg-dry	1	07/23/12 13:50
Carbon disulfide	U		18	37	µg/Kg-dry	1	07/23/12 13:50
Carbon tetrachloride	U		10	37	µg/Kg-dry	1	07/23/12 13:50
Chlorobenzene	U		15	37	µg/Kg-dry	1	07/23/12 13:50
Chloroethane	U		78	120	µg/Kg-dry	1	07/23/12 13:50
Chloroform	U		15	37	µg/Kg-dry	1	07/23/12 13:50
Chloromethane	U		21	120	µg/Kg-dry	1	07/23/12 13:50
cis-1,2-Dichloroethene	U		15	37	µg/Kg-dry	1	07/23/12 13:50
cis-1,3-Dichloropropene	U		13	37	µg/Kg-dry	1	07/23/12 13:50
Cyclohexane	U		17	37	µg/Kg-dry	1	07/23/12 13:50
Dibromochloromethane	U		6.8	37	µg/Kg-dry	1	07/23/12 13:50
Dichlorodifluoromethane	U		17	37	µg/Kg-dry	1	07/23/12 13:50
Ethylbenzene	U		14	37	µg/Kg-dry	1	07/23/12 13:50
Isopropylbenzene	U		16	37	µg/Kg-dry	1	07/23/12 13:50
Methyl acetate	U		50	250	µg/Kg-dry	1	07/23/12 13:50
Methyl tert-butyl ether	U		16	37	µg/Kg-dry	1	07/23/12 13:50
<b>Methylcyclohexane</b>	<b>280</b>		<b>17</b>	<b>37</b>	<b>µg/Kg-dry</b>	1	07/23/12 13:50
Methylene chloride	U		14	37	µg/Kg-dry	1	07/23/12 13:50
Styrene	U		14	37	µg/Kg-dry	1	07/23/12 13:50
Tetrachloroethene	U		16	37	µg/Kg-dry	1	07/23/12 13:50
<b>Toluene</b>	<b>34</b>	<b>J</b>	<b>14</b>	<b>37</b>	<b>µg/Kg-dry</b>	1	07/23/12 13:50
trans-1,2-Dichloroethene	U		11	37	µg/Kg-dry	1	07/23/12 13:50
trans-1,3-Dichloropropene	U		12	37	µg/Kg-dry	1	07/23/12 13:50
Trichloroethene	U		17	37	µg/Kg-dry	1	07/23/12 13:50
Trichlorofluoromethane	U		10	37	µg/Kg-dry	1	07/23/12 13:50
Vinyl chloride	U		17	37	µg/Kg-dry	1	07/23/12 13:50
<b>Xylenes, Total</b>	<b>220</b>		<b>44</b>	<b>110</b>	<b>µg/Kg-dry</b>	1	07/23/12 13:50
Surr: 1,2-Dichloroethane-d4	89.4			70-130	%REC	1	07/23/12 13:50
Surr: 4-Bromofluorobenzene	104			70-130	%REC	1	07/23/12 13:50
Surr: Dibromofluoromethane	87.2			70-130	%REC	1	07/23/12 13:50
Surr: Toluene-d8	93.4			70-130	%REC	1	07/23/12 13:50

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-001  
**Collection Date:** 07/11/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	5.7	H	0.025	0.050	% of sample	1	07/19/12 14:00

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-002  
**Collection Date:** 07/11/12 11:45 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42453</u>							
2,4,5-T	U		0.12	6.1	µg/Kg-dry	1	07/24/12 11:33
2,4,5-TP (Silvex)	U		0.081	12	µg/Kg-dry	1	07/24/12 11:33
2,4-D	U		0.087	6.1	µg/Kg-dry	1	07/24/12 11:33
Surr: DCAA	120			30-150	%REC	1	07/24/12 11:33
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		43	49	µg/Kg-dry	1	07/24/12 12:04
Aroclor 1221	U		43	49	µg/Kg-dry	1	07/24/12 12:04
Aroclor 1232	U		43	49	µg/Kg-dry	1	07/24/12 12:04
Aroclor 1242	U		43	49	µg/Kg-dry	1	07/24/12 12:04
Aroclor 1248	U		43	49	µg/Kg-dry	1	07/24/12 12:04
Aroclor 1254	U		14	49	µg/Kg-dry	1	07/24/12 12:04
Aroclor 1260	U		14	49	µg/Kg-dry	1	07/24/12 12:04
Surr: Tetrachloro-m-xylene	100			45-124	%REC	1	07/24/12 12:04
Surr: Decachlorobiphenyl	108			40-140	%REC	1	07/24/12 12:04
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		7.8	24	µg/Kg-dry	2	07/25/12 13:52
4,4'-DDE	U		4.8	24	µg/Kg-dry	2	07/25/12 13:52
4,4'-DDT	U		5.6	24	µg/Kg-dry	2	07/25/12 13:52
Aldrin	U		2.2	24	µg/Kg-dry	2	07/25/12 13:52
alpha-BHC	U		7.8	24	µg/Kg-dry	2	07/25/12 13:52
alpha-Chlordane	U		6.7	24	µg/Kg-dry	2	07/25/12 13:52
beta-BHC	U		9.2	24	µg/Kg-dry	2	07/25/12 13:52
Chlordane, Technical	U		24	61	µg/Kg-dry	2	07/25/12 13:52
delta-BHC	U		9.0	24	µg/Kg-dry	2	07/25/12 13:52
Dieldrin	U		2.1	24	µg/Kg-dry	2	07/25/12 13:52
Endosulfan I	U		3.2	24	µg/Kg-dry	2	07/25/12 13:52
Endosulfan II	U		2.7	24	µg/Kg-dry	2	07/25/12 13:52
Endosulfan sulfate	U		3.0	24	µg/Kg-dry	2	07/25/12 13:52
Endrin	U		7.1	24	µg/Kg-dry	2	07/25/12 13:52
Endrin aldehyde	U		5.9	24	µg/Kg-dry	2	07/25/12 13:52
Endrin ketone	U		9.4	24	µg/Kg-dry	2	07/25/12 13:52
gamma-BHC (Lindane)	U		11	24	µg/Kg-dry	2	07/25/12 13:52
gamma-Chlordane	U		4.1	24	µg/Kg-dry	2	07/25/12 13:52
Heptachlor	U		13	24	µg/Kg-dry	2	07/25/12 13:52

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-002  
**Collection Date:** 07/11/12 11:45 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		3.9	24	µg/Kg-dry	2	07/25/12 13:52
Methoxychlor	U		6.0	24	µg/Kg-dry	2	07/25/12 13:52
Toxaphene	U		29	150	µg/Kg-dry	2	07/25/12 13:52
Surr: Decachlorobiphenyl	106			45-135	%REC	2	07/25/12 13:52
Surr: Tetrachloro-m-xylene	100			45-124	%REC	2	07/25/12 13:52
<b>MERCURY BY CVAA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
BatchID: 42450							
<b>Mercury</b>	<b>0.030</b>		<b>0.0011</b>	<b>0.022</b>	<b>mg/Kg-dry</b>	1	07/23/12 16:24
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
BatchID: 42527							
<b>Antimony</b>	<b>5.3</b>		<b>0.011</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:14
<b>Arsenic</b>	<b>8.2</b>		<b>0.055</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:14
<b>Beryllium</b>	<b>0.16</b>	J	<b>0.0055</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:14
<b>Cadmium</b>	<b>5.6</b>		<b>0.0018</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:14
<b>Chromium</b>	<b>22</b>		<b>0.013</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:14
<b>Cobalt</b>	<b>5.3</b>		<b>0.0018</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:14
<b>Nickel</b>	<b>26</b>		<b>0.0055</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:14
<b>Selenium</b>	<b>0.27</b>	J	<b>0.033</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:14
<b>Thallium</b>	<b>0.094</b>	J	<b>0.0073</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:14
<b>Vanadium</b>	<b>15</b>		<b>0.024</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:14
BatchID: 42527							
<b>Aluminum</b>	<b>5,400</b>		<b>0.66</b>	<b>9.1</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:40
<b>Barium</b>	<b>430</b>		<b>0.16</b>	<b>4.6</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:40
<b>Copper</b>	<b>150</b>		<b>0.13</b>	<b>4.6</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:40
<b>Iron</b>	<b>53,000</b>		<b>15</b>	<b>73</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:40
<b>Manganese</b>	<b>570</b>		<b>0.13</b>	<b>4.6</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:40
<b>Silver</b>	<b>0.41</b>	J	<b>0.018</b>	<b>1.8</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:40
<b>Zinc</b>	<b>730</b>		<b>0.47</b>	<b>9.1</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:40
BatchID: 42527							
<b>Lead</b>	<b>2,600</b>		<b>0.091</b>	<b>23</b>	<b>mg/Kg-dry</b>	50	07/26/12 18:41
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
BatchID: 42513							
1,1'-Biphenyl	U		6.0	400	µg/Kg-dry	1	07/25/12 12:32
2,4,5-Trichlorophenol	U		9.7	190	µg/Kg-dry	1	07/25/12 12:32
2,4,6-Trichlorophenol	U		9.7	190	µg/Kg-dry	1	07/25/12 12:32
2,4-Dichlorophenol	U		12	190	µg/Kg-dry	1	07/25/12 12:32
2,4-Dimethylphenol	U		49	400	µg/Kg-dry	1	07/25/12 12:32
2,4-Dinitrophenol	U		51	800	µg/Kg-dry	1	07/25/12 12:32

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-002  
**Collection Date:** 07/11/12 11:45 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,4-Dinitrotoluene	U		11	190	µg/Kg-dry	1	07/25/12 12:32
2,6-Dinitrotoluene	U		11	190	µg/Kg-dry	1	07/25/12 12:32
2-Chloronaphthalene	U		11	97	µg/Kg-dry	1	07/25/12 12:32
2-Chlorophenol	U		11	190	µg/Kg-dry	1	07/25/12 12:32
<b>2-Methylnaphthalene</b>	<b>40</b>	J	<b>12</b>	<b>97</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
2-Methylphenol	U		12	190	µg/Kg-dry	1	07/25/12 12:32
2-Nitroaniline	U		9.2	800	µg/Kg-dry	1	07/25/12 12:32
2-Nitrophenol	U		11	190	µg/Kg-dry	1	07/25/12 12:32
3,3'-Dichlorobenzidine	U		11	800	µg/Kg-dry	1	07/25/12 12:32
3-Nitroaniline	U		98	800	µg/Kg-dry	1	07/25/12 12:32
4,6-Dinitro-2-methylphenol	U		58	400	µg/Kg-dry	1	07/25/12 12:32
4-Bromophenyl phenyl ether	U		11	190	µg/Kg-dry	1	07/25/12 12:32
4-Chloro-3-methylphenol	U		11	190	µg/Kg-dry	1	07/25/12 12:32
4-Chloroaniline	U		15	400	µg/Kg-dry	1	07/25/12 12:32
4-Chlorophenyl phenyl ether	U		11	190	µg/Kg-dry	1	07/25/12 12:32
<b>4-Methylphenol</b>	<b>32</b>	J	<b>12</b>	<b>190</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
4-Nitroaniline	U		18	800	µg/Kg-dry	1	07/25/12 12:32
4-Nitrophenol	U		49	800	µg/Kg-dry	1	07/25/12 12:32
<b>Acenaphthene</b>	<b>32</b>	J	<b>11</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
Acenaphthylene	U		11	36	µg/Kg-dry	1	07/25/12 12:32
Acetophenone	U		6.0	400	µg/Kg-dry	1	07/25/12 12:32
<b>Anthracene</b>	<b>50</b>		<b>12</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
Atrazine	U		12	61	µg/Kg-dry	1	07/25/12 12:32
Benzaldehyde	U		15	400	µg/Kg-dry	1	07/25/12 12:32
<b>Benzo(a)anthracene</b>	<b>130</b>		<b>15</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
<b>Benzo(a)pyrene</b>	<b>140</b>		<b>19</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
<b>Benzo(b)fluoranthene</b>	<b>190</b>		<b>20</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
<b>Benzo(g,h,i)perylene</b>	<b>80</b>		<b>29</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
<b>Benzo(k)fluoranthene</b>	<b>110</b>		<b>16</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
Bis(2-chloroethoxy)methane	U		9.9	190	µg/Kg-dry	1	07/25/12 12:32
Bis(2-chloroethyl)ether	U		10	190	µg/Kg-dry	1	07/25/12 12:32
Bis(2-chloroisopropyl)ether	U		9.4	190	µg/Kg-dry	1	07/25/12 12:32
<b>Bis(2-ethylhexyl)phthalate</b>	<b>130</b>	J	<b>12</b>	<b>400</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
<b>Butyl benzyl phthalate</b>	<b>70</b>	J	<b>17</b>	<b>190</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
Caprolactam	U		18	400	µg/Kg-dry	1	07/25/12 12:32
<b>Carbazole</b>	<b>32</b>	J	<b>14</b>	<b>190</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
<b>Chrysene</b>	<b>140</b>		<b>14</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
<b>Dibenzo(a,h)anthracene</b>	<b>21</b>	J	<b>21</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
<b>Dibenzofuran</b>	<b>48</b>	J	<b>11</b>	<b>190</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
Diethyl phthalate	U		10	400	µg/Kg-dry	1	07/25/12 12:32

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-002  
**Collection Date:** 07/11/12 11:45 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dimethyl phthalate		U	10	400	µg/Kg-dry	1	07/25/12 12:32
Di-n-butyl phthalate		U	12	400	µg/Kg-dry	1	07/25/12 12:32
Di-n-octyl phthalate		U	15	190	µg/Kg-dry	1	07/25/12 12:32
<b>Fluoranthene</b>	<b>210</b>		<b>14</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
<b>Fluorene</b>	<b>73</b>		<b>11</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
Hexachlorobenzene		U	11	190	µg/Kg-dry	1	07/25/12 12:32
Hexachlorobutadiene		U	10	61	µg/Kg-dry	1	07/25/12 12:32
Hexachlorocyclopentadiene		U	42	400	µg/Kg-dry	1	07/25/12 12:32
Hexachloroethane		U	11	190	µg/Kg-dry	1	07/25/12 12:32
<b>Indeno(1,2,3-cd)pyrene</b>	<b>64</b>		<b>23</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
Isophorone		U	11	190	µg/Kg-dry	1	07/25/12 12:32
<b>Naphthalene</b>	<b>81</b>		<b>10</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
Nitrobenzene		U	10	190	µg/Kg-dry	1	07/25/12 12:32
N-Nitrosodi-n-propylamine		U	11	190	µg/Kg-dry	1	07/25/12 12:32
N-Nitrosodiphenylamine		U	72	190	µg/Kg-dry	1	07/25/12 12:32
Pentachlorophenol		U	18	24	µg/Kg-dry	1	07/25/12 12:32
<b>Phenanthrene</b>	<b>190</b>		<b>36</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
Phenol		U	10	190	µg/Kg-dry	1	07/25/12 12:32
<b>Pyrene</b>	<b>180</b>		<b>15</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/25/12 12:32
Surr: 2,4,6-Tribromophenol	85.1			34-140	%REC	1	07/25/12 12:32
Surr: 2-Fluorobiphenyl	65.4			12-100	%REC	1	07/25/12 12:32
Surr: 2-Fluorophenol	71.0			33-117	%REC	1	07/25/12 12:32
Surr: 4-Terphenyl-d14	99.9			25-137	%REC	1	07/25/12 12:32
Surr: Nitrobenzene-d5	58.5			37-107	%REC	1	07/25/12 12:32
Surr: Phenol-d6	67.0			40-106	%REC	1	07/25/12 12:32

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: AK

BatchID: 42425

1,1,1-Trichloroethane	U		14	37	µg/Kg-dry	1	07/23/12 14:15
1,1,2,2-Tetrachloroethane	U		16	37	µg/Kg-dry	1	07/23/12 14:15
1,1,2-Trichloroethane	U		13	37	µg/Kg-dry	1	07/23/12 14:15
1,1,2-Trichlorotrifluoroethane	U		14	37	µg/Kg-dry	1	07/23/12 14:15
1,1-Dichloroethane	U		13	37	µg/Kg-dry	1	07/23/12 14:15
1,1-Dichloroethene	U		15	37	µg/Kg-dry	1	07/23/12 14:15
1,2,4-Trichlorobenzene	U		19	37	µg/Kg-dry	1	07/23/12 14:15
1,2-Dibromo-3-chloropropane	U		18	37	µg/Kg-dry	1	07/23/12 14:15
1,2-Dibromoethane	U		15	37	µg/Kg-dry	1	07/23/12 14:15
1,2-Dichlorobenzene	U		15	37	µg/Kg-dry	1	07/23/12 14:15
1,2-Dichloroethane	U		17	37	µg/Kg-dry	1	07/23/12 14:15
1,2-Dichloropropane	U		12	37	µg/Kg-dry	1	07/23/12 14:15

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-002  
**Collection Date:** 07/11/12 11:45 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,3-Dichlorobenzene	U		15	37	µg/Kg-dry	1	07/23/12 14:15
1,4-Dichlorobenzene	U		14	37	µg/Kg-dry	1	07/23/12 14:15
2-Butanone	U		91	250	µg/Kg-dry	1	07/23/12 14:15
2-Hexanone	U		9.0	37	µg/Kg-dry	1	07/23/12 14:15
4-Methyl-2-pentanone	U		12	37	µg/Kg-dry	1	07/23/12 14:15
Acetone	U		78	120	µg/Kg-dry	1	07/23/12 14:15
<b>Benzene</b>	<b>41</b>		<b>15</b>	<b>37</b>	<b>µg/Kg-dry</b>	1	07/23/12 14:15
Bromodichloromethane	U		8.3	37	µg/Kg-dry	1	07/23/12 14:15
Bromoform	U		7.3	37	µg/Kg-dry	1	07/23/12 14:15
Bromomethane	U		14	92	µg/Kg-dry	1	07/23/12 14:15
Carbon disulfide	U		18	37	µg/Kg-dry	1	07/23/12 14:15
Carbon tetrachloride	U		10	37	µg/Kg-dry	1	07/23/12 14:15
Chlorobenzene	U		15	37	µg/Kg-dry	1	07/23/12 14:15
Chloroethane	U		78	120	µg/Kg-dry	1	07/23/12 14:15
Chloroform	U		15	37	µg/Kg-dry	1	07/23/12 14:15
Chloromethane	U		21	120	µg/Kg-dry	1	07/23/12 14:15
cis-1,2-Dichloroethene	U		15	37	µg/Kg-dry	1	07/23/12 14:15
cis-1,3-Dichloropropene	U		13	37	µg/Kg-dry	1	07/23/12 14:15
Cyclohexane	U		17	37	µg/Kg-dry	1	07/23/12 14:15
Dibromochloromethane	U		6.8	37	µg/Kg-dry	1	07/23/12 14:15
Dichlorodifluoromethane	U		17	37	µg/Kg-dry	1	07/23/12 14:15
Ethylbenzene	U		14	37	µg/Kg-dry	1	07/23/12 14:15
Isopropylbenzene	U		16	37	µg/Kg-dry	1	07/23/12 14:15
Methyl acetate	U		49	250	µg/Kg-dry	1	07/23/12 14:15
Methyl tert-butyl ether	U		16	37	µg/Kg-dry	1	07/23/12 14:15
Methylcyclohexane	U		17	37	µg/Kg-dry	1	07/23/12 14:15
Methylene chloride	U		14	37	µg/Kg-dry	1	07/23/12 14:15
Styrene	U		14	37	µg/Kg-dry	1	07/23/12 14:15
Tetrachloroethene	U		16	37	µg/Kg-dry	1	07/23/12 14:15
<b>Toluene</b>	<b>22</b>	<b>J</b>	<b>14</b>	<b>37</b>	<b>µg/Kg-dry</b>	1	07/23/12 14:15
trans-1,2-Dichloroethene	U		11	37	µg/Kg-dry	1	07/23/12 14:15
trans-1,3-Dichloropropene	U		12	37	µg/Kg-dry	1	07/23/12 14:15
Trichloroethene	U		17	37	µg/Kg-dry	1	07/23/12 14:15
Trichlorofluoromethane	U		10	37	µg/Kg-dry	1	07/23/12 14:15
Vinyl chloride	U		17	37	µg/Kg-dry	1	07/23/12 14:15
<b>Xylenes, Total</b>	<b>47</b>	<b>J</b>	<b>44</b>	<b>110</b>	<b>µg/Kg-dry</b>	1	07/23/12 14:15
Surr: 1,2-Dichloroethane-d4	82.2			70-130	%REC	1	07/23/12 14:15
Surr: 4-Bromofluorobenzene	103			70-130	%REC	1	07/23/12 14:15
Surr: Dibromofluoromethane	83.4			70-130	%REC	1	07/23/12 14:15
Surr: Toluene-d8	91.5			70-130	%REC	1	07/23/12 14:15

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-002  
**Collection Date:** 07/11/12 11:45 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-02  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	19	H	0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-003  
**Collection Date:** 07/11/12 01:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42453</u>							
2,4,5-T	U		0.10	5.3	µg/Kg-dry	1	07/24/12 11:43
2,4,5-TP (Silvex)	U		0.071	11	µg/Kg-dry	1	07/24/12 11:43
2,4-D	U		0.076	5.3	µg/Kg-dry	1	07/24/12 11:43
Surr: DCAA	114			30-150	%REC	1	07/24/12 11:43
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		38	42	µg/Kg-dry	1	07/24/12 13:04
Aroclor 1221	U		38	42	µg/Kg-dry	1	07/24/12 13:04
Aroclor 1232	U		38	42	µg/Kg-dry	1	07/24/12 13:04
Aroclor 1242	U		38	42	µg/Kg-dry	1	07/24/12 13:04
<b>Aroclor 1248</b>	<b>240</b>		<b>38</b>	<b>42</b>	<b>µg/Kg-dry</b>	1	07/24/12 13:04
<b>Aroclor 1254</b>	<b>270</b>		<b>12</b>	<b>42</b>	<b>µg/Kg-dry</b>	1	07/24/12 13:04
Aroclor 1260	U		12	42	µg/Kg-dry	1	07/24/12 13:04
Surr: Tetrachloro-m-xylene	96.1			45-124	%REC	1	07/24/12 13:04
Surr: Decachlorobiphenyl	117			40-140	%REC	1	07/24/12 13:04
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		68	210	µg/Kg-dry	20	07/25/12 14:36
4,4'-DDE	U		41	210	µg/Kg-dry	20	07/25/12 14:36
4,4'-DDT	U		49	210	µg/Kg-dry	20	07/25/12 14:36
Aldrin	U		19	210	µg/Kg-dry	20	07/25/12 14:36
alpha-BHC	U		68	210	µg/Kg-dry	20	07/25/12 14:36
alpha-Chlordane	U		58	210	µg/Kg-dry	20	07/25/12 14:36
beta-BHC	U		80	210	µg/Kg-dry	20	07/25/12 14:36
Chlordane, Technical	U		210	530	µg/Kg-dry	20	07/25/12 14:36
delta-BHC	U		78	210	µg/Kg-dry	20	07/25/12 14:36
Dieldrin	U		18	210	µg/Kg-dry	20	07/25/12 14:36
Endosulfan I	U		27	210	µg/Kg-dry	20	07/25/12 14:36
Endosulfan II	U		23	210	µg/Kg-dry	20	07/25/12 14:36
Endosulfan sulfate	U		26	210	µg/Kg-dry	20	07/25/12 14:36
Endrin	U		61	210	µg/Kg-dry	20	07/25/12 14:36
Endrin aldehyde	U		51	210	µg/Kg-dry	20	07/25/12 14:36
Endrin ketone	U		81	210	µg/Kg-dry	20	07/25/12 14:36
gamma-BHC (Lindane)	U		98	210	µg/Kg-dry	20	07/25/12 14:36
gamma-Chlordane	U		35	210	µg/Kg-dry	20	07/25/12 14:36
Heptachlor	U		110	210	µg/Kg-dry	20	07/25/12 14:36

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-003  
**Collection Date:** 07/11/12 01:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide		U	33	210	µg/Kg-dry	20	07/25/12 14:36
Methoxychlor		U	52	210	µg/Kg-dry	20	07/25/12 14:36
Toxaphene		U	250	1,300	µg/Kg-dry	20	07/25/12 14:36
Surr: Decachlorobiphenyl	100			45-135	%REC	20	07/25/12 14:36
Surr: Tetrachloro-m-xylene	120			45-124	%REC	20	07/25/12 14:36
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
BatchID: 42450							
Mercury	0.45		0.0021	0.042	mg/Kg-dry	2	07/23/12 16:26
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
BatchID: 42527							
Antimony	18		0.0092	0.38	mg/Kg-dry	1	07/25/12 06:20
Arsenic	12		0.046	0.15	mg/Kg-dry	1	07/25/12 06:20
Beryllium	0.22		0.0046	0.15	mg/Kg-dry	1	07/25/12 06:20
Cadmium	9.3		0.0015	0.15	mg/Kg-dry	1	07/25/12 06:20
Chromium	53		0.011	0.38	mg/Kg-dry	1	07/25/12 06:20
Cobalt	7.8		0.0015	0.38	mg/Kg-dry	1	07/25/12 06:20
Nickel	60		0.0046	0.38	mg/Kg-dry	1	07/25/12 06:20
Selenium	0.69		0.028	0.31	mg/Kg-dry	1	07/25/12 06:20
Thallium	0.065	J	0.0061	0.38	mg/Kg-dry	1	07/25/12 06:20
Vanadium	18		0.020	0.38	mg/Kg-dry	1	07/25/12 06:20
BatchID: 42527							
Aluminum	12,000		2.8	38	mg/Kg-dry	50	07/26/12 05:46
Barium	540		0.69	19	mg/Kg-dry	50	07/26/12 05:46
Copper	1,500		0.54	19	mg/Kg-dry	50	07/26/12 05:46
Iron	74,000		65	310	mg/Kg-dry	50	07/26/12 05:46
Lead	770		0.077	19	mg/Kg-dry	50	07/26/12 05:46
Manganese	600		0.54	19	mg/Kg-dry	50	07/26/12 05:46
Silver	4.2	J	0.077	7.7	mg/Kg-dry	50	07/26/12 05:46
Zinc	2,400		2.0	38	mg/Kg-dry	50	07/26/12 05:46
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
BatchID: 42513							
1,1'-Biphenyl		U	52	3,500	µg/Kg-dry	10	07/25/12 02:07
2,4,5-Trichlorophenol		U	84	1,700	µg/Kg-dry	10	07/25/12 02:07
2,4,6-Trichlorophenol		U	84	1,700	µg/Kg-dry	10	07/25/12 02:07
2,4-Dichlorophenol		U	100	1,700	µg/Kg-dry	10	07/25/12 02:07
2,4-Dimethylphenol		U	430	3,500	µg/Kg-dry	10	07/25/12 02:07
2,4-Dinitrophenol		U	450	6,900	µg/Kg-dry	10	07/25/12 02:07
2,4-Dinitrotoluene		U	94	1,700	µg/Kg-dry	10	07/25/12 02:07

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-003  
**Collection Date:** 07/11/12 01:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		98	1,700	µg/Kg-dry	10	07/25/12 02:07
2-Chloronaphthalene	U		96	840	µg/Kg-dry	10	07/25/12 02:07
2-Chlorophenol	U		94	1,700	µg/Kg-dry	10	07/25/12 02:07
2-Methylnaphthalene	U		100	840	µg/Kg-dry	10	07/25/12 02:07
2-Methylphenol	U		100	1,700	µg/Kg-dry	10	07/25/12 02:07
2-Nitroaniline	U		80	6,900	µg/Kg-dry	10	07/25/12 02:07
2-Nitrophenol	U		91	1,700	µg/Kg-dry	10	07/25/12 02:07
3,3'-Dichlorobenzidine	U		98	6,900	µg/Kg-dry	10	07/25/12 02:07
3-Nitroaniline	U		850	6,900	µg/Kg-dry	10	07/25/12 02:07
4,6-Dinitro-2-methylphenol	U		510	3,500	µg/Kg-dry	10	07/25/12 02:07
4-Bromophenyl phenyl ether	U		91	1,700	µg/Kg-dry	10	07/25/12 02:07
4-Chloro-3-methylphenol	U		95	1,700	µg/Kg-dry	10	07/25/12 02:07
4-Chloroaniline	U		130	3,500	µg/Kg-dry	10	07/25/12 02:07
4-Chlorophenyl phenyl ether	U		96	1,700	µg/Kg-dry	10	07/25/12 02:07
4-Methylphenol	U		100	1,700	µg/Kg-dry	10	07/25/12 02:07
4-Nitroaniline	U		160	6,900	µg/Kg-dry	10	07/25/12 02:07
4-Nitrophenol	U		430	6,900	µg/Kg-dry	10	07/25/12 02:07
Acenaphthene	U		96	320	µg/Kg-dry	10	07/25/12 02:07
Acenaphthylene	U		99	320	µg/Kg-dry	10	07/25/12 02:07
Acetophenone	U		52	3,500	µg/Kg-dry	10	07/25/12 02:07
<b>Anthracene</b>	<b>180</b>	J	<b>110</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
Atrazine	U		110	530	µg/Kg-dry	10	07/25/12 02:07
Benzaldehyde	U		130	3,500	µg/Kg-dry	10	07/25/12 02:07
<b>Benzo(a)anthracene</b>	<b>620</b>		<b>130</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
<b>Benzo(a)pyrene</b>	<b>750</b>		<b>160</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
<b>Benzo(b)fluoranthene</b>	<b>940</b>		<b>170</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
<b>Benzo(g,h,i)perylene</b>	<b>290</b>	J	<b>250</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
<b>Benzo(k)fluoranthene</b>	<b>520</b>		<b>140</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
Bis(2-chloroethoxy)methane	U		86	1,700	µg/Kg-dry	10	07/25/12 02:07
Bis(2-chloroethyl)ether	U		88	1,700	µg/Kg-dry	10	07/25/12 02:07
Bis(2-chloroisopropyl)ether	U		82	1,700	µg/Kg-dry	10	07/25/12 02:07
<b>Bis(2-ethylhexyl)phthalate</b>	<b>7,400</b>		<b>100</b>	<b>3,500</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
<b>Butyl benzyl phthalate</b>	<b>590</b>	J	<b>150</b>	<b>1,700</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
Caprolactam	U		150	3,500	µg/Kg-dry	10	07/25/12 02:07
Carbazole	U		120	1,700	µg/Kg-dry	10	07/25/12 02:07
<b>Chrysene</b>	<b>610</b>		<b>120</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
Dibenzo(a,h)anthracene	U		180	320	µg/Kg-dry	10	07/25/12 02:07
Dibenzofuran	U		96	1,700	µg/Kg-dry	10	07/25/12 02:07
Diethyl phthalate	U		87	3,500	µg/Kg-dry	10	07/25/12 02:07
Dimethyl phthalate	U		88	3,500	µg/Kg-dry	10	07/25/12 02:07

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-003  
**Collection Date:** 07/11/12 01:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate		U	110	3,500	µg/Kg-dry	10	07/25/12 02:07
<b>Di-n-octyl phthalate</b>	<b>440</b>	J	<b>130</b>	<b>1,700</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
<b>Fluoranthene</b>	<b>1,100</b>		<b>120</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
Fluorene		U	92	320	µg/Kg-dry	10	07/25/12 02:07
Hexachlorobenzene		U	96	1,700	µg/Kg-dry	10	07/25/12 02:07
Hexachlorobutadiene		U	89	530	µg/Kg-dry	10	07/25/12 02:07
Hexachlorocyclopentadiene		U	370	3,500	µg/Kg-dry	10	07/25/12 02:07
Hexachloroethane		U	92	1,700	µg/Kg-dry	10	07/25/12 02:07
<b>Indeno(1,2,3-cd)pyrene</b>	<b>220</b>	J	<b>200</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
Isophorone		U	91	1,700	µg/Kg-dry	10	07/25/12 02:07
Naphthalene		U	90	320	µg/Kg-dry	10	07/25/12 02:07
Nitrobenzene		U	91	1,700	µg/Kg-dry	10	07/25/12 02:07
N-Nitrosodi-n-propylamine		U	92	1,700	µg/Kg-dry	10	07/25/12 02:07
N-Nitrosodiphenylamine		U	620	1,700	µg/Kg-dry	10	07/25/12 02:07
Pentachlorophenol		U	160	210	µg/Kg-dry	10	07/25/12 02:07
<b>Phenanthrene</b>	<b>700</b>		<b>320</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
Phenol		U	89	1,700	µg/Kg-dry	10	07/25/12 02:07
<b>Pyrene</b>	<b>880</b>		<b>130</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:07
Surr: 2,4,6-Tribromophenol	46.8			34-140	%REC	10	07/25/12 02:07
Surr: 2-Fluorobiphenyl	52.4			12-100	%REC	10	07/25/12 02:07
Surr: 2-Fluorophenol	60.0			33-117	%REC	10	07/25/12 02:07
Surr: 4-Terphenyl-d14	71.4			25-137	%REC	10	07/25/12 02:07
Surr: Nitrobenzene-d5	51.0			37-107	%REC	10	07/25/12 02:07
Surr: Phenol-d6	56.0			40-106	%REC	10	07/25/12 02:07

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: AK

BatchID: 42425

1,1,1-Trichloroethane	U		15	40	µg/Kg-dry	1	07/23/12 14:39
1,1,2,2-Tetrachloroethane	U		18	40	µg/Kg-dry	1	07/23/12 14:39
1,1,2-Trichloroethane	U		14	40	µg/Kg-dry	1	07/23/12 14:39
1,1,2-Trichlorotrifluoroethane	U		15	40	µg/Kg-dry	1	07/23/12 14:39
1,1-Dichloroethane	U		15	40	µg/Kg-dry	1	07/23/12 14:39
1,1-Dichloroethene	U		17	40	µg/Kg-dry	1	07/23/12 14:39
1,2,4-Trichlorobenzene	U		21	40	µg/Kg-dry	1	07/23/12 14:39
1,2-Dibromo-3-chloropropane	U		20	40	µg/Kg-dry	1	07/23/12 14:39
1,2-Dibromoethane	U		16	40	µg/Kg-dry	1	07/23/12 14:39
1,2-Dichlorobenzene	U		16	40	µg/Kg-dry	1	07/23/12 14:39
1,2-Dichloroethane	U		19	40	µg/Kg-dry	1	07/23/12 14:39
1,2-Dichloropropane	U		13	40	µg/Kg-dry	1	07/23/12 14:39
1,3-Dichlorobenzene	U		16	40	µg/Kg-dry	1	07/23/12 14:39

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-003  
**Collection Date:** 07/11/12 01:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		15	40	µg/Kg-dry	1	07/23/12 14:39
2-Butanone	U		99	270	µg/Kg-dry	1	07/23/12 14:39
2-Hexanone	U		9.8	40	µg/Kg-dry	1	07/23/12 14:39
4-Methyl-2-pentanone	U		14	40	µg/Kg-dry	1	07/23/12 14:39
Acetone	U		85	130	µg/Kg-dry	1	07/23/12 14:39
Benzene	U		16	40	µg/Kg-dry	1	07/23/12 14:39
Bromodichloromethane	U		9.0	40	µg/Kg-dry	1	07/23/12 14:39
Bromoform	U		7.9	40	µg/Kg-dry	1	07/23/12 14:39
Bromomethane	U		15	100	µg/Kg-dry	1	07/23/12 14:39
Carbon disulfide	U		20	40	µg/Kg-dry	1	07/23/12 14:39
Carbon tetrachloride	U		11	40	µg/Kg-dry	1	07/23/12 14:39
Chlorobenzene	U		16	40	µg/Kg-dry	1	07/23/12 14:39
Chloroethane	U		85	130	µg/Kg-dry	1	07/23/12 14:39
Chloroform	U		17	40	µg/Kg-dry	1	07/23/12 14:39
Chloromethane	U		22	130	µg/Kg-dry	1	07/23/12 14:39
cis-1,2-Dichloroethene	U		16	40	µg/Kg-dry	1	07/23/12 14:39
cis-1,3-Dichloropropene	U		14	40	µg/Kg-dry	1	07/23/12 14:39
Cyclohexane	U		18	40	µg/Kg-dry	1	07/23/12 14:39
Dibromochloromethane	U		7.4	40	µg/Kg-dry	1	07/23/12 14:39
Dichlorodifluoromethane	U		18	40	µg/Kg-dry	1	07/23/12 14:39
<b>Ethylbenzene</b>	<b>18</b>	<b>J</b>	<b>15</b>	<b>40</b>	<b>µg/Kg-dry</b>	1	07/23/12 14:39
Isopropylbenzene	U		17	40	µg/Kg-dry	1	07/23/12 14:39
Methyl acetate	U		54	270	µg/Kg-dry	1	07/23/12 14:39
Methyl tert-butyl ether	U		17	40	µg/Kg-dry	1	07/23/12 14:39
Methylcyclohexane	U		19	40	µg/Kg-dry	1	07/23/12 14:39
Methylene chloride	U		16	40	µg/Kg-dry	1	07/23/12 14:39
Styrene	U		15	40	µg/Kg-dry	1	07/23/12 14:39
Tetrachloroethene	U		18	40	µg/Kg-dry	1	07/23/12 14:39
<b>Toluene</b>	<b>23</b>	<b>J</b>	<b>15</b>	<b>40</b>	<b>µg/Kg-dry</b>	1	07/23/12 14:39
trans-1,2-Dichloroethene	U		12	40	µg/Kg-dry	1	07/23/12 14:39
trans-1,3-Dichloropropene	U		13	40	µg/Kg-dry	1	07/23/12 14:39
Trichloroethene	U		19	40	µg/Kg-dry	1	07/23/12 14:39
Trichlorofluoromethane	U		11	40	µg/Kg-dry	1	07/23/12 14:39
Vinyl chloride	U		18	40	µg/Kg-dry	1	07/23/12 14:39
<b>Xylenes, Total</b>	<b>140</b>		<b>47</b>	<b>120</b>	<b>µg/Kg-dry</b>	1	07/23/12 14:39
Surr: 1,2-Dichloroethane-d4	84.8			70-130	%REC	1	07/23/12 14:39
Surr: 4-Bromofluorobenzene	101			70-130	%REC	1	07/23/12 14:39
Surr: Dibromofluoromethane	88.2			70-130	%REC	1	07/23/12 14:39
Surr: Toluene-d8	91.8			70-130	%REC	1	07/23/12 14:39

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-003  
**Collection Date:** 07/11/12 01:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-03  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	6.0	H	0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-004  
**Collection Date:** 07/11/12 01:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42453</u>							
2,4,5-T	U		0.11	5.7	µg/Kg-dry	1	07/24/12 11:52
2,4,5-TP (Silvex)	U		0.075	11	µg/Kg-dry	1	07/24/12 11:52
2,4-D	U		0.081	5.7	µg/Kg-dry	1	07/24/12 11:52
Surr: DCAA	114			30-150	%REC	1	07/24/12 11:52
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		41	46	µg/Kg-dry	1	07/24/12 13:24
Aroclor 1221	U		41	46	µg/Kg-dry	1	07/24/12 13:24
Aroclor 1232	U		41	46	µg/Kg-dry	1	07/24/12 13:24
Aroclor 1242	U		41	46	µg/Kg-dry	1	07/24/12 13:24
<b>Aroclor 1248</b>	<b>390</b>		<b>41</b>	<b>46</b>	<b>µg/Kg-dry</b>	1	07/24/12 13:24
<b>Aroclor 1254</b>	<b>280</b>		<b>13</b>	<b>46</b>	<b>µg/Kg-dry</b>	1	07/24/12 13:24
Aroclor 1260	U		13	46	µg/Kg-dry	1	07/24/12 13:24
Surr: Tetrachloro-m-xylene	90.1			45-124	%REC	1	07/24/12 13:24
Surr: Decachlorobiphenyl	117			40-140	%REC	1	07/24/12 13:24
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		73	230	µg/Kg-dry	20	07/25/12 14:50
4,4'-DDE	U		45	230	µg/Kg-dry	20	07/25/12 14:50
4,4'-DDT	U		53	230	µg/Kg-dry	20	07/25/12 14:50
Aldrin	U		21	230	µg/Kg-dry	20	07/25/12 14:50
alpha-BHC	U		73	230	µg/Kg-dry	20	07/25/12 14:50
alpha-Chlordane	U		63	230	µg/Kg-dry	20	07/25/12 14:50
beta-BHC	U		87	230	µg/Kg-dry	20	07/25/12 14:50
Chlordane, Technical	U		230	570	µg/Kg-dry	20	07/25/12 14:50
delta-BHC	U		85	230	µg/Kg-dry	20	07/25/12 14:50
Dieldrin	U		19	230	µg/Kg-dry	20	07/25/12 14:50
Endosulfan I	U		30	230	µg/Kg-dry	20	07/25/12 14:50
Endosulfan II	U		25	230	µg/Kg-dry	20	07/25/12 14:50
Endosulfan sulfate	U		28	230	µg/Kg-dry	20	07/25/12 14:50
Endrin	U		67	230	µg/Kg-dry	20	07/25/12 14:50
Endrin aldehyde	U		56	230	µg/Kg-dry	20	07/25/12 14:50
Endrin ketone	U		88	230	µg/Kg-dry	20	07/25/12 14:50
gamma-BHC (Lindane)	U		110	230	µg/Kg-dry	20	07/25/12 14:50
gamma-Chlordane	U		38	230	µg/Kg-dry	20	07/25/12 14:50
Heptachlor	U		120	230	µg/Kg-dry	20	07/25/12 14:50

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-004  
**Collection Date:** 07/11/12 01:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		36	230	µg/Kg-dry	20	07/25/12 14:50
Methoxychlor	U		56	230	µg/Kg-dry	20	07/25/12 14:50
Toxaphene	U		270	1,400	µg/Kg-dry	20	07/25/12 14:50
<i>Surr: Decachlorobiphenyl</i>	80.1			45-135	%REC	20	07/25/12 14:50
<i>Surr: Tetrachloro-m-xylene</i>	100			45-124	%REC	20	07/25/12 14:50
<b>MERCURY BY CVAA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
<u>BatchID: 42450</u>							
<b>Mercury</b>	<b>0.19</b>		<b>0.00092</b>	<b>0.018</b>	<b>mg/Kg-dry</b>	1	07/23/12 16:28
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
<u>BatchID: 42527</u>							
<b>Antimony</b>	<b>8.8</b>		<b>0.011</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:45
<b>Arsenic</b>	<b>9.8</b>		<b>0.055</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:45
<b>Beryllium</b>	<b>0.15</b>	J	<b>0.0055</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:45
<b>Cadmium</b>	<b>7.1</b>		<b>0.0018</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:45
<b>Chromium</b>	<b>40</b>		<b>0.013</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:45
<b>Cobalt</b>	<b>7.0</b>		<b>0.0018</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:45
<b>Nickel</b>	<b>31</b>		<b>0.0055</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:45
<b>Selenium</b>	<b>0.34</b>	J	<b>0.033</b>	<b>0.37</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:45
<b>Silver</b>	<b>0.95</b>		<b>0.0018</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/27/12 05:36
<b>Thallium</b>	<b>0.056</b>	J	<b>0.0074</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:45
<b>Vanadium</b>	<b>12</b>		<b>0.024</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:45
<u>BatchID: 42527</u>							
<b>Aluminum</b>	<b>5,900</b>		<b>0.66</b>	<b>9.2</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:52
<b>Barium</b>	<b>200</b>		<b>0.17</b>	<b>4.6</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:52
<b>Copper</b>	<b>160</b>		<b>0.13</b>	<b>4.6</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:52
<b>Iron</b>	<b>51,000</b>		<b>16</b>	<b>74</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:52
<b>Lead</b>	<b>960</b>		<b>0.018</b>	<b>4.6</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:52
<b>Manganese</b>	<b>820</b>		<b>0.13</b>	<b>4.6</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:52
<b>Zinc</b>	<b>800</b>		<b>0.48</b>	<b>9.2</b>	<b>mg/Kg-dry</b>	10	07/26/12 05:52
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
<u>BatchID: 42513</u>							
<b>1,1'-Biphenyl</b>	U		57	3,800	µg/Kg-dry	10	07/25/12 02:38
<b>2,4,5-Trichlorophenol</b>	U		92	1,900	µg/Kg-dry	10	07/25/12 02:38
<b>2,4,6-Trichlorophenol</b>	U		92	1,900	µg/Kg-dry	10	07/25/12 02:38
<b>2,4-Dichlorophenol</b>	U		110	1,900	µg/Kg-dry	10	07/25/12 02:38
<b>2,4-Dimethylphenol</b>	U		470	3,800	µg/Kg-dry	10	07/25/12 02:38
<b>2,4-Dinitrophenol</b>	U		490	7,600	µg/Kg-dry	10	07/25/12 02:38
<b>2,4-Dinitrotoluene</b>	<b>440</b>	J	<b>100</b>	<b>1,900</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-004  
**Collection Date:** 07/11/12 01:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		110	1,900	µg/Kg-dry	10	07/25/12 02:38
2-Chloronaphthalene	U		110	930	µg/Kg-dry	10	07/25/12 02:38
2-Chlorophenol	U		100	1,900	µg/Kg-dry	10	07/25/12 02:38
<b>2-Methylnaphthalene</b>	<b>410</b>	J	<b>110</b>	<b>930</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
2-Methylphenol	U		110	1,900	µg/Kg-dry	10	07/25/12 02:38
2-Nitroaniline	U		88	7,600	µg/Kg-dry	10	07/25/12 02:38
2-Nitrophenol	U		100	1,900	µg/Kg-dry	10	07/25/12 02:38
3,3'-Dichlorobenzidine	U		110	7,600	µg/Kg-dry	10	07/25/12 02:38
3-Nitroaniline	U		940	7,600	µg/Kg-dry	10	07/25/12 02:38
4,6-Dinitro-2-methylphenol	U		560	3,800	µg/Kg-dry	10	07/25/12 02:38
4-Bromophenyl phenyl ether	U		100	1,900	µg/Kg-dry	10	07/25/12 02:38
4-Chloro-3-methylphenol	U		100	1,900	µg/Kg-dry	10	07/25/12 02:38
4-Chloroaniline	U		150	3,800	µg/Kg-dry	10	07/25/12 02:38
4-Chlorophenyl phenyl ether	U		110	1,900	µg/Kg-dry	10	07/25/12 02:38
<b>4-Methylphenol</b>	<b>540</b>	J	<b>110</b>	<b>1,900</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
4-Nitroaniline	U		170	7,600	µg/Kg-dry	10	07/25/12 02:38
4-Nitrophenol	U		470	7,600	µg/Kg-dry	10	07/25/12 02:38
<b>Acenaphthene</b>	<b>610</b>		<b>110</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
Acenaphthylene	U		110	350	µg/Kg-dry	10	07/25/12 02:38
Acetophenone	U		58	3,800	µg/Kg-dry	10	07/25/12 02:38
<b>Anthracene</b>	<b>640</b>		<b>120</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
Atrazine	U		120	580	µg/Kg-dry	10	07/25/12 02:38
Benzaldehyde	U		150	3,800	µg/Kg-dry	10	07/25/12 02:38
<b>Benzo(a)anthracene</b>	<b>1,100</b>		<b>140</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
<b>Benzo(a)pyrene</b>	<b>1,100</b>		<b>180</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
<b>Benzo(b)fluoranthene</b>	<b>1,500</b>		<b>190</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
<b>Benzo(g,h,i)perylene</b>	<b>410</b>		<b>270</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
<b>Benzo(k)fluoranthene</b>	<b>760</b>		<b>160</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
Bis(2-chloroethoxy)methane	U		95	1,900	µg/Kg-dry	10	07/25/12 02:38
Bis(2-chloroethyl)ether	U		96	1,900	µg/Kg-dry	10	07/25/12 02:38
Bis(2-chloroisopropyl)ether	U		90	1,900	µg/Kg-dry	10	07/25/12 02:38
<b>Bis(2-ethylhexyl)phthalate</b>	<b>2,300</b>	J	<b>110</b>	<b>3,800</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
<b>Butyl benzyl phthalate</b>	<b>750</b>	J	<b>160</b>	<b>1,900</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
Caprolactam	U		170	3,800	µg/Kg-dry	10	07/25/12 02:38
Carbazole	U		130	1,900	µg/Kg-dry	10	07/25/12 02:38
<b>Chrysene</b>	<b>1,100</b>		<b>130</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
Dibenzo(a,h)anthracene	U		200	350	µg/Kg-dry	10	07/25/12 02:38
<b>Dibenzofuran</b>	<b>390</b>	J	<b>110</b>	<b>1,900</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
Diethyl phthalate	U		96	3,800	µg/Kg-dry	10	07/25/12 02:38
Dimethyl phthalate	U		96	3,800	µg/Kg-dry	10	07/25/12 02:38

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-004  
**Collection Date:** 07/11/12 01:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate		U	120	3,800	µg/Kg-dry	10	07/25/12 02:38
Di-n-octyl phthalate		U	140	1,900	µg/Kg-dry	10	07/25/12 02:38
<b>Fluoranthene</b>	<b>3,000</b>		<b>140</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
<b>Fluorene</b>	<b>570</b>		<b>100</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
Hexachlorobenzene		U	110	1,900	µg/Kg-dry	10	07/25/12 02:38
Hexachlorobutadiene		U	98	580	µg/Kg-dry	10	07/25/12 02:38
Hexachlorocyclopentadiene		U	400	3,800	µg/Kg-dry	10	07/25/12 02:38
Hexachloroethane		U	100	1,900	µg/Kg-dry	10	07/25/12 02:38
<b>Indeno(1,2,3-cd)pyrene</b>	<b>310</b>	J	<b>220</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
Isophorone		U	100	1,900	µg/Kg-dry	10	07/25/12 02:38
<b>Naphthalene</b>	<b>1,000</b>		<b>99</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
Nitrobenzene		U	100	1,900	µg/Kg-dry	10	07/25/12 02:38
N-Nitrosodi-n-propylamine		U	100	1,900	µg/Kg-dry	10	07/25/12 02:38
N-Nitrosodiphenylamine		U	690	1,900	µg/Kg-dry	10	07/25/12 02:38
Pentachlorophenol		U	170	230	µg/Kg-dry	10	07/25/12 02:38
<b>Phenanthrene</b>	<b>2,700</b>		<b>350</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
<b>Phenol</b>	<b>290</b>	J	<b>98</b>	<b>1,900</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
<b>Pyrene</b>	<b>2,100</b>		<b>140</b>	<b>350</b>	<b>µg/Kg-dry</b>	10	07/25/12 02:38
Surr: 2,4,6-Tribromophenol	68.0			34-140	%REC	10	07/25/12 02:38
Surr: 2-Fluorobiphenyl	52.8			12-100	%REC	10	07/25/12 02:38
Surr: 2-Fluorophenol	61.8			33-117	%REC	10	07/25/12 02:38
Surr: 4-Terphenyl-d14	70.4			25-137	%REC	10	07/25/12 02:38
Surr: Nitrobenzene-d5	48.2			37-107	%REC	10	07/25/12 02:38
Surr: Phenol-d6	57.2			40-106	%REC	10	07/25/12 02:38

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: AK

BatchID: 42425

1,1,1-Trichloroethane	U		18	48	µg/Kg-dry	1	07/23/12 15:03
1,1,2,2-Tetrachloroethane	U		21	48	µg/Kg-dry	1	07/23/12 15:03
1,1,2-Trichloroethane	U		17	48	µg/Kg-dry	1	07/23/12 15:03
1,1,2-Trichlorotrifluoroethane	U		18	48	µg/Kg-dry	1	07/23/12 15:03
1,1-Dichloroethane	U		17	48	µg/Kg-dry	1	07/23/12 15:03
1,1-Dichloroethene	U		20	48	µg/Kg-dry	1	07/23/12 15:03
1,2,4-Trichlorobenzene	U		25	48	µg/Kg-dry	1	07/23/12 15:03
1,2-Dibromo-3-chloropropane	U		23	48	µg/Kg-dry	1	07/23/12 15:03
1,2-Dibromoethane	U		19	48	µg/Kg-dry	1	07/23/12 15:03
1,2-Dichlorobenzene	U		19	48	µg/Kg-dry	1	07/23/12 15:03
1,2-Dichloroethane	U		23	48	µg/Kg-dry	1	07/23/12 15:03
1,2-Dichloropropane	U		16	48	µg/Kg-dry	1	07/23/12 15:03
1,3-Dichlorobenzene	U		19	48	µg/Kg-dry	1	07/23/12 15:03

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-004  
**Collection Date:** 07/11/12 01:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		18	48	µg/Kg-dry	1	07/23/12 15:03
2-Butanone	U		120	320	µg/Kg-dry	1	07/23/12 15:03
2-Hexanone	U		12	48	µg/Kg-dry	1	07/23/12 15:03
4-Methyl-2-pentanone	U		16	48	µg/Kg-dry	1	07/23/12 15:03
<b>Acetone</b>	<b>230</b>	<b>B</b>	<b>100</b>	<b>160</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:03
<b>Benzene</b>	<b>59</b>		<b>19</b>	<b>48</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:03
Bromodichloromethane	U		11	48	µg/Kg-dry	1	07/23/12 15:03
Bromoform	U		9.4	48	µg/Kg-dry	1	07/23/12 15:03
Bromomethane	U		18	120	µg/Kg-dry	1	07/23/12 15:03
Carbon disulfide	U		24	48	µg/Kg-dry	1	07/23/12 15:03
Carbon tetrachloride	U		14	48	µg/Kg-dry	1	07/23/12 15:03
<b>Chlorobenzene</b>	<b>69</b>		<b>19</b>	<b>48</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:03
Chloroethane	U		100	160	µg/Kg-dry	1	07/23/12 15:03
Chloroform	U		20	48	µg/Kg-dry	1	07/23/12 15:03
Chloromethane	U		26	160	µg/Kg-dry	1	07/23/12 15:03
cis-1,2-Dichloroethene	U		19	48	µg/Kg-dry	1	07/23/12 15:03
cis-1,3-Dichloropropene	U		16	48	µg/Kg-dry	1	07/23/12 15:03
Cyclohexane	U		21	48	µg/Kg-dry	1	07/23/12 15:03
Dibromochloromethane	U		8.8	48	µg/Kg-dry	1	07/23/12 15:03
Dichlorodifluoromethane	U		21	48	µg/Kg-dry	1	07/23/12 15:03
<b>Ethylbenzene</b>	<b>200</b>		<b>18</b>	<b>48</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:03
<b>Isopropylbenzene</b>	<b>41</b>	<b>J</b>	<b>20</b>	<b>48</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:03
Methyl acetate	U		64	320	µg/Kg-dry	1	07/23/12 15:03
Methyl tert-butyl ether	U		20	48	µg/Kg-dry	1	07/23/12 15:03
Methylcyclohexane	U		22	48	µg/Kg-dry	1	07/23/12 15:03
Methylene chloride	U		19	48	µg/Kg-dry	1	07/23/12 15:03
Styrene	U		18	48	µg/Kg-dry	1	07/23/12 15:03
Tetrachloroethene	U		21	48	µg/Kg-dry	1	07/23/12 15:03
<b>Toluene</b>	<b>350</b>		<b>18</b>	<b>48</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:03
trans-1,2-Dichloroethene	U		15	48	µg/Kg-dry	1	07/23/12 15:03
trans-1,3-Dichloropropene	U		16	48	µg/Kg-dry	1	07/23/12 15:03
Trichloroethene	U		22	48	µg/Kg-dry	1	07/23/12 15:03
Trichlorofluoromethane	U		13	48	µg/Kg-dry	1	07/23/12 15:03
Vinyl chloride	U		21	48	µg/Kg-dry	1	07/23/12 15:03
<b>Xylenes, Total</b>	<b>610</b>		<b>56</b>	<b>140</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:03
Surr: 1,2-Dichloroethane-d4	85.2			70-130	%REC	1	07/23/12 15:03
Surr: 4-Bromofluorobenzene	104			70-130	%REC	1	07/23/12 15:03
Surr: Dibromofluoromethane	86.6			70-130	%REC	1	07/23/12 15:03
Surr: Toluene-d8	91.4			70-130	%REC	1	07/23/12 15:03

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-004  
**Collection Date:** 07/11/12 01:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-04  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	14	H	0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-005  
**Collection Date:** 07/11/12 03:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42453</u>							
2,4,5-T	U		0.10	5.3	µg/Kg-dry	1	07/24/12 12:01
2,4,5-TP (Silvex)	U		0.071	11	µg/Kg-dry	1	07/24/12 12:01
2,4-D	U		0.076	5.3	µg/Kg-dry	1	07/24/12 12:01
Surr: DCAA	115			30-150	%REC	1	07/24/12 12:01
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		37	42	µg/Kg-dry	1	07/24/12 13:44
Aroclor 1221	U		37	42	µg/Kg-dry	1	07/24/12 13:44
Aroclor 1232	U		37	42	µg/Kg-dry	1	07/24/12 13:44
Aroclor 1242	U		37	42	µg/Kg-dry	1	07/24/12 13:44
Aroclor 1248	U		37	42	µg/Kg-dry	1	07/24/12 13:44
Aroclor 1254	U		12	42	µg/Kg-dry	1	07/24/12 13:44
Aroclor 1260	U		12	42	µg/Kg-dry	1	07/24/12 13:44
Surr: Tetrachloro-m-xylene	96.1			45-124	%REC	1	07/24/12 13:44
Surr: Decachlorobiphenyl	97.1			40-140	%REC	1	07/24/12 13:44
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		3.3	10	µg/Kg-dry	1	07/25/12 15:05
4,4'-DDE	U		2.0	10	µg/Kg-dry	1	07/25/12 15:05
4,4'-DDT	U		2.4	10	µg/Kg-dry	1	07/25/12 15:05
Aldrin	U		0.94	10	µg/Kg-dry	1	07/25/12 15:05
alpha-BHC	U		3.4	10	µg/Kg-dry	1	07/25/12 15:05
alpha-Chlordane	U		2.9	10	µg/Kg-dry	1	07/25/12 15:05
beta-BHC	U		4.0	10	µg/Kg-dry	1	07/25/12 15:05
Chlordane, Technical	U		10	26	µg/Kg-dry	1	07/25/12 15:05
delta-BHC	U		3.9	10	µg/Kg-dry	1	07/25/12 15:05
Dieldrin	U		0.89	10	µg/Kg-dry	1	07/25/12 15:05
Endosulfan I	U		1.4	10	µg/Kg-dry	1	07/25/12 15:05
Endosulfan II	U		1.2	10	µg/Kg-dry	1	07/25/12 15:05
Endosulfan sulfate	U		1.3	10	µg/Kg-dry	1	07/25/12 15:05
Endrin	U		3.0	10	µg/Kg-dry	1	07/25/12 15:05
Endrin aldehyde	U		2.5	10	µg/Kg-dry	1	07/25/12 15:05
Endrin ketone	U		4.0	10	µg/Kg-dry	1	07/25/12 15:05
gamma-BHC (Lindane)	U		4.9	10	µg/Kg-dry	1	07/25/12 15:05
gamma-Chlordane	U		1.7	10	µg/Kg-dry	1	07/25/12 15:05
Heptachlor	U		5.4	10	µg/Kg-dry	1	07/25/12 15:05

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-005  
**Collection Date:** 07/11/12 03:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		1.7	10	µg/Kg-dry	1	07/25/12 15:05
Methoxychlor	U		2.6	10	µg/Kg-dry	1	07/25/12 15:05
Toxaphene	U		12	63	µg/Kg-dry	1	07/25/12 15:05
<i>Surr: Decachlorobiphenyl</i>	88.1			45-135	%REC	1	07/25/12 15:05
<i>Surr: Tetrachloro-m-xylene</i>	103			45-124	%REC	1	07/25/12 15:05
<b>MERCURY BY CVAA</b>			<b>SW7471</b>		Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>
<u>BatchID: 42450</u>							
<b>Mercury</b>	<b>0.0064</b>	J	<b>0.00088</b>	<b>0.018</b>	<b>mg/Kg-dry</b>	1	07/23/12 16:31
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>
<u>BatchID: 42527</u>							
<b>Antimony</b>	<b>0.15</b>	J	<b>0.0087</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Arsenic</b>	<b>2.1</b>		<b>0.043</b>	<b>0.14</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Barium</b>	<b>8.0</b>		<b>0.013</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Beryllium</b>	<b>0.097</b>	J	<b>0.0043</b>	<b>0.14</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Cadmium</b>	<b>0.088</b>	J	<b>0.0014</b>	<b>0.14</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Chromium</b>	<b>5.2</b>		<b>0.010</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Cobalt</b>	<b>1.9</b>		<b>0.0014</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Copper</b>	<b>5.2</b>		<b>0.010</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Iron</b>	<b>5,400</b>		<b>1.2</b>	<b>5.8</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Lead</b>	<b>4.0</b>		<b>0.0014</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Nickel</b>	<b>5.6</b>		<b>0.0043</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Selenium</b>	<b>0.32</b>		<b>0.026</b>	<b>0.29</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Thallium</b>	<b>0.056</b>	J	<b>0.0058</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Vanadium</b>	<b>8.9</b>		<b>0.019</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<b>Zinc</b>	<b>22</b>		<b>0.038</b>	<b>0.72</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:51
<u>BatchID: 42527</u>							
<b>Aluminum</b>	<b>2,700</b>		<b>0.10</b>	<b>1.4</b>	<b>mg/Kg-dry</b>	2	07/26/12 05:58
<b>Manganese</b>	<b>170</b>		<b>0.020</b>	<b>0.72</b>	<b>mg/Kg-dry</b>	2	07/26/12 05:58
<b>Silver</b>	<b>0.018</b>	J	<b>0.0029</b>	<b>0.29</b>	<b>mg/Kg-dry</b>	2	07/26/12 05:58
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>		Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>
<u>BatchID: 42513</u>							
1,1'-Biphenyl	U		5.3	350	µg/Kg-dry	1	07/25/12 01:04
2,4,5-Trichlorophenol	U		8.5	170	µg/Kg-dry	1	07/25/12 01:04
2,4,6-Trichlorophenol	U		8.5	170	µg/Kg-dry	1	07/25/12 01:04
2,4-Dichlorophenol	U		10	170	µg/Kg-dry	1	07/25/12 01:04
2,4-Dimethylphenol	U		44	350	µg/Kg-dry	1	07/25/12 01:04
2,4-Dinitrophenol	U		46	710	µg/Kg-dry	1	07/25/12 01:04
2,4-Dinitrotoluene	U		9.6	170	µg/Kg-dry	1	07/25/12 01:04

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-005  
**Collection Date:** 07/11/12 03:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		10	170	µg/Kg-dry	1	07/25/12 01:04
2-Chloronaphthalene	U		9.8	86	µg/Kg-dry	1	07/25/12 01:04
2-Chlorophenol	U		9.6	170	µg/Kg-dry	1	07/25/12 01:04
2-Methylnaphthalene	U		11	86	µg/Kg-dry	1	07/25/12 01:04
2-Methylphenol	U		10	170	µg/Kg-dry	1	07/25/12 01:04
2-Nitroaniline	U		8.2	710	µg/Kg-dry	1	07/25/12 01:04
2-Nitrophenol	U		9.3	170	µg/Kg-dry	1	07/25/12 01:04
3,3'-Dichlorobenzidine	U		10	710	µg/Kg-dry	1	07/25/12 01:04
3-Nitroaniline	U		87	710	µg/Kg-dry	1	07/25/12 01:04
4,6-Dinitro-2-methylphenol	U		52	350	µg/Kg-dry	1	07/25/12 01:04
4-Bromophenyl phenyl ether	U		9.3	170	µg/Kg-dry	1	07/25/12 01:04
4-Chloro-3-methylphenol	U		9.7	170	µg/Kg-dry	1	07/25/12 01:04
4-Chloroaniline	U		14	350	µg/Kg-dry	1	07/25/12 01:04
4-Chlorophenyl phenyl ether	U		9.8	170	µg/Kg-dry	1	07/25/12 01:04
4-Methylphenol	U		11	170	µg/Kg-dry	1	07/25/12 01:04
4-Nitroaniline	U		16	710	µg/Kg-dry	1	07/25/12 01:04
4-Nitrophenol	U		43	710	µg/Kg-dry	1	07/25/12 01:04
Acenaphthene	U		9.8	32	µg/Kg-dry	1	07/25/12 01:04
Acenaphthylene	U		10	32	µg/Kg-dry	1	07/25/12 01:04
Acetophenone	U		5.3	350	µg/Kg-dry	1	07/25/12 01:04
Anthracene	U		11	32	µg/Kg-dry	1	07/25/12 01:04
Atrazine	U		11	54	µg/Kg-dry	1	07/25/12 01:04
Benzaldehyde	U		14	350	µg/Kg-dry	1	07/25/12 01:04
Benzo(a)anthracene	U		13	32	µg/Kg-dry	1	07/25/12 01:04
Benzo(a)pyrene	U		17	32	µg/Kg-dry	1	07/25/12 01:04
Benzo(b)fluoranthene	U		17	32	µg/Kg-dry	1	07/25/12 01:04
Benzo(g,h,i)perylene	U		25	32	µg/Kg-dry	1	07/25/12 01:04
Benzo(k)fluoranthene	U		15	32	µg/Kg-dry	1	07/25/12 01:04
Bis(2-chloroethoxy)methane	U		8.8	170	µg/Kg-dry	1	07/25/12 01:04
Bis(2-chloroethyl)ether	U		8.9	170	µg/Kg-dry	1	07/25/12 01:04
Bis(2-chloroisopropyl)ether	U		8.4	170	µg/Kg-dry	1	07/25/12 01:04
<b>Bis(2-ethylhexyl)phthalate</b>	<b>48</b>	<b>J</b>	<b>11</b>	<b>350</b>	<b>µg/Kg-dry</b>	1	07/25/12 01:04
Butyl benzyl phthalate	U		15	170	µg/Kg-dry	1	07/25/12 01:04
Caprolactam	U		16	350	µg/Kg-dry	1	07/25/12 01:04
Carbazole	U		12	170	µg/Kg-dry	1	07/25/12 01:04
Chrysene	U		12	32	µg/Kg-dry	1	07/25/12 01:04
Dibenzo(a,h)anthracene	U		18	32	µg/Kg-dry	1	07/25/12 01:04
Dibenzofuran	U		9.8	170	µg/Kg-dry	1	07/25/12 01:04
Diethyl phthalate	U		8.9	350	µg/Kg-dry	1	07/25/12 01:04
Dimethyl phthalate	U		8.9	350	µg/Kg-dry	1	07/25/12 01:04

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-005  
**Collection Date:** 07/11/12 03:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate	U		11	350	µg/Kg-dry	1	07/25/12 01:04
Di-n-octyl phthalate	U		13	170	µg/Kg-dry	1	07/25/12 01:04
Fluoranthene	U		13	32	µg/Kg-dry	1	07/25/12 01:04
Fluorene	U		9.4	32	µg/Kg-dry	1	07/25/12 01:04
Hexachlorobenzene	U		9.7	170	µg/Kg-dry	1	07/25/12 01:04
Hexachlorobutadiene	U		9.1	54	µg/Kg-dry	1	07/25/12 01:04
Hexachlorocyclopentadiene	U		37	350	µg/Kg-dry	1	07/25/12 01:04
Hexachloroethane	U		9.4	170	µg/Kg-dry	1	07/25/12 01:04
Indeno(1,2,3-cd)pyrene	U		20	32	µg/Kg-dry	1	07/25/12 01:04
Isophorone	U		9.3	170	µg/Kg-dry	1	07/25/12 01:04
Naphthalene	U		9.1	32	µg/Kg-dry	1	07/25/12 01:04
Nitrobenzene	U		9.3	170	µg/Kg-dry	1	07/25/12 01:04
N-Nitrosodi-n-propylamine	U		9.4	170	µg/Kg-dry	1	07/25/12 01:04
N-Nitrosodiphenylamine	U		64	170	µg/Kg-dry	1	07/25/12 01:04
Pentachlorophenol	U		16	21	µg/Kg-dry	1	07/25/12 01:04
Phenanthrene	U		32	32	µg/Kg-dry	1	07/25/12 01:04
Phenol	U		9.1	170	µg/Kg-dry	1	07/25/12 01:04
Pyrene	U		13	32	µg/Kg-dry	1	07/25/12 01:04
Surr: 2,4,6-Tribromophenol	78.6			34-140	%REC	1	07/25/12 01:04
Surr: 2-Fluorobiphenyl	70.6			12-100	%REC	1	07/25/12 01:04
Surr: 2-Fluorophenol	79.0			33-117	%REC	1	07/25/12 01:04
Surr: 4-Terphenyl-d14	103			25-137	%REC	1	07/25/12 01:04
Surr: Nitrobenzene-d5	67.8			37-107	%REC	1	07/25/12 01:04
Surr: Phenol-d6	73.3			40-106	%REC	1	07/25/12 01:04

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: AK

BatchID: 42425

1,1,1-Trichloroethane	U		14	37	µg/Kg-dry	1	07/23/12 15:28
1,1,2,2-Tetrachloroethane	U		16	37	µg/Kg-dry	1	07/23/12 15:28
1,1,2-Trichloroethane	U		13	37	µg/Kg-dry	1	07/23/12 15:28
1,1,2-Trichlorotrifluoroethane	U		14	37	µg/Kg-dry	1	07/23/12 15:28
1,1-Dichloroethane	U		14	37	µg/Kg-dry	1	07/23/12 15:28
1,1-Dichloroethene	U		16	37	µg/Kg-dry	1	07/23/12 15:28
1,2,4-Trichlorobenzene	U		19	37	µg/Kg-dry	1	07/23/12 15:28
1,2-Dibromo-3-chloropropane	U		18	37	µg/Kg-dry	1	07/23/12 15:28
1,2-Dibromoethane	U		15	37	µg/Kg-dry	1	07/23/12 15:28
1,2-Dichlorobenzene	U		15	37	µg/Kg-dry	1	07/23/12 15:28
1,2-Dichloroethane	U		18	37	µg/Kg-dry	1	07/23/12 15:28
1,2-Dichloropropane	U		12	37	µg/Kg-dry	1	07/23/12 15:28
1,3-Dichlorobenzene	U		15	37	µg/Kg-dry	1	07/23/12 15:28

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-005  
**Collection Date:** 07/11/12 03:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		14	37	µg/Kg-dry	1	07/23/12 15:28
2-Butanone	U		92	250	µg/Kg-dry	1	07/23/12 15:28
2-Hexanone	U		9.2	37	µg/Kg-dry	1	07/23/12 15:28
4-Methyl-2-pentanone	U		13	37	µg/Kg-dry	1	07/23/12 15:28
Acetone	U		79	120	µg/Kg-dry	1	07/23/12 15:28
Benzene	U		15	37	µg/Kg-dry	1	07/23/12 15:28
Bromodichloromethane	U		8.4	37	µg/Kg-dry	1	07/23/12 15:28
Bromoform	U		7.4	37	µg/Kg-dry	1	07/23/12 15:28
Bromomethane	U		14	93	µg/Kg-dry	1	07/23/12 15:28
Carbon disulfide	U		18	37	µg/Kg-dry	1	07/23/12 15:28
Carbon tetrachloride	U		11	37	µg/Kg-dry	1	07/23/12 15:28
Chlorobenzene	U		15	37	µg/Kg-dry	1	07/23/12 15:28
Chloroethane	U		79	120	µg/Kg-dry	1	07/23/12 15:28
Chloroform	U		15	37	µg/Kg-dry	1	07/23/12 15:28
Chloromethane	U		21	120	µg/Kg-dry	1	07/23/12 15:28
cis-1,2-Dichloroethene	U		15	37	µg/Kg-dry	1	07/23/12 15:28
cis-1,3-Dichloropropene	U		13	37	µg/Kg-dry	1	07/23/12 15:28
Cyclohexane	U		17	37	µg/Kg-dry	1	07/23/12 15:28
Dibromochloromethane	U		6.9	37	µg/Kg-dry	1	07/23/12 15:28
Dichlorodifluoromethane	U		17	37	µg/Kg-dry	1	07/23/12 15:28
Ethylbenzene	U		14	37	µg/Kg-dry	1	07/23/12 15:28
Isopropylbenzene	U		16	37	µg/Kg-dry	1	07/23/12 15:28
Methyl acetate	U		50	250	µg/Kg-dry	1	07/23/12 15:28
Methyl tert-butyl ether	U		16	37	µg/Kg-dry	1	07/23/12 15:28
Methylcyclohexane	U		17	37	µg/Kg-dry	1	07/23/12 15:28
Methylene chloride	U		15	37	µg/Kg-dry	1	07/23/12 15:28
Styrene	U		14	37	µg/Kg-dry	1	07/23/12 15:28
Tetrachloroethene	U		17	37	µg/Kg-dry	1	07/23/12 15:28
Toluene	U		14	37	µg/Kg-dry	1	07/23/12 15:28
trans-1,2-Dichloroethene	U		11	37	µg/Kg-dry	1	07/23/12 15:28
trans-1,3-Dichloropropene	U		12	37	µg/Kg-dry	1	07/23/12 15:28
Trichloroethene	U		17	37	µg/Kg-dry	1	07/23/12 15:28
Trichlorofluoromethane	U		10	37	µg/Kg-dry	1	07/23/12 15:28
Vinyl chloride	U		17	37	µg/Kg-dry	1	07/23/12 15:28
Xylenes, Total	U		44	110	µg/Kg-dry	1	07/23/12 15:28
Surr: 1,2-Dichloroethane-d4	83.8			70-130	%REC	1	07/23/12 15:28
Surr: 4-Bromofluorobenzene	103			70-130	%REC	1	07/23/12 15:28
Surr: Dibromofluoromethane	87.1			70-130	%REC	1	07/23/12 15:28
Surr: Toluene-d8	91.0			70-130	%REC	1	07/23/12 15:28

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071112-MF-005  
**Collection Date:** 07/11/12 03:45 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-05  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	7.8	H	0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-006  
**Collection Date:** 07/12/12 08:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42453</u>							
2,4,5-T	U		0.10	5.1	µg/Kg-dry	1	07/24/12 12:11
2,4,5-TP (Silvex)	U		0.068	10	µg/Kg-dry	1	07/24/12 12:11
2,4-D	U		0.073	5.1	µg/Kg-dry	1	07/24/12 12:11
Surr: DCAA	125			30-150	%REC	1	07/24/12 12:11
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		37	41	µg/Kg-dry	1	07/24/12 14:04
Aroclor 1221	U		37	41	µg/Kg-dry	1	07/24/12 14:04
Aroclor 1232	U		37	41	µg/Kg-dry	1	07/24/12 14:04
Aroclor 1242	U		37	41	µg/Kg-dry	1	07/24/12 14:04
<b>Aroclor 1248</b>	<b>340</b>		<b>37</b>	<b>41</b>	<b>µg/Kg-dry</b>	1	07/24/12 14:04
<b>Aroclor 1254</b>	<b>840</b>		<b>12</b>	<b>41</b>	<b>µg/Kg-dry</b>	1	07/24/12 14:04
Aroclor 1260	U		12	41	µg/Kg-dry	1	07/24/12 14:04
Surr: Tetrachloro-m-xylene	107			45-124	%REC	1	07/24/12 14:04
Surr: Decachlorobiphenyl	105			40-140	%REC	1	07/24/12 14:04
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		66	210	µg/Kg-dry	20	07/25/12 15:20
4,4'-DDE	U		41	210	µg/Kg-dry	20	07/25/12 15:20
4,4'-DDT	U		48	210	µg/Kg-dry	20	07/25/12 15:20
Aldrin	U		19	210	µg/Kg-dry	20	07/25/12 15:20
alpha-BHC	U		67	210	µg/Kg-dry	20	07/25/12 15:20
alpha-Chlordane	U		57	210	µg/Kg-dry	20	07/25/12 15:20
beta-BHC	U		78	210	µg/Kg-dry	20	07/25/12 15:20
Chlordane, Technical	U		210	520	µg/Kg-dry	20	07/25/12 15:20
delta-BHC	U		77	210	µg/Kg-dry	20	07/25/12 15:20
Dieldrin	U		18	210	µg/Kg-dry	20	07/25/12 15:20
Endosulfan I	U		27	210	µg/Kg-dry	20	07/25/12 15:20
Endosulfan II	U		23	210	µg/Kg-dry	20	07/25/12 15:20
Endosulfan sulfate	U		25	210	µg/Kg-dry	20	07/25/12 15:20
Endrin	U		60	210	µg/Kg-dry	20	07/25/12 15:20
Endrin aldehyde	U		50	210	µg/Kg-dry	20	07/25/12 15:20
Endrin ketone	U		80	210	µg/Kg-dry	20	07/25/12 15:20
gamma-BHC (Lindane)	U		96	210	µg/Kg-dry	20	07/25/12 15:20
gamma-Chlordane	U		35	210	µg/Kg-dry	20	07/25/12 15:20
Heptachlor	U		110	210	µg/Kg-dry	20	07/25/12 15:20

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-006  
**Collection Date:** 07/12/12 08:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		33	210	µg/Kg-dry	20	07/25/12 15:20
Methoxychlor	U		51	210	µg/Kg-dry	20	07/25/12 15:20
Toxaphene	U		240	1,200	µg/Kg-dry	20	07/25/12 15:20
<i>Surr: Decachlorobiphenyl</i>	80.1			45-135	%REC	20	07/25/12 15:20
<i>Surr: Tetrachloro-m-xylene</i>	120			45-124	%REC	20	07/25/12 15:20
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
<u>BatchID: 42450</u>							
<b>Mercury</b>	<b>0.072</b>		<b>0.00092</b>	<b>0.018</b>	<b>mg/Kg-dry</b>	1	07/23/12 16:33
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
<u>BatchID: 42527</u>							
<b>Antimony</b>	<b>5.8</b>		<b>0.010</b>	<b>0.42</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<b>Arsenic</b>	<b>6.1</b>		<b>0.050</b>	<b>0.17</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<b>Barium</b>	<b>140</b>		<b>0.015</b>	<b>0.42</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<b>Cadmium</b>	<b>1.5</b>		<b>0.0017</b>	<b>0.17</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<b>Chromium</b>	<b>24</b>		<b>0.012</b>	<b>0.42</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<b>Cobalt</b>	<b>8.2</b>		<b>0.0017</b>	<b>0.42</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<b>Copper</b>	<b>130</b>		<b>0.012</b>	<b>0.42</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<b>Nickel</b>	<b>19</b>		<b>0.0050</b>	<b>0.42</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<b>Selenium</b>	<b>0.58</b>		<b>0.030</b>	<b>0.33</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<b>Thallium</b>	<b>0.16</b>	J	<b>0.0067</b>	<b>0.42</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<b>Vanadium</b>	<b>18</b>		<b>0.022</b>	<b>0.42</b>	<b>mg/Kg-dry</b>	1	07/25/12 06:57
<u>BatchID: 42527</u>							
<b>Aluminum</b>	<b>9,500</b>		<b>0.60</b>	<b>8.3</b>	<b>mg/Kg-dry</b>	10	07/26/12 06:04
<b>Beryllium</b>	<b>0.50</b>	J	<b>0.050</b>	<b>1.7</b>	<b>mg/Kg-dry</b>	10	07/26/12 06:04
<b>Iron</b>	<b>20,000</b>		<b>14</b>	<b>67</b>	<b>mg/Kg-dry</b>	10	07/26/12 06:04
<b>Lead</b>	<b>190</b>		<b>0.017</b>	<b>4.2</b>	<b>mg/Kg-dry</b>	10	07/26/12 06:04
<b>Manganese</b>	<b>220</b>		<b>0.12</b>	<b>4.2</b>	<b>mg/Kg-dry</b>	10	07/26/12 06:04
<b>Silver</b>	<b>0.50</b>	J	<b>0.017</b>	<b>1.7</b>	<b>mg/Kg-dry</b>	10	07/26/12 06:04
<b>Zinc</b>	<b>280</b>		<b>0.43</b>	<b>8.3</b>	<b>mg/Kg-dry</b>	10	07/26/12 06:04
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
<u>BatchID: 42513</u>							
1,1'-Biphenyl	U		52	3,500	µg/Kg-dry	10	07/26/12 13:10
2,4,5-Trichlorophenol	U		84	1,700	µg/Kg-dry	10	07/26/12 13:10
2,4,6-Trichlorophenol	U		84	1,700	µg/Kg-dry	10	07/26/12 13:10
2,4-Dichlorophenol	U		100	1,700	µg/Kg-dry	10	07/26/12 13:10
2,4-Dimethylphenol	U		430	3,500	µg/Kg-dry	10	07/26/12 13:10
2,4-Dinitrophenol	U		450	6,900	µg/Kg-dry	10	07/26/12 13:10
2,4-Dinitrotoluene	U		94	1,700	µg/Kg-dry	10	07/26/12 13:10

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-006  
**Collection Date:** 07/12/12 08:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		98	1,700	µg/Kg-dry	10	07/26/12 13:10
2-Chloronaphthalene	U		96	840	µg/Kg-dry	10	07/26/12 13:10
2-Chlorophenol	U		94	1,700	µg/Kg-dry	10	07/26/12 13:10
2-Methylnaphthalene	U		100	840	µg/Kg-dry	10	07/26/12 13:10
2-Methylphenol	U		100	1,700	µg/Kg-dry	10	07/26/12 13:10
2-Nitroaniline	U		80	6,900	µg/Kg-dry	10	07/26/12 13:10
2-Nitrophenol	U		92	1,700	µg/Kg-dry	10	07/26/12 13:10
3,3'-Dichlorobenzidine	U		98	6,900	µg/Kg-dry	10	07/26/12 13:10
3-Nitroaniline	U		850	6,900	µg/Kg-dry	10	07/26/12 13:10
4,6-Dinitro-2-methylphenol	U		510	3,500	µg/Kg-dry	10	07/26/12 13:10
4-Bromophenyl phenyl ether	U		91	1,700	µg/Kg-dry	10	07/26/12 13:10
4-Chloro-3-methylphenol	U		95	1,700	µg/Kg-dry	10	07/26/12 13:10
4-Chloroaniline	U		130	3,500	µg/Kg-dry	10	07/26/12 13:10
4-Chlorophenyl phenyl ether	U		96	1,700	µg/Kg-dry	10	07/26/12 13:10
4-Methylphenol	U		100	1,700	µg/Kg-dry	10	07/26/12 13:10
4-Nitroaniline	U		160	6,900	µg/Kg-dry	10	07/26/12 13:10
4-Nitrophenol	U		430	6,900	µg/Kg-dry	10	07/26/12 13:10
Acenaphthene	U		96	320	µg/Kg-dry	10	07/26/12 13:10
Acenaphthylene	U		100	320	µg/Kg-dry	10	07/26/12 13:10
Acetophenone	U		52	3,500	µg/Kg-dry	10	07/26/12 13:10
Anthracene	U		110	320	µg/Kg-dry	10	07/26/12 13:10
Atrazine	U		110	530	µg/Kg-dry	10	07/26/12 13:10
Benzaldehyde	U		130	3,500	µg/Kg-dry	10	07/26/12 13:10
<b>Benzo(a)anthracene</b>	<b>210</b>	J	<b>130</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/26/12 13:10
<b>Benzo(a)pyrene</b>	<b>210</b>	J	<b>160</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/26/12 13:10
<b>Benzo(b)fluoranthene</b>	<b>350</b>		<b>170</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/26/12 13:10
Benzo(g,h,i)perylene	U		250	320	µg/Kg-dry	10	07/26/12 13:10
<b>Benzo(k)fluoranthene</b>	<b>280</b>	J	<b>140</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/26/12 13:10
Bis(2-chloroethoxy)methane	U		86	1,700	µg/Kg-dry	10	07/26/12 13:10
Bis(2-chloroethyl)ether	U		88	1,700	µg/Kg-dry	10	07/26/12 13:10
Bis(2-chloroisopropyl)ether	U		82	1,700	µg/Kg-dry	10	07/26/12 13:10
<b>Bis(2-ethylhexyl)phthalate</b>	<b>740</b>	J	<b>100</b>	<b>3,500</b>	<b>µg/Kg-dry</b>	10	07/26/12 13:10
Butyl benzyl phthalate	U		150	1,700	µg/Kg-dry	10	07/26/12 13:10
Caprolactam	U		150	3,500	µg/Kg-dry	10	07/26/12 13:10
Carbazole	U		120	1,700	µg/Kg-dry	10	07/26/12 13:10
<b>Chrysene</b>	<b>270</b>	J	<b>120</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/26/12 13:10
Dibenzo(a,h)anthracene	U		180	320	µg/Kg-dry	10	07/26/12 13:10
Dibenzofuran	U		96	1,700	µg/Kg-dry	10	07/26/12 13:10
Diethyl phthalate	U		87	3,500	µg/Kg-dry	10	07/26/12 13:10
Dimethyl phthalate	U		88	3,500	µg/Kg-dry	10	07/26/12 13:10

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-006  
**Collection Date:** 07/12/12 08:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Di-n-butyl phthalate</b>	<b>200</b>	J	<b>110</b>	<b>3,500</b>	<b>µg/Kg-dry</b>	10	07/26/12 13:10
Di-n-octyl phthalate	U		130	1,700	µg/Kg-dry	10	07/26/12 13:10
<b>Fluoranthene</b>	<b>410</b>		<b>130</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/26/12 13:10
Fluorene	U		92	320	µg/Kg-dry	10	07/26/12 13:10
Hexachlorobenzene	U		96	1,700	µg/Kg-dry	10	07/26/12 13:10
Hexachlorobutadiene	U		89	530	µg/Kg-dry	10	07/26/12 13:10
Hexachlorocyclopentadiene	U		370	3,500	µg/Kg-dry	10	07/26/12 13:10
Hexachloroethane	U		92	1,700	µg/Kg-dry	10	07/26/12 13:10
Indeno(1,2,3-cd)pyrene	U		200	320	µg/Kg-dry	10	07/26/12 13:10
Isophorone	U		91	1,700	µg/Kg-dry	10	07/26/12 13:10
Naphthalene	U		90	320	µg/Kg-dry	10	07/26/12 13:10
Nitrobenzene	U		91	1,700	µg/Kg-dry	10	07/26/12 13:10
N-Nitrosodi-n-propylamine	U		92	1,700	µg/Kg-dry	10	07/26/12 13:10
N-Nitrosodiphenylamine	U		620	1,700	µg/Kg-dry	10	07/26/12 13:10
Pentachlorophenol	U		160	210	µg/Kg-dry	10	07/26/12 13:10
Phenanthrene	U		320	320	µg/Kg-dry	10	07/26/12 13:10
Phenol	U		89	1,700	µg/Kg-dry	10	07/26/12 13:10
<b>Pyrene</b>	<b>420</b>		<b>130</b>	<b>320</b>	<b>µg/Kg-dry</b>	10	07/26/12 13:10
Surr: 2,4,6-Tribromophenol	63.0			34-140	%REC	10	07/26/12 13:10
Surr: 2-Fluorobiphenyl	47.2			12-100	%REC	10	07/26/12 13:10
Surr: 2-Fluorophenol	46.8			33-117	%REC	10	07/26/12 13:10
Surr: 4-Terphenyl-d14	69.6			25-137	%REC	10	07/26/12 13:10
Surr: Nitrobenzene-d5	43.4			37-107	%REC	10	07/26/12 13:10
Surr: Phenol-d6	50.8			40-106	%REC	10	07/26/12 13:10

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: AK

BatchID: 42425

1,1,1-Trichloroethane	U		19	51	µg/Kg-dry	1	07/23/12 15:52
1,1,2,2-Tetrachloroethane	U		22	51	µg/Kg-dry	1	07/23/12 15:52
1,1,2-Trichloroethane	U		18	51	µg/Kg-dry	1	07/23/12 15:52
1,1,2-Trichlorotrifluoroethane	U		19	51	µg/Kg-dry	1	07/23/12 15:52
1,1-Dichloroethane	U		19	51	µg/Kg-dry	1	07/23/12 15:52
1,1-Dichloroethene	U		21	51	µg/Kg-dry	1	07/23/12 15:52
1,2,4-Trichlorobenzene	U		26	51	µg/Kg-dry	1	07/23/12 15:52
1,2-Dibromo-3-chloropropane	U		25	51	µg/Kg-dry	1	07/23/12 15:52
1,2-Dibromoethane	U		20	51	µg/Kg-dry	1	07/23/12 15:52
1,2-Dichlorobenzene	U		20	51	µg/Kg-dry	1	07/23/12 15:52
1,2-Dichloroethane	U		24	51	µg/Kg-dry	1	07/23/12 15:52
1,2-Dichloropropane	U		17	51	µg/Kg-dry	1	07/23/12 15:52
1,3-Dichlorobenzene	U		20	51	µg/Kg-dry	1	07/23/12 15:52

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-006  
**Collection Date:** 07/12/12 08:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		19	51	µg/Kg-dry	1	07/23/12 15:52
2-Butanone	U		130	340	µg/Kg-dry	1	07/23/12 15:52
2-Hexanone	U		12	51	µg/Kg-dry	1	07/23/12 15:52
4-Methyl-2-pentanone	U		17	51	µg/Kg-dry	1	07/23/12 15:52
Acetone	U		110	170	µg/Kg-dry	1	07/23/12 15:52
Benzene	U		20	51	µg/Kg-dry	1	07/23/12 15:52
Bromodichloromethane	U		11	51	µg/Kg-dry	1	07/23/12 15:52
Bromoform	U		10	51	µg/Kg-dry	1	07/23/12 15:52
Bromomethane	U		19	130	µg/Kg-dry	1	07/23/12 15:52
Carbon disulfide	U		25	51	µg/Kg-dry	1	07/23/12 15:52
Carbon tetrachloride	U		14	51	µg/Kg-dry	1	07/23/12 15:52
Chlorobenzene	U		21	51	µg/Kg-dry	1	07/23/12 15:52
Chloroethane	U		110	170	µg/Kg-dry	1	07/23/12 15:52
Chloroform	U		21	51	µg/Kg-dry	1	07/23/12 15:52
Chloromethane	U		28	170	µg/Kg-dry	1	07/23/12 15:52
cis-1,2-Dichloroethene	U		21	51	µg/Kg-dry	1	07/23/12 15:52
cis-1,3-Dichloropropene	U		17	51	µg/Kg-dry	1	07/23/12 15:52
<b>Cyclohexane</b>	<b>41</b>	J	<b>23</b>	<b>51</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:52
Dibromochloromethane	U		9.4	51	µg/Kg-dry	1	07/23/12 15:52
Dichlorodifluoromethane	U		23	51	µg/Kg-dry	1	07/23/12 15:52
<b>Ethylbenzene</b>	<b>67</b>		<b>19</b>	<b>51</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:52
Isopropylbenzene	U		22	51	µg/Kg-dry	1	07/23/12 15:52
Methyl acetate	U		68	340	µg/Kg-dry	1	07/23/12 15:52
Methyl tert-butyl ether	U		21	51	µg/Kg-dry	1	07/23/12 15:52
<b>Methylcyclohexane</b>	<b>130</b>		<b>23</b>	<b>51</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:52
Methylene chloride	U		20	51	µg/Kg-dry	1	07/23/12 15:52
Styrene	U		19	51	µg/Kg-dry	1	07/23/12 15:52
Tetrachloroethene	U		23	51	µg/Kg-dry	1	07/23/12 15:52
<b>Toluene</b>	<b>78</b>		<b>19</b>	<b>51</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:52
trans-1,2-Dichloroethene	U		16	51	µg/Kg-dry	1	07/23/12 15:52
trans-1,3-Dichloropropene	U		17	51	µg/Kg-dry	1	07/23/12 15:52
Trichloroethene	U		24	51	µg/Kg-dry	1	07/23/12 15:52
Trichlorofluoromethane	U		14	51	µg/Kg-dry	1	07/23/12 15:52
Vinyl chloride	U		23	51	µg/Kg-dry	1	07/23/12 15:52
<b>Xylenes, Total</b>	<b>270</b>		<b>60</b>	<b>150</b>	<b>µg/Kg-dry</b>	1	07/23/12 15:52
Surr: 1,2-Dichloroethane-d4	87.2			70-130	%REC	1	07/23/12 15:52
Surr: 4-Bromofluorobenzene	103			70-130	%REC	1	07/23/12 15:52
Surr: Dibromofluoromethane	88.2			70-130	%REC	1	07/23/12 15:52
Surr: Toluene-d8	92.2			70-130	%REC	1	07/23/12 15:52

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-006  
**Collection Date:** 07/12/12 08:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-06  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	5.9		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-007  
**Collection Date:** 07/12/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/25/12		Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.11	5.4	µg/Kg-dry	1	07/25/12 20:38
2,4,5-TP (Silvex)	U		0.072	11	µg/Kg-dry	1	07/25/12 20:38
2,4-D	U		0.077	5.4	µg/Kg-dry	1	07/25/12 20:38
Surr: DCAA	97.6			30-150	%REC	1	07/25/12 20:38
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		37	42	µg/Kg-dry	1	07/24/12 14:24
Aroclor 1221	U		37	42	µg/Kg-dry	1	07/24/12 14:24
Aroclor 1232	U		37	42	µg/Kg-dry	1	07/24/12 14:24
Aroclor 1242	U		37	42	µg/Kg-dry	1	07/24/12 14:24
Aroclor 1248	U		37	42	µg/Kg-dry	1	07/24/12 14:24
<b>Aroclor 1254</b>	<b>75</b>		<b>12</b>	<b>42</b>	<b>µg/Kg-dry</b>	1	07/24/12 14:24
Aroclor 1260	U		12	42	µg/Kg-dry	1	07/24/12 14:24
Surr: Tetrachloro-m-xylene	88.1			45-124	%REC	1	07/24/12 14:24
Surr: Decachlorobiphenyl	92.1			40-140	%REC	1	07/24/12 14:24
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		6.7	21	µg/Kg-dry	2	07/25/12 15:34
4,4'-DDE	U		4.1	21	µg/Kg-dry	2	07/25/12 15:34
4,4'-DDT	U		4.8	21	µg/Kg-dry	2	07/25/12 15:34
Aldrin	U		1.9	21	µg/Kg-dry	2	07/25/12 15:34
alpha-BHC	U		6.7	21	µg/Kg-dry	2	07/25/12 15:34
alpha-Chlordane	U		5.8	21	µg/Kg-dry	2	07/25/12 15:34
beta-BHC	U		7.9	21	µg/Kg-dry	2	07/25/12 15:34
Chlordane, Technical	U		21	52	µg/Kg-dry	2	07/25/12 15:34
delta-BHC	U		7.7	21	µg/Kg-dry	2	07/25/12 15:34
Dieldrin	U		1.8	21	µg/Kg-dry	2	07/25/12 15:34
Endosulfan I	U		2.7	21	µg/Kg-dry	2	07/25/12 15:34
Endosulfan II	U		2.3	21	µg/Kg-dry	2	07/25/12 15:34
Endosulfan sulfate	U		2.6	21	µg/Kg-dry	2	07/25/12 15:34
Endrin	U		6.1	21	µg/Kg-dry	2	07/25/12 15:34
Endrin aldehyde	U		5.1	21	µg/Kg-dry	2	07/25/12 15:34
Endrin ketone	U		8.1	21	µg/Kg-dry	2	07/25/12 15:34
gamma-BHC (Lindane)	U		9.7	21	µg/Kg-dry	2	07/25/12 15:34
gamma-Chlordane	U		3.5	21	µg/Kg-dry	2	07/25/12 15:34
Heptachlor	U		11	21	µg/Kg-dry	2	07/25/12 15:34

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-007  
**Collection Date:** 07/12/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		3.3	21	µg/Kg-dry	2	07/25/12 15:34
Methoxychlor	U		5.1	21	µg/Kg-dry	2	07/25/12 15:34
Toxaphene	U		25	130	µg/Kg-dry	2	07/25/12 15:34
Surr: Decachlorobiphenyl	82.1			45-135	%REC	2	07/25/12 15:34
Surr: Tetrachloro-m-xylene	98.1			45-124	%REC	2	07/25/12 15:34
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
BatchID: 42450							
Mercury	0.011	J	0.00096	0.019	mg/Kg-dry	1	07/23/12 16:35
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
BatchID: 42527							
Antimony	0.43		0.010	0.43	mg/Kg-dry	1	07/25/12 07:03
Arsenic	2.8		0.051	0.17	mg/Kg-dry	1	07/25/12 07:03
Barium	44		0.015	0.43	mg/Kg-dry	1	07/25/12 07:03
Beryllium	0.14	J	0.0051	0.17	mg/Kg-dry	1	07/25/12 07:03
Cadmium	0.39		0.0017	0.17	mg/Kg-dry	1	07/25/12 07:03
Chromium	7.1		0.012	0.43	mg/Kg-dry	1	07/25/12 07:03
Cobalt	3.0		0.0017	0.43	mg/Kg-dry	1	07/25/12 07:03
Copper	15		0.012	0.43	mg/Kg-dry	1	07/25/12 07:03
Iron	12,000		1.4	6.8	mg/Kg-dry	1	07/25/12 07:03
Lead	52		0.0017	0.43	mg/Kg-dry	1	07/25/12 07:03
Nickel	8.2		0.0051	0.43	mg/Kg-dry	1	07/25/12 07:03
Selenium	0.44		0.031	0.34	mg/Kg-dry	1	07/25/12 07:03
Thallium	0.083	J	0.0068	0.43	mg/Kg-dry	1	07/25/12 07:03
Vanadium	9.5		0.022	0.43	mg/Kg-dry	1	07/25/12 07:03
Zinc	38		0.044	0.85	mg/Kg-dry	1	07/25/12 07:03
BatchID: 42527							
Aluminum	3,600		0.12	1.7	mg/Kg-dry	2	07/26/12 06:11
Manganese	270		0.024	0.85	mg/Kg-dry	2	07/26/12 06:11
Silver	0.078	J	0.0034	0.34	mg/Kg-dry	2	07/26/12 06:11
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
BatchID: 42513							
1,1'-Biphenyl	U		5.3	360	µg/Kg-dry	1	07/26/12 14:55
2,4,5-Trichlorophenol	U		8.6	170	µg/Kg-dry	1	07/26/12 14:55
2,4,6-Trichlorophenol	U		8.6	170	µg/Kg-dry	1	07/26/12 14:55
2,4-Dichlorophenol	U		10	170	µg/Kg-dry	1	07/26/12 14:55
2,4-Dimethylphenol	U		44	360	µg/Kg-dry	1	07/26/12 14:55
2,4-Dinitrophenol	U		46	710	µg/Kg-dry	1	07/26/12 14:55
2,4-Dinitrotoluene	U		9.6	170	µg/Kg-dry	1	07/26/12 14:55

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-007  
**Collection Date:** 07/12/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		10	170	µg/Kg-dry	1	07/26/12 14:55
2-Chloronaphthalene	U		9.8	86	µg/Kg-dry	1	07/26/12 14:55
2-Chlorophenol	U		9.6	170	µg/Kg-dry	1	07/26/12 14:55
2-Methylnaphthalene	U		11	86	µg/Kg-dry	1	07/26/12 14:55
2-Methylphenol	U		10	170	µg/Kg-dry	1	07/26/12 14:55
2-Nitroaniline	U		8.2	710	µg/Kg-dry	1	07/26/12 14:55
2-Nitrophenol	U		9.4	170	µg/Kg-dry	1	07/26/12 14:55
3,3'-Dichlorobenzidine	U		10	710	µg/Kg-dry	1	07/26/12 14:55
3-Nitroaniline	U		87	710	µg/Kg-dry	1	07/26/12 14:55
4,6-Dinitro-2-methylphenol	U		52	360	µg/Kg-dry	1	07/26/12 14:55
4-Bromophenyl phenyl ether	U		9.3	170	µg/Kg-dry	1	07/26/12 14:55
4-Chloro-3-methylphenol	U		9.7	170	µg/Kg-dry	1	07/26/12 14:55
4-Chloroaniline	U		14	360	µg/Kg-dry	1	07/26/12 14:55
4-Chlorophenyl phenyl ether	U		9.8	170	µg/Kg-dry	1	07/26/12 14:55
4-Methylphenol	U		11	170	µg/Kg-dry	1	07/26/12 14:55
4-Nitroaniline	U		16	710	µg/Kg-dry	1	07/26/12 14:55
4-Nitrophenol	U		44	710	µg/Kg-dry	1	07/26/12 14:55
Acenaphthene	U		9.8	32	µg/Kg-dry	1	07/26/12 14:55
Acenaphthylene	U		10	32	µg/Kg-dry	1	07/26/12 14:55
Acetophenone	U		5.4	360	µg/Kg-dry	1	07/26/12 14:55
Anthracene	U		11	32	µg/Kg-dry	1	07/26/12 14:55
Atrazine	U		11	54	µg/Kg-dry	1	07/26/12 14:55
Benzaldehyde	U		14	360	µg/Kg-dry	1	07/26/12 14:55
Benzo(a)anthracene	U		13	32	µg/Kg-dry	1	07/26/12 14:55
Benzo(a)pyrene	U		17	32	µg/Kg-dry	1	07/26/12 14:55
<b>Benzo(b)fluoranthene</b>	<b>18</b>	<b>J</b>	<b>17</b>	<b>32</b>	<b>µg/Kg-dry</b>	1	07/26/12 14:55
Benzo(g,h,i)perylene	U		25	32	µg/Kg-dry	1	07/26/12 14:55
Benzo(k)fluoranthene	U		15	32	µg/Kg-dry	1	07/26/12 14:55
Bis(2-chloroethoxy)methane	U		8.8	170	µg/Kg-dry	1	07/26/12 14:55
Bis(2-chloroethyl)ether	U		9.0	170	µg/Kg-dry	1	07/26/12 14:55
Bis(2-chloroisopropyl)ether	U		8.4	170	µg/Kg-dry	1	07/26/12 14:55
<b>Bis(2-ethylhexyl)phthalate</b>	<b>47</b>	<b>J</b>	<b>11</b>	<b>360</b>	<b>µg/Kg-dry</b>	1	07/26/12 14:55
Butyl benzyl phthalate	U		15	170	µg/Kg-dry	1	07/26/12 14:55
Caprolactam	U		16	360	µg/Kg-dry	1	07/26/12 14:55
Carbazole	U		12	170	µg/Kg-dry	1	07/26/12 14:55
<b>Chrysene</b>	<b>22</b>	<b>J</b>	<b>12</b>	<b>32</b>	<b>µg/Kg-dry</b>	1	07/26/12 14:55
Dibenzo(a,h)anthracene	U		18	32	µg/Kg-dry	1	07/26/12 14:55
Dibenzofuran	U		9.8	170	µg/Kg-dry	1	07/26/12 14:55
<b>Diethyl phthalate</b>	<b>32</b>	<b>J</b>	<b>8.9</b>	<b>360</b>	<b>µg/Kg-dry</b>	1	07/26/12 14:55
Dimethyl phthalate	U		9.0	360	µg/Kg-dry	1	07/26/12 14:55

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-007  
**Collection Date:** 07/12/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Di-n-butyl phthalate</b>	<b>32</b>	J	<b>11</b>	<b>360</b>	<b>µg/Kg-dry</b>	1	07/26/12 14:55
Di-n-octyl phthalate	U		13	170	µg/Kg-dry	1	07/26/12 14:55
<b>Fluoranthene</b>	<b>28</b>	J	<b>13</b>	<b>32</b>	<b>µg/Kg-dry</b>	1	07/26/12 14:55
Fluorene	U		9.4	32	µg/Kg-dry	1	07/26/12 14:55
Hexachlorobenzene	U		9.8	170	µg/Kg-dry	1	07/26/12 14:55
Hexachlorobutadiene	U		9.1	54	µg/Kg-dry	1	07/26/12 14:55
Hexachlorocyclopentadiene	U		38	360	µg/Kg-dry	1	07/26/12 14:55
Hexachloroethane	U		9.4	170	µg/Kg-dry	1	07/26/12 14:55
Indeno(1,2,3-cd)pyrene	U		20	32	µg/Kg-dry	1	07/26/12 14:55
<b>Isophorone</b>	<b>54</b>	J	<b>9.3</b>	<b>170</b>	<b>µg/Kg-dry</b>	1	07/26/12 14:55
<b>Naphthalene</b>	<b>22</b>	J	<b>9.2</b>	<b>32</b>	<b>µg/Kg-dry</b>	1	07/26/12 14:55
Nitrobenzene	U		9.3	170	µg/Kg-dry	1	07/26/12 14:55
N-Nitrosodi-n-propylamine	U		9.4	170	µg/Kg-dry	1	07/26/12 14:55
N-Nitrosodiphenylamine	U		64	170	µg/Kg-dry	1	07/26/12 14:55
Pentachlorophenol	U		16	22	µg/Kg-dry	1	07/26/12 14:55
Phenanthrene	U		32	32	µg/Kg-dry	1	07/26/12 14:55
Phenol	U		9.1	170	µg/Kg-dry	1	07/26/12 14:55
<b>Pyrene</b>	<b>24</b>	J	<b>13</b>	<b>32</b>	<b>µg/Kg-dry</b>	1	07/26/12 14:55
Surr: 2,4,6-Tribromophenol	98.9			34-140	%REC	1	07/26/12 14:55
Surr: 2-Fluorobiphenyl	68.8			12-100	%REC	1	07/26/12 14:55
Surr: 2-Fluorophenol	76.4			33-117	%REC	1	07/26/12 14:55
Surr: 4-Terphenyl-d14	80.1			25-137	%REC	1	07/26/12 14:55
Surr: Nitrobenzene-d5	68.8			37-107	%REC	1	07/26/12 14:55
Surr: Phenol-d6	74.5			40-106	%REC	1	07/26/12 14:55

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: RS

BatchID: 42425

1,1,1-Trichloroethane	U		20	52	µg/Kg-dry	1	07/24/12 03:19
1,1,2,2-Tetrachloroethane	U		23	52	µg/Kg-dry	1	07/24/12 03:19
1,1,2-Trichloroethane	U		18	52	µg/Kg-dry	1	07/24/12 03:19
1,1,2-Trichlorotrifluoroethane	U		19	52	µg/Kg-dry	1	07/24/12 03:19
1,1-Dichloroethane	U		19	52	µg/Kg-dry	1	07/24/12 03:19
1,1-Dichloroethene	U		22	52	µg/Kg-dry	1	07/24/12 03:19
1,2,4-Trichlorobenzene	U		27	52	µg/Kg-dry	1	07/24/12 03:19
1,2-Dibromo-3-chloropropane	U		25	52	µg/Kg-dry	1	07/24/12 03:19
1,2-Dibromoethane	U		20	52	µg/Kg-dry	1	07/24/12 03:19
1,2-Dichlorobenzene	U		21	52	µg/Kg-dry	1	07/24/12 03:19
1,2-Dichloroethane	U		25	52	µg/Kg-dry	1	07/24/12 03:19
1,2-Dichloropropane	U		17	52	µg/Kg-dry	1	07/24/12 03:19
1,3-Dichlorobenzene	U		21	52	µg/Kg-dry	1	07/24/12 03:19

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-007  
**Collection Date:** 07/12/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		20	52	µg/Kg-dry	1	07/24/12 03:19
2-Butanone	U		130	350	µg/Kg-dry	1	07/24/12 03:19
2-Hexanone	U		13	52	µg/Kg-dry	1	07/24/12 03:19
4-Methyl-2-pentanone	U		18	52	µg/Kg-dry	1	07/24/12 03:19
Acetone	U		110	170	µg/Kg-dry	1	07/24/12 03:19
Benzene	U		21	52	µg/Kg-dry	1	07/24/12 03:19
Bromodichloromethane	U		12	52	µg/Kg-dry	1	07/24/12 03:19
Bromoform	U		10	52	µg/Kg-dry	1	07/24/12 03:19
Bromomethane	U		20	130	µg/Kg-dry	1	07/24/12 03:19
Carbon disulfide	U		26	52	µg/Kg-dry	1	07/24/12 03:19
Carbon tetrachloride	U		15	52	µg/Kg-dry	1	07/24/12 03:19
Chlorobenzene	U		21	52	µg/Kg-dry	1	07/24/12 03:19
Chloroethane	U		110	170	µg/Kg-dry	1	07/24/12 03:19
Chloroform	U		21	52	µg/Kg-dry	1	07/24/12 03:19
Chloromethane	U		29	170	µg/Kg-dry	1	07/24/12 03:19
cis-1,2-Dichloroethene	U		21	52	µg/Kg-dry	1	07/24/12 03:19
cis-1,3-Dichloropropene	U		18	52	µg/Kg-dry	1	07/24/12 03:19
Cyclohexane	U		23	52	µg/Kg-dry	1	07/24/12 03:19
Dibromochloromethane	U		9.6	52	µg/Kg-dry	1	07/24/12 03:19
Dichlorodifluoromethane	U		23	52	µg/Kg-dry	1	07/24/12 03:19
<b>Ethylbenzene</b>	<b>25</b>	<b>J</b>	<b>19</b>	<b>52</b>	<b>µg/Kg-dry</b>	1	07/24/12 03:19
Isopropylbenzene	U		22	52	µg/Kg-dry	1	07/24/12 03:19
Methyl acetate	U		69	350	µg/Kg-dry	1	07/24/12 03:19
Methyl tert-butyl ether	U		22	52	µg/Kg-dry	1	07/24/12 03:19
Methylcyclohexane	U		24	52	µg/Kg-dry	1	07/24/12 03:19
Methylene chloride	U		20	52	µg/Kg-dry	1	07/24/12 03:19
Styrene	U		19	52	µg/Kg-dry	1	07/24/12 03:19
Tetrachloroethene	U		23	52	µg/Kg-dry	1	07/24/12 03:19
Toluene	U		19	52	µg/Kg-dry	1	07/24/12 03:19
trans-1,2-Dichloroethene	U		16	52	µg/Kg-dry	1	07/24/12 03:19
trans-1,3-Dichloropropene	U		17	52	µg/Kg-dry	1	07/24/12 03:19
Trichloroethene	U		24	52	µg/Kg-dry	1	07/24/12 03:19
Trichlorofluoromethane	U		14	52	µg/Kg-dry	1	07/24/12 03:19
Vinyl chloride	U		23	52	µg/Kg-dry	1	07/24/12 03:19
<b>Xylenes, Total</b>	<b>65</b>	<b>J</b>	<b>61</b>	<b>160</b>	<b>µg/Kg-dry</b>	1	07/24/12 03:19
Surr: 1,2-Dichloroethane-d4	91.2			70-130	%REC	1	07/24/12 03:19
Surr: 4-Bromofluorobenzene	88.4			70-130	%REC	1	07/24/12 03:19
Surr: Dibromofluoromethane	93.6			70-130	%REC	1	07/24/12 03:19
Surr: Toluene-d8	92.2			70-130	%REC	1	07/24/12 03:19

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-007  
**Collection Date:** 07/12/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-07  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	7.7		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-008  
**Collection Date:** 07/12/12 10:30 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/25/12		Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.10	5.3	µg/Kg-dry	1	07/25/12 21:06
2,4,5-TP (Silvex)	U		0.070	11	µg/Kg-dry	1	07/25/12 21:06
2,4-D	U		0.075	5.3	µg/Kg-dry	1	07/25/12 21:06
Surr: DCAA	99.0			30-150	%REC	1	07/25/12 21:06
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		37	41	µg/Kg-dry	1	07/24/12 14:43
Aroclor 1221	U		37	41	µg/Kg-dry	1	07/24/12 14:43
Aroclor 1232	U		37	41	µg/Kg-dry	1	07/24/12 14:43
Aroclor 1242	U		37	41	µg/Kg-dry	1	07/24/12 14:43
Aroclor 1248	U		37	41	µg/Kg-dry	1	07/24/12 14:43
<b>Aroclor 1254</b>	<b>150</b>		<b>12</b>	<b>41</b>	<b>µg/Kg-dry</b>	1	07/24/12 14:43
Aroclor 1260	U		12	41	µg/Kg-dry	1	07/24/12 14:43
Surr: Tetrachloro-m-xylene	65.1			45-124	%REC	1	07/24/12 14:43
Surr: Decachlorobiphenyl	66.1			40-140	%REC	1	07/24/12 14:43
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		3.3	10	µg/Kg-dry	1	07/25/12 15:49
4,4'-DDE	U		2.0	10	µg/Kg-dry	1	07/25/12 15:49
4,4'-DDT	U		2.4	10	µg/Kg-dry	1	07/25/12 15:49
Aldrin	U		0.93	10	µg/Kg-dry	1	07/25/12 15:49
alpha-BHC	U		3.3	10	µg/Kg-dry	1	07/25/12 15:49
alpha-Chlordane	U		2.8	10	µg/Kg-dry	1	07/25/12 15:49
beta-BHC	U		3.9	10	µg/Kg-dry	1	07/25/12 15:49
Chlordane, Technical	U		10	26	µg/Kg-dry	1	07/25/12 15:49
delta-BHC	U		3.8	10	µg/Kg-dry	1	07/25/12 15:49
Dieldrin	U		0.88	10	µg/Kg-dry	1	07/25/12 15:49
Endosulfan I	U		1.3	10	µg/Kg-dry	1	07/25/12 15:49
Endosulfan II	U		1.1	10	µg/Kg-dry	1	07/25/12 15:49
Endosulfan sulfate	U		1.3	10	µg/Kg-dry	1	07/25/12 15:49
Endrin	U		3.0	10	µg/Kg-dry	1	07/25/12 15:49
Endrin aldehyde	U		2.5	10	µg/Kg-dry	1	07/25/12 15:49
Endrin ketone	U		4.0	10	µg/Kg-dry	1	07/25/12 15:49
gamma-BHC (Lindane)	U		4.8	10	µg/Kg-dry	1	07/25/12 15:49
gamma-Chlordane	U		1.7	10	µg/Kg-dry	1	07/25/12 15:49
Heptachlor	U		5.3	10	µg/Kg-dry	1	07/25/12 15:49

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-008  
**Collection Date:** 07/12/12 10:30 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		1.6	10	µg/Kg-dry	1	07/25/12 15:49
Methoxychlor	U		2.5	10	µg/Kg-dry	1	07/25/12 15:49
Toxaphene	U		12	62	µg/Kg-dry	1	07/25/12 15:49
<i>Surr: Decachlorobiphenyl</i>	58.1			45-135	%REC	1	07/25/12 15:49
<i>Surr: Tetrachloro-m-xylene</i>	74.1			45-124	%REC	1	07/25/12 15:49
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
<u>BatchID: 42450</u>							
<b>Mercury</b>	<b>0.027</b>		<b>0.00095</b>	<b>0.019</b>	<b>mg/Kg-dry</b>	1	07/23/12 16:37
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
<u>BatchID: 42527</u>							
<b>Aluminum</b>	<b>6,300</b>		<b>0.054</b>	<b>0.76</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Antimony</b>	<b>0.15</b>	J	<b>0.0091</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Arsenic</b>	<b>2.6</b>		<b>0.045</b>	<b>0.15</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Barium</b>	<b>20</b>		<b>0.014</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Beryllium</b>	<b>0.14</b>	J	<b>0.0045</b>	<b>0.15</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Cadmium</b>	<b>0.16</b>		<b>0.0015</b>	<b>0.15</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Chromium</b>	<b>6.3</b>		<b>0.011</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Cobalt</b>	<b>1.8</b>		<b>0.0015</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Copper</b>	<b>3.3</b>		<b>0.011</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Iron</b>	<b>7,100</b>		<b>1.3</b>	<b>6.1</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Lead</b>	<b>10</b>		<b>0.0015</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Manganese</b>	<b>77</b>		<b>0.011</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Nickel</b>	<b>4.6</b>		<b>0.0045</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Selenium</b>	<b>0.25</b>	J	<b>0.027</b>	<b>0.30</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Silver</b>	<b>0.016</b>	J	<b>0.0015</b>	<b>0.15</b>	<b>mg/Kg-dry</b>	1	07/27/12 06:19
<b>Thallium</b>	<b>0.089</b>	J	<b>0.0061</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Vanadium</b>	<b>13</b>		<b>0.020</b>	<b>0.38</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>Zinc</b>	<b>24</b>		<b>0.039</b>	<b>0.76</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:09
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
<u>BatchID: 42513</u>							
1,1'-Biphenyl	U		5.1	340	µg/Kg-dry	1	07/26/12 15:21
2,4,5-Trichlorophenol	U		8.2	160	µg/Kg-dry	1	07/26/12 15:21
2,4,6-Trichlorophenol	U		8.2	160	µg/Kg-dry	1	07/26/12 15:21
2,4-Dichlorophenol	U		10	160	µg/Kg-dry	1	07/26/12 15:21
2,4-Dimethylphenol	U		42	340	µg/Kg-dry	1	07/26/12 15:21
2,4-Dinitrophenol	U		44	680	µg/Kg-dry	1	07/26/12 15:21
2,4-Dinitrotoluene	U		9.2	160	µg/Kg-dry	1	07/26/12 15:21
2,6-Dinitrotoluene	U		9.6	160	µg/Kg-dry	1	07/26/12 15:21

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-008  
**Collection Date:** 07/12/12 10:30 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	U		9.4	82	µg/Kg-dry	1	07/26/12 15:21
2-Chlorophenol	U		9.2	160	µg/Kg-dry	1	07/26/12 15:21
2-Methylnaphthalene	U		10	82	µg/Kg-dry	1	07/26/12 15:21
2-Methylphenol	U		9.9	160	µg/Kg-dry	1	07/26/12 15:21
2-Nitroaniline	U		7.8	680	µg/Kg-dry	1	07/26/12 15:21
2-Nitrophenol	U		9.0	160	µg/Kg-dry	1	07/26/12 15:21
3,3'-Dichlorobenzidine	U		9.6	680	µg/Kg-dry	1	07/26/12 15:21
3-Nitroaniline	U		84	680	µg/Kg-dry	1	07/26/12 15:21
4,6-Dinitro-2-methylphenol	U		50	340	µg/Kg-dry	1	07/26/12 15:21
4-Bromophenyl phenyl ether	U		8.9	160	µg/Kg-dry	1	07/26/12 15:21
4-Chloro-3-methylphenol	U		9.3	160	µg/Kg-dry	1	07/26/12 15:21
4-Chloroaniline	U		13	340	µg/Kg-dry	1	07/26/12 15:21
4-Chlorophenyl phenyl ether	U		9.4	160	µg/Kg-dry	1	07/26/12 15:21
4-Methylphenol	U		10	160	µg/Kg-dry	1	07/26/12 15:21
4-Nitroaniline	U		15	680	µg/Kg-dry	1	07/26/12 15:21
4-Nitrophenol	U		42	680	µg/Kg-dry	1	07/26/12 15:21
Acenaphthene	U		9.4	31	µg/Kg-dry	1	07/26/12 15:21
Acenaphthylene	U		9.7	31	µg/Kg-dry	1	07/26/12 15:21
Acetophenone	U		5.1	340	µg/Kg-dry	1	07/26/12 15:21
Anthracene	U		10	31	µg/Kg-dry	1	07/26/12 15:21
Atrazine	U		10	51	µg/Kg-dry	1	07/26/12 15:21
Benzaldehyde	U		13	340	µg/Kg-dry	1	07/26/12 15:21
<b>Benzo(a)anthracene</b>	<b>17</b>	<b>J</b>	<b>13</b>	<b>31</b>	<b>µg/Kg-dry</b>	1	07/26/12 15:21
<b>Benzo(a)pyrene</b>	<b>22</b>	<b>J</b>	<b>16</b>	<b>31</b>	<b>µg/Kg-dry</b>	1	07/26/12 15:21
<b>Benzo(b)fluoranthene</b>	<b>31</b>	<b>J</b>	<b>17</b>	<b>31</b>	<b>µg/Kg-dry</b>	1	07/26/12 15:21
Benzo(g,h,i)perylene	U		24	31	µg/Kg-dry	1	07/26/12 15:21
<b>Benzo(k)fluoranthene</b>	<b>23</b>	<b>J</b>	<b>14</b>	<b>31</b>	<b>µg/Kg-dry</b>	1	07/26/12 15:21
Bis(2-chloroethoxy)methane	U		8.4	160	µg/Kg-dry	1	07/26/12 15:21
Bis(2-chloroethyl)ether	U		8.6	160	µg/Kg-dry	1	07/26/12 15:21
Bis(2-chloroisopropyl)ether	U		8.0	160	µg/Kg-dry	1	07/26/12 15:21
Bis(2-ethylhexyl)phthalate	U		10	340	µg/Kg-dry	1	07/26/12 15:21
Butyl benzyl phthalate	U		14	160	µg/Kg-dry	1	07/26/12 15:21
Caprolactam	U		15	340	µg/Kg-dry	1	07/26/12 15:21
Carbazole	U		12	160	µg/Kg-dry	1	07/26/12 15:21
<b>Chrysene</b>	<b>29</b>	<b>J</b>	<b>12</b>	<b>31</b>	<b>µg/Kg-dry</b>	1	07/26/12 15:21
Dibenzo(a,h)anthracene	U		18	31	µg/Kg-dry	1	07/26/12 15:21
Dibenzofuran	U		9.4	160	µg/Kg-dry	1	07/26/12 15:21
Diethyl phthalate	U		8.5	340	µg/Kg-dry	1	07/26/12 15:21
Dimethyl phthalate	U		8.6	340	µg/Kg-dry	1	07/26/12 15:21
Di-n-butyl phthalate	U		10	340	µg/Kg-dry	1	07/26/12 15:21

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-008  
**Collection Date:** 07/12/12 10:30 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-octyl phthalate	U		13	160	µg/Kg-dry	1	07/26/12 15:21
<b>Fluoranthene</b>	<b>54</b>		<b>12</b>	<b>31</b>	<b>µg/Kg-dry</b>	1	07/26/12 15:21
Fluorene	U		9.0	31	µg/Kg-dry	1	07/26/12 15:21
Hexachlorobenzene	U		9.4	160	µg/Kg-dry	1	07/26/12 15:21
Hexachlorobutadiene	U		8.7	51	µg/Kg-dry	1	07/26/12 15:21
Hexachlorocyclopentadiene	U		36	340	µg/Kg-dry	1	07/26/12 15:21
Hexachloroethane	U		9.0	160	µg/Kg-dry	1	07/26/12 15:21
Indeno(1,2,3-cd)pyrene	U		19	31	µg/Kg-dry	1	07/26/12 15:21
Isophorone	U		8.9	160	µg/Kg-dry	1	07/26/12 15:21
Naphthalene	U		8.8	31	µg/Kg-dry	1	07/26/12 15:21
Nitrobenzene	U		8.9	160	µg/Kg-dry	1	07/26/12 15:21
N-Nitrosodi-n-propylamine	U		9.0	160	µg/Kg-dry	1	07/26/12 15:21
N-Nitrosodiphenylamine	U		61	160	µg/Kg-dry	1	07/26/12 15:21
Pentachlorophenol	U		15	21	µg/Kg-dry	1	07/26/12 15:21
Phenanthrene	U		31	31	µg/Kg-dry	1	07/26/12 15:21
Phenol	U		8.7	160	µg/Kg-dry	1	07/26/12 15:21
<b>Pyrene</b>	<b>38</b>		<b>13</b>	<b>31</b>	<b>µg/Kg-dry</b>	1	07/26/12 15:21
Surr: 2,4,6-Tribromophenol	87.9			34-140	%REC	1	07/26/12 15:21
Surr: 2-Fluorobiphenyl	58.9			12-100	%REC	1	07/26/12 15:21
Surr: 2-Fluorophenol	66.9			33-117	%REC	1	07/26/12 15:21
Surr: 4-Terphenyl-d14	68.1			25-137	%REC	1	07/26/12 15:21
Surr: Nitrobenzene-d5	59.7			37-107	%REC	1	07/26/12 15:21
Surr: Phenol-d6	64.9			40-106	%REC	1	07/26/12 15:21

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: RS

BatchID: 42425

1,1,1-Trichloroethane	U		14	37	µg/Kg-dry	1	07/24/12 03:44
1,1,2,2-Tetrachloroethane	U		16	37	µg/Kg-dry	1	07/24/12 03:44
1,1,2-Trichloroethane	U		13	37	µg/Kg-dry	1	07/24/12 03:44
1,1,2-Trichlorotrifluoroethane	U		14	37	µg/Kg-dry	1	07/24/12 03:44
1,1-Dichloroethane	U		14	37	µg/Kg-dry	1	07/24/12 03:44
1,1-Dichloroethene	U		16	37	µg/Kg-dry	1	07/24/12 03:44
1,2,4-Trichlorobenzene	U		19	37	µg/Kg-dry	1	07/24/12 03:44
1,2-Dibromo-3-chloropropane	U		18	37	µg/Kg-dry	1	07/24/12 03:44
1,2-Dibromoethane	U		15	37	µg/Kg-dry	1	07/24/12 03:44
1,2-Dichlorobenzene	U		15	37	µg/Kg-dry	1	07/24/12 03:44
1,2-Dichloroethane	U		18	37	µg/Kg-dry	1	07/24/12 03:44
1,2-Dichloropropane	U		12	37	µg/Kg-dry	1	07/24/12 03:44
1,3-Dichlorobenzene	U		15	37	µg/Kg-dry	1	07/24/12 03:44
1,4-Dichlorobenzene	U		14	37	µg/Kg-dry	1	07/24/12 03:44

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-008  
**Collection Date:** 07/12/12 10:30 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Butanone	U		92	250	µg/Kg-dry	1	07/24/12 03:44
2-Hexanone	U		9.1	37	µg/Kg-dry	1	07/24/12 03:44
4-Methyl-2-pentanone	U		13	37	µg/Kg-dry	1	07/24/12 03:44
Acetone	U		79	120	µg/Kg-dry	1	07/24/12 03:44
Benzene	U		15	37	µg/Kg-dry	1	07/24/12 03:44
Bromodichloromethane	U		8.3	37	µg/Kg-dry	1	07/24/12 03:44
Bromoform	U		7.3	37	µg/Kg-dry	1	07/24/12 03:44
Bromomethane	U		14	93	µg/Kg-dry	1	07/24/12 03:44
Carbon disulfide	U		18	37	µg/Kg-dry	1	07/24/12 03:44
Carbon tetrachloride	U		11	37	µg/Kg-dry	1	07/24/12 03:44
Chlorobenzene	U		15	37	µg/Kg-dry	1	07/24/12 03:44
Chloroethane	U		79	120	µg/Kg-dry	1	07/24/12 03:44
Chloroform	U		15	37	µg/Kg-dry	1	07/24/12 03:44
Chloromethane	U		21	120	µg/Kg-dry	1	07/24/12 03:44
cis-1,2-Dichloroethene	U		15	37	µg/Kg-dry	1	07/24/12 03:44
cis-1,3-Dichloropropene	U		13	37	µg/Kg-dry	1	07/24/12 03:44
Cyclohexane	U		17	37	µg/Kg-dry	1	07/24/12 03:44
Dibromochloromethane	U		6.9	37	µg/Kg-dry	1	07/24/12 03:44
Dichlorodifluoromethane	U		17	37	µg/Kg-dry	1	07/24/12 03:44
Ethylbenzene	U		14	37	µg/Kg-dry	1	07/24/12 03:44
Isopropylbenzene	U		16	37	µg/Kg-dry	1	07/24/12 03:44
Methyl acetate	U		50	250	µg/Kg-dry	1	07/24/12 03:44
Methyl tert-butyl ether	U		16	37	µg/Kg-dry	1	07/24/12 03:44
Methylcyclohexane	U		17	37	µg/Kg-dry	1	07/24/12 03:44
Methylene chloride	U		15	37	µg/Kg-dry	1	07/24/12 03:44
Styrene	U		14	37	µg/Kg-dry	1	07/24/12 03:44
Tetrachloroethene	U		17	37	µg/Kg-dry	1	07/24/12 03:44
Toluene	U		14	37	µg/Kg-dry	1	07/24/12 03:44
trans-1,2-Dichloroethene	U		11	37	µg/Kg-dry	1	07/24/12 03:44
trans-1,3-Dichloropropene	U		12	37	µg/Kg-dry	1	07/24/12 03:44
Trichloroethene	U		17	37	µg/Kg-dry	1	07/24/12 03:44
Trichlorofluoromethane	U		10	37	µg/Kg-dry	1	07/24/12 03:44
Vinyl chloride	U		17	37	µg/Kg-dry	1	07/24/12 03:44
Xylenes, Total	U		44	110	µg/Kg-dry	1	07/24/12 03:44
Surr: 1,2-Dichloroethane-d4	90.7			70-130	%REC	1	07/24/12 03:44
Surr: 4-Bromofluorobenzene	87.8			70-130	%REC	1	07/24/12 03:44
Surr: Dibromofluoromethane	90.2			70-130	%REC	1	07/24/12 03:44
Surr: Toluene-d8	94.8			70-130	%REC	1	07/24/12 03:44

**MOISTURE**

**A2540 G**

Analyst: **CG**

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

**Date:** 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-008  
**Collection Date:** 07/12/12 10:30 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-08  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<u>BatchID:</u> R107494							
Moisture	5.6		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-009  
**Collection Date:** 07/12/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/25/12		Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.11	5.5	µg/Kg-dry	1	07/25/12 21:15
2,4,5-TP (Silvex)	U		0.073	11	µg/Kg-dry	1	07/25/12 21:15
2,4-D	U		0.078	5.5	µg/Kg-dry	1	07/25/12 21:15
Surr: DCAA	101			30-150	%REC	1	07/25/12 21:15
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		37	42	µg/Kg-dry	1	07/24/12 15:03
Aroclor 1221	U		37	42	µg/Kg-dry	1	07/24/12 15:03
Aroclor 1232	U		37	42	µg/Kg-dry	1	07/24/12 15:03
Aroclor 1242	U		37	42	µg/Kg-dry	1	07/24/12 15:03
Aroclor 1248	U		37	42	µg/Kg-dry	1	07/24/12 15:03
Aroclor 1254	U		12	42	µg/Kg-dry	1	07/24/12 15:03
Aroclor 1260	U		12	42	µg/Kg-dry	1	07/24/12 15:03
Surr: Tetrachloro-m-xylene	102			45-124	%REC	1	07/24/12 15:03
Surr: Decachlorobiphenyl	112			40-140	%REC	1	07/24/12 15:03
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		6.7	21	µg/Kg-dry	2	07/25/12 16:04
4,4'-DDE	U		4.1	21	µg/Kg-dry	2	07/25/12 16:04
4,4'-DDT	U		4.8	21	µg/Kg-dry	2	07/25/12 16:04
Aldrin	U		1.9	21	µg/Kg-dry	2	07/25/12 16:04
alpha-BHC	U		6.7	21	µg/Kg-dry	2	07/25/12 16:04
alpha-Chlordane	U		5.7	21	µg/Kg-dry	2	07/25/12 16:04
beta-BHC	U		7.9	21	µg/Kg-dry	2	07/25/12 16:04
Chlordane, Technical	U		21	52	µg/Kg-dry	2	07/25/12 16:04
delta-BHC	U		7.7	21	µg/Kg-dry	2	07/25/12 16:04
Dieldrin	U		1.8	21	µg/Kg-dry	2	07/25/12 16:04
Endosulfan I	U		2.7	21	µg/Kg-dry	2	07/25/12 16:04
Endosulfan II	U		2.3	21	µg/Kg-dry	2	07/25/12 16:04
Endosulfan sulfate	U		2.6	21	µg/Kg-dry	2	07/25/12 16:04
Endrin	U		6.1	21	µg/Kg-dry	2	07/25/12 16:04
Endrin aldehyde	U		5.1	21	µg/Kg-dry	2	07/25/12 16:04
Endrin ketone	U		8.0	21	µg/Kg-dry	2	07/25/12 16:04
gamma-BHC (Lindane)	U		9.7	21	µg/Kg-dry	2	07/25/12 16:04
gamma-Chlordane	U		3.5	21	µg/Kg-dry	2	07/25/12 16:04
Heptachlor	U		11	21	µg/Kg-dry	2	07/25/12 16:04

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-009  
**Collection Date:** 07/12/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		3.3	21	µg/Kg-dry	2	07/25/12 16:04
Methoxychlor	U		5.1	21	µg/Kg-dry	2	07/25/12 16:04
Toxaphene	U		24	120	µg/Kg-dry	2	07/25/12 16:04
Surr: Decachlorobiphenyl	106			45-135	%REC	2	07/25/12 16:04
Surr: Tetrachloro-m-xylene	108			45-124	%REC	2	07/25/12 16:04
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
BatchID: 42450							
Mercury	0.027		0.0011	0.022	mg/Kg-dry	1	07/23/12 16:40
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
BatchID: 42527							
Antimony	0.14	J	0.011	0.45	mg/Kg-dry	1	07/25/12 07:15
Arsenic	3.0		0.053	0.18	mg/Kg-dry	1	07/25/12 07:15
Barium	41		0.016	0.45	mg/Kg-dry	1	07/25/12 07:15
Beryllium	0.24		0.0053	0.18	mg/Kg-dry	1	07/25/12 07:15
Cadmium	0.12	J	0.0018	0.18	mg/Kg-dry	1	07/25/12 07:15
Chromium	18		0.012	0.45	mg/Kg-dry	1	07/25/12 07:15
Cobalt	2.3		0.0018	0.45	mg/Kg-dry	1	07/25/12 07:15
Copper	5.5		0.012	0.45	mg/Kg-dry	1	07/25/12 07:15
Iron	9,800		1.5	7.1	mg/Kg-dry	1	07/25/12 07:15
Lead	7.3		0.0018	0.45	mg/Kg-dry	1	07/25/12 07:15
Manganese	140		0.012	0.45	mg/Kg-dry	1	07/25/12 07:15
Nickel	6.9		0.0053	0.45	mg/Kg-dry	1	07/25/12 07:15
Selenium	0.39		0.032	0.36	mg/Kg-dry	1	07/25/12 07:15
Thallium	0.063	J	0.0071	0.45	mg/Kg-dry	1	07/25/12 07:15
Vanadium	18		0.023	0.45	mg/Kg-dry	1	07/25/12 07:15
Zinc	19		0.046	0.89	mg/Kg-dry	1	07/25/12 07:15
BatchID: 42527							
Aluminum	6,900		0.13	1.8	mg/Kg-dry	2	07/26/12 06:17
Silver	0.026	J	0.0036	0.36	mg/Kg-dry	2	07/26/12 06:17
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
BatchID: 42513							
1,1'-Biphenyl	U		5.5	360	µg/Kg-dry	1	07/26/12 15:47
2,4,5-Trichlorophenol	U		8.8	180	µg/Kg-dry	1	07/26/12 15:47
2,4,6-Trichlorophenol	U		8.8	180	µg/Kg-dry	1	07/26/12 15:47
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	07/26/12 15:47
2,4-Dimethylphenol	U		45	360	µg/Kg-dry	1	07/26/12 15:47
2,4-Dinitrophenol	U		47	730	µg/Kg-dry	1	07/26/12 15:47
2,4-Dinitrotoluene	U		9.8	180	µg/Kg-dry	1	07/26/12 15:47

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-009  
**Collection Date:** 07/12/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		10	180	µg/Kg-dry	1	07/26/12 15:47
2-Chloronaphthalene	U		10	88	µg/Kg-dry	1	07/26/12 15:47
2-Chlorophenol	U		9.8	180	µg/Kg-dry	1	07/26/12 15:47
2-Methylnaphthalene	U		11	88	µg/Kg-dry	1	07/26/12 15:47
2-Methylphenol	U		11	180	µg/Kg-dry	1	07/26/12 15:47
2-Nitroaniline	U		8.4	730	µg/Kg-dry	1	07/26/12 15:47
2-Nitrophenol	U		9.6	180	µg/Kg-dry	1	07/26/12 15:47
3,3'-Dichlorobenzidine	U		10	730	µg/Kg-dry	1	07/26/12 15:47
3-Nitroaniline	U		89	730	µg/Kg-dry	1	07/26/12 15:47
4,6-Dinitro-2-methylphenol	U		53	360	µg/Kg-dry	1	07/26/12 15:47
4-Bromophenyl phenyl ether	U		9.5	180	µg/Kg-dry	1	07/26/12 15:47
4-Chloro-3-methylphenol	U		9.9	180	µg/Kg-dry	1	07/26/12 15:47
4-Chloroaniline	U		14	360	µg/Kg-dry	1	07/26/12 15:47
4-Chlorophenyl phenyl ether	U		10	180	µg/Kg-dry	1	07/26/12 15:47
4-Methylphenol	U		11	180	µg/Kg-dry	1	07/26/12 15:47
4-Nitroaniline	U		16	730	µg/Kg-dry	1	07/26/12 15:47
4-Nitrophenol	U		44	730	µg/Kg-dry	1	07/26/12 15:47
Acenaphthene	U		10	33	µg/Kg-dry	1	07/26/12 15:47
Acenaphthylene	U		10	33	µg/Kg-dry	1	07/26/12 15:47
Acetophenone	U		5.5	360	µg/Kg-dry	1	07/26/12 15:47
Anthracene	U		11	33	µg/Kg-dry	1	07/26/12 15:47
Atrazine	U		11	55	µg/Kg-dry	1	07/26/12 15:47
Benzaldehyde	U		14	360	µg/Kg-dry	1	07/26/12 15:47
Benzo(a)anthracene	U		13	33	µg/Kg-dry	1	07/26/12 15:47
Benzo(a)pyrene	U		17	33	µg/Kg-dry	1	07/26/12 15:47
Benzo(b)fluoranthene	U		18	33	µg/Kg-dry	1	07/26/12 15:47
Benzo(g,h,i)perylene	U		26	33	µg/Kg-dry	1	07/26/12 15:47
Benzo(k)fluoranthene	U		15	33	µg/Kg-dry	1	07/26/12 15:47
Bis(2-chloroethoxy)methane	U		9.0	180	µg/Kg-dry	1	07/26/12 15:47
Bis(2-chloroethyl)ether	U		9.2	180	µg/Kg-dry	1	07/26/12 15:47
Bis(2-chloroisopropyl)ether	U		8.6	180	µg/Kg-dry	1	07/26/12 15:47
Bis(2-ethylhexyl)phthalate	U		11	360	µg/Kg-dry	1	07/26/12 15:47
Butyl benzyl phthalate	U		15	180	µg/Kg-dry	1	07/26/12 15:47
Caprolactam	U		16	360	µg/Kg-dry	1	07/26/12 15:47
Carbazole	U		13	180	µg/Kg-dry	1	07/26/12 15:47
Chrysene	U		12	33	µg/Kg-dry	1	07/26/12 15:47
Dibenzo(a,h)anthracene	U		19	33	µg/Kg-dry	1	07/26/12 15:47
Dibenzofuran	U		10	180	µg/Kg-dry	1	07/26/12 15:47
Diethyl phthalate	U		9.1	360	µg/Kg-dry	1	07/26/12 15:47
Dimethyl phthalate	U		9.2	360	µg/Kg-dry	1	07/26/12 15:47

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-009  
**Collection Date:** 07/12/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate	U		11	360	µg/Kg-dry	1	07/26/12 15:47
Di-n-octyl phthalate	U		14	180	µg/Kg-dry	1	07/26/12 15:47
<b>Fluoranthene</b>	<b>21</b>	<b>J</b>	<b>13</b>	<b>33</b>	<b>µg/Kg-dry</b>	1	07/26/12 15:47
Fluorene	U		9.6	33	µg/Kg-dry	1	07/26/12 15:47
Hexachlorobenzene	U		10	180	µg/Kg-dry	1	07/26/12 15:47
Hexachlorobutadiene	U		9.3	55	µg/Kg-dry	1	07/26/12 15:47
Hexachlorocyclopentadiene	U		38	360	µg/Kg-dry	1	07/26/12 15:47
Hexachloroethane	U		9.6	180	µg/Kg-dry	1	07/26/12 15:47
Indeno(1,2,3-cd)pyrene	U		21	33	µg/Kg-dry	1	07/26/12 15:47
Isophorone	U		9.5	180	µg/Kg-dry	1	07/26/12 15:47
Naphthalene	U		9.4	33	µg/Kg-dry	1	07/26/12 15:47
Nitrobenzene	U		9.5	180	µg/Kg-dry	1	07/26/12 15:47
N-Nitrosodi-n-propylamine	U		9.6	180	µg/Kg-dry	1	07/26/12 15:47
N-Nitrosodiphenylamine	U		65	180	µg/Kg-dry	1	07/26/12 15:47
Pentachlorophenol	U		16	22	µg/Kg-dry	1	07/26/12 15:47
Phenanthrene	U		33	33	µg/Kg-dry	1	07/26/12 15:47
Phenol	U		9.3	180	µg/Kg-dry	1	07/26/12 15:47
Pyrene	U		14	33	µg/Kg-dry	1	07/26/12 15:47
Surr: 2,4,6-Tribromophenol	99.0			34-140	%REC	1	07/26/12 15:47
Surr: 2-Fluorobiphenyl	64.9			12-100	%REC	1	07/26/12 15:47
Surr: 2-Fluorophenol	73.7			33-117	%REC	1	07/26/12 15:47
Surr: 4-Terphenyl-d14	83.4			25-137	%REC	1	07/26/12 15:47
Surr: Nitrobenzene-d5	65.9			37-107	%REC	1	07/26/12 15:47
Surr: Phenol-d6	71.7			40-106	%REC	1	07/26/12 15:47

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: BG

BatchID: 42425

1,1,1-Trichloroethane	U		18	47	µg/Kg-dry	1	07/24/12 06:32
1,1,2,2-Tetrachloroethane	U		21	47	µg/Kg-dry	1	07/24/12 06:32
1,1,2-Trichloroethane	U		17	47	µg/Kg-dry	1	07/24/12 06:32
1,1,2-Trichlorotrifluoroethane	U		17	47	µg/Kg-dry	1	07/24/12 06:32
1,1-Dichloroethane	U		17	47	µg/Kg-dry	1	07/24/12 06:32
1,1-Dichloroethene	U		20	47	µg/Kg-dry	1	07/24/12 06:32
1,2,4-Trichlorobenzene	U		24	47	µg/Kg-dry	1	07/24/12 06:32
1,2-Dibromo-3-chloropropane	U		23	47	µg/Kg-dry	1	07/24/12 06:32
1,2-Dibromoethane	U		19	47	µg/Kg-dry	1	07/24/12 06:32
1,2-Dichlorobenzene	U		19	47	µg/Kg-dry	1	07/24/12 06:32
1,2-Dichloroethane	U		22	47	µg/Kg-dry	1	07/24/12 06:32
1,2-Dichloropropane	U		16	47	µg/Kg-dry	1	07/24/12 06:32
1,3-Dichlorobenzene	U		19	47	µg/Kg-dry	1	07/24/12 06:32

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-009  
**Collection Date:** 07/12/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		18	47	µg/Kg-dry	1	07/24/12 06:32
2-Butanone	U		120	310	µg/Kg-dry	1	07/24/12 06:32
2-Hexanone	U		12	47	µg/Kg-dry	1	07/24/12 06:32
4-Methyl-2-pentanone	U		16	47	µg/Kg-dry	1	07/24/12 06:32
Acetone	U		100	160	µg/Kg-dry	1	07/24/12 06:32
Benzene	U		19	47	µg/Kg-dry	1	07/24/12 06:32
Bromodichloromethane	U		11	47	µg/Kg-dry	1	07/24/12 06:32
Bromoform	U		9.3	47	µg/Kg-dry	1	07/24/12 06:32
Bromomethane	U		18	120	µg/Kg-dry	1	07/24/12 06:32
Carbon disulfide	U		23	47	µg/Kg-dry	1	07/24/12 06:32
Carbon tetrachloride	U		13	47	µg/Kg-dry	1	07/24/12 06:32
Chlorobenzene	U		19	47	µg/Kg-dry	1	07/24/12 06:32
Chloroethane	U		100	160	µg/Kg-dry	1	07/24/12 06:32
Chloroform	U		19	47	µg/Kg-dry	1	07/24/12 06:32
Chloromethane	U		26	160	µg/Kg-dry	1	07/24/12 06:32
cis-1,2-Dichloroethene	U		19	47	µg/Kg-dry	1	07/24/12 06:32
cis-1,3-Dichloropropene	U		16	47	µg/Kg-dry	1	07/24/12 06:32
Cyclohexane	U		21	47	µg/Kg-dry	1	07/24/12 06:32
Dibromochloromethane	U		8.7	47	µg/Kg-dry	1	07/24/12 06:32
Dichlorodifluoromethane	U		21	47	µg/Kg-dry	1	07/24/12 06:32
Ethylbenzene	U		17	47	µg/Kg-dry	1	07/24/12 06:32
Isopropylbenzene	U		20	47	µg/Kg-dry	1	07/24/12 06:32
Methyl acetate	U		63	310	µg/Kg-dry	1	07/24/12 06:32
Methyl tert-butyl ether	U		20	47	µg/Kg-dry	1	07/24/12 06:32
Methylcyclohexane	U		22	47	µg/Kg-dry	1	07/24/12 06:32
Methylene chloride	U		18	47	µg/Kg-dry	1	07/24/12 06:32
Styrene	U		18	47	µg/Kg-dry	1	07/24/12 06:32
Tetrachloroethene	U		21	47	µg/Kg-dry	1	07/24/12 06:32
Toluene	U		18	47	µg/Kg-dry	1	07/24/12 06:32
trans-1,2-Dichloroethene	U		14	47	µg/Kg-dry	1	07/24/12 06:32
trans-1,3-Dichloropropene	U		16	47	µg/Kg-dry	1	07/24/12 06:32
Trichloroethene	U		22	47	µg/Kg-dry	1	07/24/12 06:32
Trichlorofluoromethane	U		13	47	µg/Kg-dry	1	07/24/12 06:32
Vinyl chloride	U		21	47	µg/Kg-dry	1	07/24/12 06:32
Xylenes, Total	U		56	140	µg/Kg-dry	1	07/24/12 06:32
Surr: 1,2-Dichloroethane-d4	83.0			70-130	%REC	1	07/24/12 06:32
Surr: 4-Bromofluorobenzene	101			70-130	%REC	1	07/24/12 06:32
Surr: Dibromofluoromethane	88.0			70-130	%REC	1	07/24/12 06:32
Surr: Toluene-d8	87.6			70-130	%REC	1	07/24/12 06:32

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-009  
**Collection Date:** 07/12/12 11:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	9.3		0.025	0.050	% of sample	1	07/19/12 14:00

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-010  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-10  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/25/12		Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.10	5.1	µg/Kg-dry	1	07/25/12 21:25
2,4,5-TP (Silvex)	U		0.068	10	µg/Kg-dry	1	07/25/12 21:25
2,4-D	U		0.073	5.1	µg/Kg-dry	1	07/25/12 21:25
Surr: DCAA	104			30-150	%REC	1	07/25/12 21:25
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		35	40	µg/Kg-dry	1	07/24/12 15:23
Aroclor 1221	U		35	40	µg/Kg-dry	1	07/24/12 15:23
Aroclor 1232	U		35	40	µg/Kg-dry	1	07/24/12 15:23
Aroclor 1242	U		35	40	µg/Kg-dry	1	07/24/12 15:23
Aroclor 1248	U		35	40	µg/Kg-dry	1	07/24/12 15:23
<b>Aroclor 1254</b>	<b>140</b>		<b>11</b>	<b>40</b>	<b>µg/Kg-dry</b>	1	07/24/12 15:23
Aroclor 1260	U		11	40	µg/Kg-dry	1	07/24/12 15:23
Surr: Tetrachloro-m-xylene	94.1			45-124	%REC	1	07/24/12 15:23
Surr: Decachlorobiphenyl	112			40-140	%REC	1	07/24/12 15:23
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		63	200	µg/Kg-dry	20	07/25/12 16:18
4,4'-DDE	U		39	200	µg/Kg-dry	20	07/25/12 16:18
4,4'-DDT	U		46	200	µg/Kg-dry	20	07/25/12 16:18
Aldrin	U		18	200	µg/Kg-dry	20	07/25/12 16:18
alpha-BHC	U		64	200	µg/Kg-dry	20	07/25/12 16:18
alpha-Chlordane	U		55	200	µg/Kg-dry	20	07/25/12 16:18
beta-BHC	U		75	200	µg/Kg-dry	20	07/25/12 16:18
Chlordane, Technical	U		200	490	µg/Kg-dry	20	07/25/12 16:18
delta-BHC	U		73	200	µg/Kg-dry	20	07/25/12 16:18
Dieldrin	U		17	200	µg/Kg-dry	20	07/25/12 16:18
Endosulfan I	U		26	200	µg/Kg-dry	20	07/25/12 16:18
Endosulfan II	U		22	200	µg/Kg-dry	20	07/25/12 16:18
Endosulfan sulfate	U		24	200	µg/Kg-dry	20	07/25/12 16:18
Endrin	U		58	200	µg/Kg-dry	20	07/25/12 16:18
Endrin aldehyde	U		48	200	µg/Kg-dry	20	07/25/12 16:18
Endrin ketone	U		76	200	µg/Kg-dry	20	07/25/12 16:18
gamma-BHC (Lindane)	U		92	200	µg/Kg-dry	20	07/25/12 16:18
gamma-Chlordane	U		33	200	µg/Kg-dry	20	07/25/12 16:18
Heptachlor	U		100	200	µg/Kg-dry	20	07/25/12 16:18

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-010  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-10  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		31	200	µg/Kg-dry	20	07/25/12 16:18
Methoxychlor	U		48	200	µg/Kg-dry	20	07/25/12 16:18
Toxaphene	U		230	1,200	µg/Kg-dry	20	07/25/12 16:18
Surr: Decachlorobiphenyl	80.1			45-135	%REC	20	07/25/12 16:18
Surr: Tetrachloro-m-xylene	100			45-124	%REC	20	07/25/12 16:18
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
BatchID: 42450							
Mercury	0.62		0.0089	0.18	mg/Kg-dry	10	07/23/12 16:52
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
BatchID: 42527							
Antimony	1.6		0.0085	0.36	mg/Kg-dry	1	07/25/12 07:21
Arsenic	2.8		0.043	0.14	mg/Kg-dry	1	07/25/12 07:21
Barium	45		0.013	0.36	mg/Kg-dry	1	07/25/12 07:21
Beryllium	0.12	J	0.0043	0.14	mg/Kg-dry	1	07/25/12 07:21
Cadmium	0.86		0.0014	0.14	mg/Kg-dry	1	07/25/12 07:21
Chromium	8.5		0.010	0.36	mg/Kg-dry	1	07/25/12 07:21
Cobalt	2.7		0.0014	0.36	mg/Kg-dry	1	07/25/12 07:21
Copper	31		0.010	0.36	mg/Kg-dry	1	07/25/12 07:21
Lead	64		0.0014	0.36	mg/Kg-dry	1	07/25/12 07:21
Nickel	9.8		0.0043	0.36	mg/Kg-dry	1	07/25/12 07:21
Selenium	0.32		0.026	0.28	mg/Kg-dry	1	07/25/12 07:21
Thallium	0.086	J	0.0057	0.36	mg/Kg-dry	1	07/25/12 07:21
Vanadium	9.1		0.019	0.36	mg/Kg-dry	1	07/25/12 07:21
Zinc	98		0.037	0.71	mg/Kg-dry	1	07/25/12 07:21
BatchID: 42527							
Aluminum	4,500		0.26	3.6	mg/Kg-dry	5	07/26/12 06:23
Iron	15,000		6.0	28	mg/Kg-dry	5	07/26/12 06:23
Manganese	360		0.050	1.8	mg/Kg-dry	5	07/26/12 06:23
Silver	0.39	J	0.0071	0.71	mg/Kg-dry	5	07/26/12 06:23
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
BatchID: 42513							
1,1'-Biphenyl	U		5.0	330	µg/Kg-dry	1	07/26/12 16:14
2,4,5-Trichlorophenol	U		8.0	160	µg/Kg-dry	1	07/26/12 16:14
2,4,6-Trichlorophenol	U		8.0	160	µg/Kg-dry	1	07/26/12 16:14
2,4-Dichlorophenol	U		9.7	160	µg/Kg-dry	1	07/26/12 16:14
2,4-Dimethylphenol	U		41	330	µg/Kg-dry	1	07/26/12 16:14
2,4-Dinitrophenol	U		43	660	µg/Kg-dry	1	07/26/12 16:14
2,4-Dinitrotoluene	U		8.9	160	µg/Kg-dry	1	07/26/12 16:14

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-010  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-10  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		9.4	160	µg/Kg-dry	1	07/26/12 16:14
2-Chloronaphthalene	U		9.1	80	µg/Kg-dry	1	07/26/12 16:14
2-Chlorophenol	U		9.0	160	µg/Kg-dry	1	07/26/12 16:14
2-Methylnaphthalene	U		9.8	80	µg/Kg-dry	1	07/26/12 16:14
2-Methylphenol	U		9.6	160	µg/Kg-dry	1	07/26/12 16:14
2-Nitroaniline	U		7.6	660	µg/Kg-dry	1	07/26/12 16:14
2-Nitrophenol	U		8.7	160	µg/Kg-dry	1	07/26/12 16:14
3,3'-Dichlorobenzidine	U		9.3	660	µg/Kg-dry	1	07/26/12 16:14
3-Nitroaniline	U		81	660	µg/Kg-dry	1	07/26/12 16:14
4,6-Dinitro-2-methylphenol	U		48	330	µg/Kg-dry	1	07/26/12 16:14
4-Bromophenyl phenyl ether	U		8.7	160	µg/Kg-dry	1	07/26/12 16:14
4-Chloro-3-methylphenol	U		9.0	160	µg/Kg-dry	1	07/26/12 16:14
4-Chloroaniline	U		13	330	µg/Kg-dry	1	07/26/12 16:14
4-Chlorophenyl phenyl ether	U		9.2	160	µg/Kg-dry	1	07/26/12 16:14
4-Methylphenol	U		9.8	160	µg/Kg-dry	1	07/26/12 16:14
4-Nitroaniline	U		15	660	µg/Kg-dry	1	07/26/12 16:14
4-Nitrophenol	U		41	660	µg/Kg-dry	1	07/26/12 16:14
Acenaphthene	U		9.1	30	µg/Kg-dry	1	07/26/12 16:14
Acenaphthylene	U		9.5	30	µg/Kg-dry	1	07/26/12 16:14
Acetophenone	U		5.0	330	µg/Kg-dry	1	07/26/12 16:14
Anthracene	U		10	30	µg/Kg-dry	1	07/26/12 16:14
Atrazine	U		10	50	µg/Kg-dry	1	07/26/12 16:14
<b>Benzaldehyde</b>	<b>16</b>	J	<b>13</b>	<b>330</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
<b>Benzo(a)anthracene</b>	<b>35</b>		<b>12</b>	<b>30</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
<b>Benzo(a)pyrene</b>	<b>32</b>		<b>15</b>	<b>30</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
<b>Benzo(b)fluoranthene</b>	<b>49</b>		<b>16</b>	<b>30</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
Benzo(g,h,i)perylene	U		24	30	µg/Kg-dry	1	07/26/12 16:14
<b>Benzo(k)fluoranthene</b>	<b>34</b>		<b>14</b>	<b>30</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
Bis(2-chloroethoxy)methane	U		8.2	160	µg/Kg-dry	1	07/26/12 16:14
Bis(2-chloroethyl)ether	U		8.3	160	µg/Kg-dry	1	07/26/12 16:14
Bis(2-chloroisopropyl)ether	U		7.8	160	µg/Kg-dry	1	07/26/12 16:14
<b>Bis(2-ethylhexyl)phthalate</b>	<b>400</b>		<b>9.9</b>	<b>330</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
Butyl benzyl phthalate	U		14	160	µg/Kg-dry	1	07/26/12 16:14
<b>Caprolactam</b>	<b>35</b>	J	<b>15</b>	<b>330</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
Carbazole	U		11	160	µg/Kg-dry	1	07/26/12 16:14
<b>Chrysene</b>	<b>46</b>		<b>11</b>	<b>30</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
Dibenzo(a,h)anthracene	U		17	30	µg/Kg-dry	1	07/26/12 16:14
Dibenzofuran	U		9.1	160	µg/Kg-dry	1	07/26/12 16:14
Diethyl phthalate	U		8.3	330	µg/Kg-dry	1	07/26/12 16:14
Dimethyl phthalate	U		8.3	330	µg/Kg-dry	1	07/26/12 16:14

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-010  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-10  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate	U		10	330	µg/Kg-dry	1	07/26/12 16:14
Di-n-octyl phthalate	U		12	160	µg/Kg-dry	1	07/26/12 16:14
<b>Fluoranthene</b>	<b>67</b>		<b>12</b>	<b>30</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
Fluorene	U		8.8	30	µg/Kg-dry	1	07/26/12 16:14
Hexachlorobenzene	U		9.1	160	µg/Kg-dry	1	07/26/12 16:14
Hexachlorobutadiene	U		8.5	50	µg/Kg-dry	1	07/26/12 16:14
Hexachlorocyclopentadiene	U		35	330	µg/Kg-dry	1	07/26/12 16:14
Hexachloroethane	U		8.8	160	µg/Kg-dry	1	07/26/12 16:14
Indeno(1,2,3-cd)pyrene	U		19	30	µg/Kg-dry	1	07/26/12 16:14
<b>Isophorone</b>	<b>20</b>	J	<b>8.7</b>	<b>160</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
Naphthalene	U		8.5	30	µg/Kg-dry	1	07/26/12 16:14
Nitrobenzene	U		8.7	160	µg/Kg-dry	1	07/26/12 16:14
N-Nitrosodi-n-propylamine	U		8.8	160	µg/Kg-dry	1	07/26/12 16:14
N-Nitrosodiphenylamine	U		59	160	µg/Kg-dry	1	07/26/12 16:14
Pentachlorophenol	U		15	20	µg/Kg-dry	1	07/26/12 16:14
<b>Phenanthrene</b>	<b>44</b>		<b>30</b>	<b>30</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
Phenol	U		8.5	160	µg/Kg-dry	1	07/26/12 16:14
<b>Pyrene</b>	<b>52</b>		<b>12</b>	<b>30</b>	<b>µg/Kg-dry</b>	1	07/26/12 16:14
Surr: 2,4,6-Tribromophenol	98.7			34-140	%REC	1	07/26/12 16:14
Surr: 2-Fluorobiphenyl	61.3			12-100	%REC	1	07/26/12 16:14
Surr: 2-Fluorophenol	65.0			33-117	%REC	1	07/26/12 16:14
Surr: 4-Terphenyl-d14	81.0			25-137	%REC	1	07/26/12 16:14
Surr: Nitrobenzene-d5	59.2			37-107	%REC	1	07/26/12 16:14
Surr: Phenol-d6	64.5			40-106	%REC	1	07/26/12 16:14

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: AK

BatchID: 42425

1,1,1-Trichloroethane	U		16	41	µg/Kg-dry	1	07/23/12 19:56
1,1,2,2-Tetrachloroethane	U		18	41	µg/Kg-dry	1	07/23/12 19:56
1,1,2-Trichloroethane	U		14	41	µg/Kg-dry	1	07/23/12 19:56
1,1,2-Trichlorotrifluoroethane	U		15	41	µg/Kg-dry	1	07/23/12 19:56
1,1-Dichloroethane	U		15	41	µg/Kg-dry	1	07/23/12 19:56
1,1-Dichloroethene	U		17	41	µg/Kg-dry	1	07/23/12 19:56
1,2,4-Trichlorobenzene	U		21	41	µg/Kg-dry	1	07/23/12 19:56
1,2-Dibromo-3-chloropropane	U		20	41	µg/Kg-dry	1	07/23/12 19:56
1,2-Dibromoethane	U		16	41	µg/Kg-dry	1	07/23/12 19:56
1,2-Dichlorobenzene	U		16	41	µg/Kg-dry	1	07/23/12 19:56
1,2-Dichloroethane	U		19	41	µg/Kg-dry	1	07/23/12 19:56
1,2-Dichloropropane	U		14	41	µg/Kg-dry	1	07/23/12 19:56
1,3-Dichlorobenzene	U		16	41	µg/Kg-dry	1	07/23/12 19:56

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-010  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-10  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		16	41	µg/Kg-dry	1	07/23/12 19:56
2-Butanone	U		100	270	µg/Kg-dry	1	07/23/12 19:56
2-Hexanone	U		10	41	µg/Kg-dry	1	07/23/12 19:56
4-Methyl-2-pentanone	U		14	41	µg/Kg-dry	1	07/23/12 19:56
Acetone	U		87	140	µg/Kg-dry	1	07/23/12 19:56
Benzene	U		16	41	µg/Kg-dry	1	07/23/12 19:56
Bromodichloromethane	U		9.2	41	µg/Kg-dry	1	07/23/12 19:56
Bromoform	U		8.1	41	µg/Kg-dry	1	07/23/12 19:56
Bromomethane	U		16	100	µg/Kg-dry	1	07/23/12 19:56
Carbon disulfide	U		20	41	µg/Kg-dry	1	07/23/12 19:56
Carbon tetrachloride	U		12	41	µg/Kg-dry	1	07/23/12 19:56
Chlorobenzene	U		17	41	µg/Kg-dry	1	07/23/12 19:56
Chloroethane	U		87	140	µg/Kg-dry	1	07/23/12 19:56
Chloroform	U		17	41	µg/Kg-dry	1	07/23/12 19:56
Chloromethane	U		23	140	µg/Kg-dry	1	07/23/12 19:56
cis-1,2-Dichloroethene	U		17	41	µg/Kg-dry	1	07/23/12 19:56
cis-1,3-Dichloropropene	U		14	41	µg/Kg-dry	1	07/23/12 19:56
Cyclohexane	U		18	41	µg/Kg-dry	1	07/23/12 19:56
Dibromochloromethane	U		7.6	41	µg/Kg-dry	1	07/23/12 19:56
Dichlorodifluoromethane	U		19	41	µg/Kg-dry	1	07/23/12 19:56
Ethylbenzene	U		15	41	µg/Kg-dry	1	07/23/12 19:56
Isopropylbenzene	U		18	41	µg/Kg-dry	1	07/23/12 19:56
Methyl acetate	U		55	270	µg/Kg-dry	1	07/23/12 19:56
Methyl tert-butyl ether	U		17	41	µg/Kg-dry	1	07/23/12 19:56
Methylcyclohexane	U		19	41	µg/Kg-dry	1	07/23/12 19:56
Methylene chloride	U		16	41	µg/Kg-dry	1	07/23/12 19:56
Styrene	U		15	41	µg/Kg-dry	1	07/23/12 19:56
Tetrachloroethene	U		18	41	µg/Kg-dry	1	07/23/12 19:56
Toluene	U		15	41	µg/Kg-dry	1	07/23/12 19:56
trans-1,2-Dichloroethene	U		13	41	µg/Kg-dry	1	07/23/12 19:56
trans-1,3-Dichloropropene	U		14	41	µg/Kg-dry	1	07/23/12 19:56
Trichloroethene	U		19	41	µg/Kg-dry	1	07/23/12 19:56
Trichlorofluoromethane	U		11	41	µg/Kg-dry	1	07/23/12 19:56
Vinyl chloride	U		18	41	µg/Kg-dry	1	07/23/12 19:56
Xylenes, Total	U		48	120	µg/Kg-dry	1	07/23/12 19:56
Surr: 1,2-Dichloroethane-d4	83.6			70-130	%REC	1	07/23/12 19:56
Surr: 4-Bromofluorobenzene	102			70-130	%REC	1	07/23/12 19:56
Surr: Dibromofluoromethane	85.8			70-130	%REC	1	07/23/12 19:56
Surr: Toluene-d8	89.8			70-130	%REC	1	07/23/12 19:56

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-010  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-10  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	2.5		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-011  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-11  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>			Prep: SW8151M / 7/25/12	Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.097	5.0	µg/Kg-dry	1	07/25/12 21:34
2,4,5-TP (Silvex)	U		0.066	9.9	µg/Kg-dry	1	07/25/12 21:34
2,4-D	U		0.071	5.0	µg/Kg-dry	1	07/25/12 21:34
Surr: DCAA	101			30-150	%REC	1	07/25/12 21:34
<b>PCBS</b>			<b>SW8082</b>			Prep: SW3541 / 7/23/12	Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		35	39	µg/Kg-dry	1	07/24/12 15:43
Aroclor 1221	U		35	39	µg/Kg-dry	1	07/24/12 15:43
Aroclor 1232	U		35	39	µg/Kg-dry	1	07/24/12 15:43
Aroclor 1242	U		35	39	µg/Kg-dry	1	07/24/12 15:43
Aroclor 1248	U		35	39	µg/Kg-dry	1	07/24/12 15:43
<b>Aroclor 1254</b>	<b>160</b>		<b>11</b>	<b>39</b>	<b>µg/Kg-dry</b>	1	07/24/12 15:43
Aroclor 1260	U		11	39	µg/Kg-dry	1	07/24/12 15:43
Surr: Tetrachloro-m-xylene	85.1			45-124	%REC	1	07/24/12 15:43
Surr: Decachlorobiphenyl	108			40-140	%REC	1	07/24/12 15:43
<b>PESTICIDES</b>			<b>SW8081</b>			Prep: SW3541 / 7/23/12	Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		31	97	µg/Kg-dry	10	07/25/12 16:33
4,4'-DDE	U		19	97	µg/Kg-dry	10	07/25/12 16:33
4,4'-DDT	U		22	97	µg/Kg-dry	10	07/25/12 16:33
Aldrin	U		8.7	97	µg/Kg-dry	10	07/25/12 16:33
alpha-BHC	U		31	97	µg/Kg-dry	10	07/25/12 16:33
alpha-Chlordane	U		27	97	µg/Kg-dry	10	07/25/12 16:33
beta-BHC	U		37	97	µg/Kg-dry	10	07/25/12 16:33
Chlordane, Technical	U		96	240	µg/Kg-dry	10	07/25/12 16:33
delta-BHC	U		36	97	µg/Kg-dry	10	07/25/12 16:33
Dieldrin	U		8.2	97	µg/Kg-dry	10	07/25/12 16:33
Endosulfan I	U		13	97	µg/Kg-dry	10	07/25/12 16:33
Endosulfan II	U		11	97	µg/Kg-dry	10	07/25/12 16:33
Endosulfan sulfate	U		12	97	µg/Kg-dry	10	07/25/12 16:33
Endrin	U		28	97	µg/Kg-dry	10	07/25/12 16:33
Endrin aldehyde	U		24	97	µg/Kg-dry	10	07/25/12 16:33
Endrin ketone	U		37	97	µg/Kg-dry	10	07/25/12 16:33
gamma-BHC (Lindane)	U		45	97	µg/Kg-dry	10	07/25/12 16:33
gamma-Chlordane	U		16	97	µg/Kg-dry	10	07/25/12 16:33
Heptachlor	U		50	97	µg/Kg-dry	10	07/25/12 16:33

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-011  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-11  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		15	97	µg/Kg-dry	10	07/25/12 16:33
Methoxychlor	U		24	97	µg/Kg-dry	10	07/25/12 16:33
Toxaphene	U		110	580	µg/Kg-dry	10	07/25/12 16:33
<i>Surr: Decachlorobiphenyl</i>	80.1			45-135	%REC	10	07/25/12 16:33
<i>Surr: Tetrachloro-m-xylene</i>	90.1			45-124	%REC	10	07/25/12 16:33
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
<u>BatchID: 42450</u>							
<b>Mercury</b>	<b>0.71</b>		<b>0.0088</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	10	07/24/12 16:13
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
<u>BatchID: 42527</u>							
<b>Antimony</b>	<b>1.8</b>		<b>0.0087</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Arsenic</b>	<b>2.7</b>		<b>0.044</b>	<b>0.15</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Barium</b>	<b>70</b>		<b>0.013</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Beryllium</b>	<b>0.12</b>	J	<b>0.0044</b>	<b>0.15</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Cadmium</b>	<b>0.84</b>		<b>0.0015</b>	<b>0.15</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Chromium</b>	<b>9.0</b>		<b>0.010</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Cobalt</b>	<b>2.6</b>		<b>0.0015</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Copper</b>	<b>27</b>		<b>0.010</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Lead</b>	<b>69</b>		<b>0.0015</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Nickel</b>	<b>10</b>		<b>0.0044</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Selenium</b>	<b>0.27</b>	J	<b>0.026</b>	<b>0.29</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Thallium</b>	<b>0.077</b>	J	<b>0.0058</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Vanadium</b>	<b>9.3</b>		<b>0.019</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<b>Zinc</b>	<b>100</b>		<b>0.038</b>	<b>0.73</b>	<b>mg/Kg-dry</b>	1	07/25/12 07:27
<u>BatchID: 42527</u>							
<b>Aluminum</b>	<b>4,100</b>		<b>0.26</b>	<b>3.6</b>	<b>mg/Kg-dry</b>	5	07/26/12 06:29
<b>Iron</b>	<b>14,000</b>		<b>6.1</b>	<b>29</b>	<b>mg/Kg-dry</b>	5	07/26/12 06:29
<b>Manganese</b>	<b>360</b>		<b>0.051</b>	<b>1.8</b>	<b>mg/Kg-dry</b>	5	07/26/12 06:29
<b>Silver</b>	<b>0.49</b>	J	<b>0.0073</b>	<b>0.73</b>	<b>mg/Kg-dry</b>	5	07/26/12 06:29
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
<u>BatchID: 42513</u>							
1,1'-Biphenyl	U		51	3,400	µg/Kg-dry	10	07/26/12 16:40
2,4,5-Trichlorophenol	U		81	1,600	µg/Kg-dry	10	07/26/12 16:40
2,4,6-Trichlorophenol	U		81	1,600	µg/Kg-dry	10	07/26/12 16:40
2,4-Dichlorophenol	U		99	1,600	µg/Kg-dry	10	07/26/12 16:40
2,4-Dimethylphenol	U		420	3,400	µg/Kg-dry	10	07/26/12 16:40
2,4-Dinitrophenol	U		430	6,700	µg/Kg-dry	10	07/26/12 16:40
2,4-Dinitrotoluene	U		91	1,600	µg/Kg-dry	10	07/26/12 16:40

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-011  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-11  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		95	1,600	µg/Kg-dry	10	07/26/12 16:40
2-Chloronaphthalene	U		93	820	µg/Kg-dry	10	07/26/12 16:40
2-Chlorophenol	U		91	1,600	µg/Kg-dry	10	07/26/12 16:40
2-Methylnaphthalene	U		100	820	µg/Kg-dry	10	07/26/12 16:40
2-Methylphenol	U		98	1,600	µg/Kg-dry	10	07/26/12 16:40
2-Nitroaniline	U		78	6,700	µg/Kg-dry	10	07/26/12 16:40
2-Nitrophenol	U		89	1,600	µg/Kg-dry	10	07/26/12 16:40
3,3'-Dichlorobenzidine	U		95	6,700	µg/Kg-dry	10	07/26/12 16:40
3-Nitroaniline	U		830	6,700	µg/Kg-dry	10	07/26/12 16:40
4,6-Dinitro-2-methylphenol	U		490	3,400	µg/Kg-dry	10	07/26/12 16:40
4-Bromophenyl phenyl ether	U		89	1,600	µg/Kg-dry	10	07/26/12 16:40
4-Chloro-3-methylphenol	U		92	1,600	µg/Kg-dry	10	07/26/12 16:40
4-Chloroaniline	U		130	3,400	µg/Kg-dry	10	07/26/12 16:40
4-Chlorophenyl phenyl ether	U		93	1,600	µg/Kg-dry	10	07/26/12 16:40
4-Methylphenol	U		100	1,600	µg/Kg-dry	10	07/26/12 16:40
4-Nitroaniline	U		150	6,700	µg/Kg-dry	10	07/26/12 16:40
4-Nitrophenol	U		410	6,700	µg/Kg-dry	10	07/26/12 16:40
Acenaphthene	U		93	310	µg/Kg-dry	10	07/26/12 16:40
Acenaphthylene	U		97	310	µg/Kg-dry	10	07/26/12 16:40
Acetophenone	U		51	3,400	µg/Kg-dry	10	07/26/12 16:40
Anthracene	U		100	310	µg/Kg-dry	10	07/26/12 16:40
Atrazine	U		100	510	µg/Kg-dry	10	07/26/12 16:40
<b>Benzaldehyde</b>	<b>480</b>	<b>J</b>	<b>130</b>	<b>3,400</b>	<b>µg/Kg-dry</b>	10	07/26/12 16:40
Benzo(a)anthracene	U		120	310	µg/Kg-dry	10	07/26/12 16:40
Benzo(a)pyrene	U		160	310	µg/Kg-dry	10	07/26/12 16:40
Benzo(b)fluoranthene	U		160	310	µg/Kg-dry	10	07/26/12 16:40
Benzo(g,h,i)perylene	U		240	310	µg/Kg-dry	10	07/26/12 16:40
Benzo(k)fluoranthene	U		140	310	µg/Kg-dry	10	07/26/12 16:40
Bis(2-chloroethoxy)methane	U		84	1,600	µg/Kg-dry	10	07/26/12 16:40
Bis(2-chloroethyl)ether	U		85	1,600	µg/Kg-dry	10	07/26/12 16:40
Bis(2-chloroisopropyl)ether	U		80	1,600	µg/Kg-dry	10	07/26/12 16:40
<b>Bis(2-ethylhexyl)phthalate</b>	<b>390</b>	<b>J</b>	<b>100</b>	<b>3,400</b>	<b>µg/Kg-dry</b>	10	07/26/12 16:40
Butyl benzyl phthalate	U		140	1,600	µg/Kg-dry	10	07/26/12 16:40
Caprolactam	U		150	3,400	µg/Kg-dry	10	07/26/12 16:40
Carbazole	U		120	1,600	µg/Kg-dry	10	07/26/12 16:40
Chrysene	U		120	310	µg/Kg-dry	10	07/26/12 16:40
Dibenzo(a,h)anthracene	U		170	310	µg/Kg-dry	10	07/26/12 16:40
Dibenzofuran	U		93	1,600	µg/Kg-dry	10	07/26/12 16:40
Diethyl phthalate	U		85	3,400	µg/Kg-dry	10	07/26/12 16:40
Dimethyl phthalate	U		85	3,400	µg/Kg-dry	10	07/26/12 16:40

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-011  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-11  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate	U		100	3,400	µg/Kg-dry	10	07/26/12 16:40
Di-n-octyl phthalate	U		130	1,600	µg/Kg-dry	10	07/26/12 16:40
Fluoranthene	U		120	310	µg/Kg-dry	10	07/26/12 16:40
Fluorene	U		89	310	µg/Kg-dry	10	07/26/12 16:40
Hexachlorobenzene	U		93	1,600	µg/Kg-dry	10	07/26/12 16:40
Hexachlorobutadiene	U		86	510	µg/Kg-dry	10	07/26/12 16:40
Hexachlorocyclopentadiene	U		360	3,400	µg/Kg-dry	10	07/26/12 16:40
Hexachloroethane	U		89	1,600	µg/Kg-dry	10	07/26/12 16:40
Indeno(1,2,3-cd)pyrene	U		190	310	µg/Kg-dry	10	07/26/12 16:40
Isophorone	U		89	1,600	µg/Kg-dry	10	07/26/12 16:40
Naphthalene	U		87	310	µg/Kg-dry	10	07/26/12 16:40
Nitrobenzene	U		88	1,600	µg/Kg-dry	10	07/26/12 16:40
N-Nitrosodi-n-propylamine	U		89	1,600	µg/Kg-dry	10	07/26/12 16:40
N-Nitrosodiphenylamine	U		610	1,600	µg/Kg-dry	10	07/26/12 16:40
Pentachlorophenol	U		150	200	µg/Kg-dry	10	07/26/12 16:40
Phenanthrene	U		310	310	µg/Kg-dry	10	07/26/12 16:40
Phenol	U		86	1,600	µg/Kg-dry	10	07/26/12 16:40
Pyrene	U		130	310	µg/Kg-dry	10	07/26/12 16:40
Surr: 2,4,6-Tribromophenol	75.2			34-140	%REC	10	07/26/12 16:40
Surr: 2-Fluorobiphenyl	68.4			12-100	%REC	10	07/26/12 16:40
Surr: 2-Fluorophenol	71.2			33-117	%REC	10	07/26/12 16:40
Surr: 4-Terphenyl-d14	84.6			25-137	%REC	10	07/26/12 16:40
Surr: Nitrobenzene-d5	67.6			37-107	%REC	10	07/26/12 16:40
Surr: Phenol-d6	71.2			40-106	%REC	10	07/26/12 16:40

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: AK

BatchID: 42425

1,1,1-Trichloroethane	U		13	34	µg/Kg-dry	1	07/23/12 20:20
1,1,2,2-Tetrachloroethane	U		15	34	µg/Kg-dry	1	07/23/12 20:20
1,1,2-Trichloroethane	U		12	34	µg/Kg-dry	1	07/23/12 20:20
1,1,2-Trichlorotrifluoroethane	U		13	34	µg/Kg-dry	1	07/23/12 20:20
1,1-Dichloroethane	U		13	34	µg/Kg-dry	1	07/23/12 20:20
1,1-Dichloroethene	U		14	34	µg/Kg-dry	1	07/23/12 20:20
1,2,4-Trichlorobenzene	U		18	34	µg/Kg-dry	1	07/23/12 20:20
1,2-Dibromo-3-chloropropane	U		17	34	µg/Kg-dry	1	07/23/12 20:20
1,2-Dibromoethane	U		14	34	µg/Kg-dry	1	07/23/12 20:20
1,2-Dichlorobenzene	U		14	34	µg/Kg-dry	1	07/23/12 20:20
1,2-Dichloroethane	U		16	34	µg/Kg-dry	1	07/23/12 20:20
1,2-Dichloropropane	U		11	34	µg/Kg-dry	1	07/23/12 20:20
1,3-Dichlorobenzene	U		14	34	µg/Kg-dry	1	07/23/12 20:20

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-011  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-11  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		13	34	µg/Kg-dry	1	07/23/12 20:20
2-Butanone	U		85	230	µg/Kg-dry	1	07/23/12 20:20
2-Hexanone	U		8.4	34	µg/Kg-dry	1	07/23/12 20:20
4-Methyl-2-pentanone	U		12	34	µg/Kg-dry	1	07/23/12 20:20
Acetone	U		73	110	µg/Kg-dry	1	07/23/12 20:20
Benzene	U		14	34	µg/Kg-dry	1	07/23/12 20:20
Bromodichloromethane	U		7.7	34	µg/Kg-dry	1	07/23/12 20:20
Bromoform	U		6.8	34	µg/Kg-dry	1	07/23/12 20:20
Bromomethane	U		13	86	µg/Kg-dry	1	07/23/12 20:20
Carbon disulfide	U		17	34	µg/Kg-dry	1	07/23/12 20:20
Carbon tetrachloride	U		9.8	34	µg/Kg-dry	1	07/23/12 20:20
Chlorobenzene	U		14	34	µg/Kg-dry	1	07/23/12 20:20
Chloroethane	U		73	110	µg/Kg-dry	1	07/23/12 20:20
Chloroform	U		14	34	µg/Kg-dry	1	07/23/12 20:20
Chloromethane	U		19	110	µg/Kg-dry	1	07/23/12 20:20
cis-1,2-Dichloroethene	U		14	34	µg/Kg-dry	1	07/23/12 20:20
cis-1,3-Dichloropropene	U		12	34	µg/Kg-dry	1	07/23/12 20:20
Cyclohexane	U		15	34	µg/Kg-dry	1	07/23/12 20:20
Dibromochloromethane	U		6.4	34	µg/Kg-dry	1	07/23/12 20:20
Dichlorodifluoromethane	U		16	34	µg/Kg-dry	1	07/23/12 20:20
Ethylbenzene	U		13	34	µg/Kg-dry	1	07/23/12 20:20
Isopropylbenzene	U		15	34	µg/Kg-dry	1	07/23/12 20:20
Methyl acetate	U		46	230	µg/Kg-dry	1	07/23/12 20:20
Methyl tert-butyl ether	U		15	34	µg/Kg-dry	1	07/23/12 20:20
Methylcyclohexane	U		16	34	µg/Kg-dry	1	07/23/12 20:20
Methylene chloride	U		13	34	µg/Kg-dry	1	07/23/12 20:20
Styrene	U		13	34	µg/Kg-dry	1	07/23/12 20:20
Tetrachloroethene	U		15	34	µg/Kg-dry	1	07/23/12 20:20
Toluene	U		13	34	µg/Kg-dry	1	07/23/12 20:20
trans-1,2-Dichloroethene	U		11	34	µg/Kg-dry	1	07/23/12 20:20
trans-1,3-Dichloropropene	U		11	34	µg/Kg-dry	1	07/23/12 20:20
Trichloroethene	U		16	34	µg/Kg-dry	1	07/23/12 20:20
Trichlorofluoromethane	U		9.5	34	µg/Kg-dry	1	07/23/12 20:20
Vinyl chloride	U		15	34	µg/Kg-dry	1	07/23/12 20:20
Xylenes, Total	U		41	100	µg/Kg-dry	1	07/23/12 20:20
Surr: 1,2-Dichloroethane-d4	80.8			70-130	%REC	1	07/23/12 20:20
Surr: 4-Bromofluorobenzene	105			70-130	%REC	1	07/23/12 20:20
Surr: Dibromofluoromethane	80.0			70-130	%REC	1	07/23/12 20:20
Surr: Toluene-d8	92.6			70-130	%REC	1	07/23/12 20:20

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-011  
**Collection Date:** 07/12/12 02:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-11  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	2.7		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-012  
**Collection Date:** 07/12/12 02:30 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-12  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/25/12		Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.10	5.2	µg/Kg-dry	1	07/25/12 21:44
2,4,5-TP (Silvex)	U		0.069	10	µg/Kg-dry	1	07/25/12 21:44
2,4-D	U		0.074	5.2	µg/Kg-dry	1	07/25/12 21:44
Surr: DCAA	104			30-150	%REC	1	07/25/12 21:44
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		37	42	µg/Kg-dry	1	07/24/12 16:03
Aroclor 1221	U		37	42	µg/Kg-dry	1	07/24/12 16:03
Aroclor 1232	U		37	42	µg/Kg-dry	1	07/24/12 16:03
Aroclor 1242	U		37	42	µg/Kg-dry	1	07/24/12 16:03
Aroclor 1248	U		37	42	µg/Kg-dry	1	07/24/12 16:03
Aroclor 1254	U		12	42	µg/Kg-dry	1	07/24/12 16:03
Aroclor 1260	U		12	42	µg/Kg-dry	1	07/24/12 16:03
Surr: Tetrachloro-m-xylene	82.1			45-124	%REC	1	07/24/12 16:03
Surr: Decachlorobiphenyl	109			40-140	%REC	1	07/24/12 16:03
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		17	52	µg/Kg-dry	5	07/25/12 16:48
4,4'-DDE	U		10	52	µg/Kg-dry	5	07/25/12 16:48
4,4'-DDT	U		12	52	µg/Kg-dry	5	07/25/12 16:48
Aldrin	U		4.7	52	µg/Kg-dry	5	07/25/12 16:48
alpha-BHC	U		17	52	µg/Kg-dry	5	07/25/12 16:48
alpha-Chlordane	U		14	52	µg/Kg-dry	5	07/25/12 16:48
beta-BHC	U		20	52	µg/Kg-dry	5	07/25/12 16:48
Chlordane, Technical	U		52	130	µg/Kg-dry	5	07/25/12 16:48
delta-BHC	U		19	52	µg/Kg-dry	5	07/25/12 16:48
Dieldrin	U		4.4	52	µg/Kg-dry	5	07/25/12 16:48
Endosulfan I	U		6.8	52	µg/Kg-dry	5	07/25/12 16:48
Endosulfan II	U		5.8	52	µg/Kg-dry	5	07/25/12 16:48
Endosulfan sulfate	U		6.4	52	µg/Kg-dry	5	07/25/12 16:48
Endrin	U		15	52	µg/Kg-dry	5	07/25/12 16:48
Endrin aldehyde	U		13	52	µg/Kg-dry	5	07/25/12 16:48
Endrin ketone	U		20	52	µg/Kg-dry	5	07/25/12 16:48
gamma-BHC (Lindane)	U		24	52	µg/Kg-dry	5	07/25/12 16:48
gamma-Chlordane	U		8.8	52	µg/Kg-dry	5	07/25/12 16:48
Heptachlor	U		27	52	µg/Kg-dry	5	07/25/12 16:48

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-012  
**Collection Date:** 07/12/12 02:30 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-12  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		8.3	52	µg/Kg-dry	5	07/25/12 16:48
Methoxychlor	U		13	52	µg/Kg-dry	5	07/25/12 16:48
Toxaphene	U		61	310	µg/Kg-dry	5	07/25/12 16:48
Surr: Decachlorobiphenyl	90.1			45-135	%REC	5	07/25/12 16:48
Surr: Tetrachloro-m-xylene	95.1			45-124	%REC	5	07/25/12 16:48
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/20/12		Analyst: <b>RH</b>	
BatchID: 42450							
Mercury	0.16		0.00091	0.018	mg/Kg-dry	1	07/23/12 17:11
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
BatchID: 42527							
Antimony	0.55		0.0092	0.39	mg/Kg-dry	1	07/25/12 07:34
Arsenic	3.0		0.046	0.15	mg/Kg-dry	1	07/25/12 07:34
Barium	22		0.014	0.39	mg/Kg-dry	1	07/25/12 07:34
Beryllium	0.12	J	0.0046	0.15	mg/Kg-dry	1	07/25/12 07:34
Cadmium	0.25		0.0015	0.15	mg/Kg-dry	1	07/25/12 07:34
Chromium	5.8		0.011	0.39	mg/Kg-dry	1	07/25/12 07:34
Cobalt	2.4		0.0015	0.39	mg/Kg-dry	1	07/25/12 07:34
Copper	13		0.011	0.39	mg/Kg-dry	1	07/25/12 07:34
Iron	9,800		1.3	6.2	mg/Kg-dry	1	07/25/12 07:34
Lead	16		0.0015	0.39	mg/Kg-dry	1	07/25/12 07:34
Nickel	7.3		0.0046	0.39	mg/Kg-dry	1	07/25/12 07:34
Selenium	0.38		0.028	0.31	mg/Kg-dry	1	07/25/12 07:34
Thallium	0.094	J	0.0062	0.39	mg/Kg-dry	1	07/25/12 07:34
Vanadium	8.6		0.020	0.39	mg/Kg-dry	1	07/25/12 07:34
Zinc	40		0.040	0.77	mg/Kg-dry	1	07/25/12 07:34
BatchID: 42527							
Aluminum	3,300		0.28	3.9	mg/Kg-dry	5	07/26/12 06:54
Manganese	380		0.054	1.9	mg/Kg-dry	5	07/26/12 06:54
Silver	0.13	J	0.0077	0.77	mg/Kg-dry	5	07/26/12 06:54
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
BatchID: 42513							
1,1'-Biphenyl	U		5.2	350	µg/Kg-dry	1	07/26/12 17:07
2,4,5-Trichlorophenol	U		8.4	170	µg/Kg-dry	1	07/26/12 17:07
2,4,6-Trichlorophenol	U		8.4	170	µg/Kg-dry	1	07/26/12 17:07
2,4-Dichlorophenol	U		10	170	µg/Kg-dry	1	07/26/12 17:07
2,4-Dimethylphenol	U		43	350	µg/Kg-dry	1	07/26/12 17:07
2,4-Dinitrophenol	U		45	700	µg/Kg-dry	1	07/26/12 17:07
2,4-Dinitrotoluene	U		9.4	170	µg/Kg-dry	1	07/26/12 17:07

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-012  
**Collection Date:** 07/12/12 02:30 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-12  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		9.9	170	µg/Kg-dry	1	07/26/12 17:07
2-Chloronaphthalene	U		9.7	85	µg/Kg-dry	1	07/26/12 17:07
2-Chlorophenol	U		9.5	170	µg/Kg-dry	1	07/26/12 17:07
2-Methylnaphthalene	U		10	85	µg/Kg-dry	1	07/26/12 17:07
2-Methylphenol	U		10	170	µg/Kg-dry	1	07/26/12 17:07
2-Nitroaniline	U		8.0	700	µg/Kg-dry	1	07/26/12 17:07
2-Nitrophenol	U		9.2	170	µg/Kg-dry	1	07/26/12 17:07
3,3'-Dichlorobenzidine	U		9.9	700	µg/Kg-dry	1	07/26/12 17:07
3-Nitroaniline	U		86	700	µg/Kg-dry	1	07/26/12 17:07
4,6-Dinitro-2-methylphenol	U		51	350	µg/Kg-dry	1	07/26/12 17:07
4-Bromophenyl phenyl ether	U		9.2	170	µg/Kg-dry	1	07/26/12 17:07
4-Chloro-3-methylphenol	U		9.5	170	µg/Kg-dry	1	07/26/12 17:07
4-Chloroaniline	U		13	350	µg/Kg-dry	1	07/26/12 17:07
4-Chlorophenyl phenyl ether	U		9.7	170	µg/Kg-dry	1	07/26/12 17:07
4-Methylphenol	U		10	170	µg/Kg-dry	1	07/26/12 17:07
4-Nitroaniline	U		16	700	µg/Kg-dry	1	07/26/12 17:07
4-Nitrophenol	U		43	700	µg/Kg-dry	1	07/26/12 17:07
Acenaphthene	U		9.6	32	µg/Kg-dry	1	07/26/12 17:07
Acenaphthylene	U		10	32	µg/Kg-dry	1	07/26/12 17:07
Acetophenone	U		5.3	350	µg/Kg-dry	1	07/26/12 17:07
Anthracene	U		11	32	µg/Kg-dry	1	07/26/12 17:07
Atrazine	U		11	53	µg/Kg-dry	1	07/26/12 17:07
Benzaldehyde	U		13	350	µg/Kg-dry	1	07/26/12 17:07
Benzo(a)anthracene	U		13	32	µg/Kg-dry	1	07/26/12 17:07
Benzo(a)pyrene	U		16	32	µg/Kg-dry	1	07/26/12 17:07
Benzo(b)fluoranthene	U		17	32	µg/Kg-dry	1	07/26/12 17:07
Benzo(g,h,i)perylene	U		25	32	µg/Kg-dry	1	07/26/12 17:07
Benzo(k)fluoranthene	U		14	32	µg/Kg-dry	1	07/26/12 17:07
Bis(2-chloroethoxy)methane	U		8.7	170	µg/Kg-dry	1	07/26/12 17:07
Bis(2-chloroethyl)ether	U		8.8	170	µg/Kg-dry	1	07/26/12 17:07
Bis(2-chloroisopropyl)ether	U		8.2	170	µg/Kg-dry	1	07/26/12 17:07
<b>Bis(2-ethylhexyl)phthalate</b>	<b>94</b>	<b>J</b>	<b>10</b>	<b>350</b>	<b>µg/Kg-dry</b>	1	07/26/12 17:07
Butyl benzyl phthalate	U		15	170	µg/Kg-dry	1	07/26/12 17:07
Caprolactam	U		15	350	µg/Kg-dry	1	07/26/12 17:07
Carbazole	U		12	170	µg/Kg-dry	1	07/26/12 17:07
<b>Chrysene</b>	<b>19</b>	<b>J</b>	<b>12</b>	<b>32</b>	<b>µg/Kg-dry</b>	1	07/26/12 17:07
Dibenzo(a,h)anthracene	U		18	32	µg/Kg-dry	1	07/26/12 17:07
Dibenzofuran	U		9.7	170	µg/Kg-dry	1	07/26/12 17:07
Diethyl phthalate	U		8.8	350	µg/Kg-dry	1	07/26/12 17:07
Dimethyl phthalate	U		8.8	350	µg/Kg-dry	1	07/26/12 17:07

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-012  
**Collection Date:** 07/12/12 02:30 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-12  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate	U		11	350	µg/Kg-dry	1	07/26/12 17:07
Di-n-octyl phthalate	U		13	170	µg/Kg-dry	1	07/26/12 17:07
<b>Fluoranthene</b>	<b>19</b>	<b>J</b>	<b>13</b>	<b>32</b>	<b>µg/Kg-dry</b>	1	07/26/12 17:07
Fluorene	U		9.2	32	µg/Kg-dry	1	07/26/12 17:07
Hexachlorobenzene	U		9.6	170	µg/Kg-dry	1	07/26/12 17:07
Hexachlorobutadiene	U		8.9	53	µg/Kg-dry	1	07/26/12 17:07
Hexachlorocyclopentadiene	U		37	350	µg/Kg-dry	1	07/26/12 17:07
Hexachloroethane	U		9.2	170	µg/Kg-dry	1	07/26/12 17:07
Indeno(1,2,3-cd)pyrene	U		20	32	µg/Kg-dry	1	07/26/12 17:07
Isophorone	U		9.2	170	µg/Kg-dry	1	07/26/12 17:07
Naphthalene	U		9.0	32	µg/Kg-dry	1	07/26/12 17:07
Nitrobenzene	U		9.1	170	µg/Kg-dry	1	07/26/12 17:07
N-Nitrosodi-n-propylamine	U		9.2	170	µg/Kg-dry	1	07/26/12 17:07
N-Nitrosodiphenylamine	U		63	170	µg/Kg-dry	1	07/26/12 17:07
Pentachlorophenol	U		16	21	µg/Kg-dry	1	07/26/12 17:07
Phenanthrene	U		32	32	µg/Kg-dry	1	07/26/12 17:07
Phenol	U		8.9	170	µg/Kg-dry	1	07/26/12 17:07
<b>Pyrene</b>	<b>19</b>	<b>J</b>	<b>13</b>	<b>32</b>	<b>µg/Kg-dry</b>	1	07/26/12 17:07
Surr: 2,4,6-Tribromophenol	104			34-140	%REC	1	07/26/12 17:07
Surr: 2-Fluorobiphenyl	64.1			12-100	%REC	1	07/26/12 17:07
Surr: 2-Fluorophenol	72.9			33-117	%REC	1	07/26/12 17:07
Surr: 4-Terphenyl-d14	82.1			25-137	%REC	1	07/26/12 17:07
Surr: Nitrobenzene-d5	64.7			37-107	%REC	1	07/26/12 17:07
Surr: Phenol-d6	70.0			40-106	%REC	1	07/26/12 17:07

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: BG

BatchID: 42425

1,1,1-Trichloroethane	U		21	55	µg/Kg-dry	1	07/24/12 06:56
1,1,2,2-Tetrachloroethane	U		24	55	µg/Kg-dry	1	07/24/12 06:56
1,1,2-Trichloroethane	U		19	55	µg/Kg-dry	1	07/24/12 06:56
1,1,2-Trichlorotrifluoroethane	U		20	55	µg/Kg-dry	1	07/24/12 06:56
1,1-Dichloroethane	U		20	55	µg/Kg-dry	1	07/24/12 06:56
1,1-Dichloroethene	U		23	55	µg/Kg-dry	1	07/24/12 06:56
1,2,4-Trichlorobenzene	U		28	55	µg/Kg-dry	1	07/24/12 06:56
1,2-Dibromo-3-chloropropane	U		27	55	µg/Kg-dry	1	07/24/12 06:56
1,2-Dibromoethane	U		22	55	µg/Kg-dry	1	07/24/12 06:56
1,2-Dichlorobenzene	U		22	55	µg/Kg-dry	1	07/24/12 06:56
1,2-Dichloroethane	U		26	55	µg/Kg-dry	1	07/24/12 06:56
1,2-Dichloropropane	U		18	55	µg/Kg-dry	1	07/24/12 06:56
1,3-Dichlorobenzene	U		22	55	µg/Kg-dry	1	07/24/12 06:56

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-012  
**Collection Date:** 07/12/12 02:30 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-12  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		21	55	µg/Kg-dry	1	07/24/12 06:56
2-Butanone	U		140	360	µg/Kg-dry	1	07/24/12 06:56
2-Hexanone	U		13	55	µg/Kg-dry	1	07/24/12 06:56
4-Methyl-2-pentanone	U		18	55	µg/Kg-dry	1	07/24/12 06:56
Acetone	U		120	180	µg/Kg-dry	1	07/24/12 06:56
Benzene	U		22	55	µg/Kg-dry	1	07/24/12 06:56
Bromodichloromethane	U		12	55	µg/Kg-dry	1	07/24/12 06:56
Bromoform	U		11	55	µg/Kg-dry	1	07/24/12 06:56
Bromomethane	U		21	140	µg/Kg-dry	1	07/24/12 06:56
Carbon disulfide	U		27	55	µg/Kg-dry	1	07/24/12 06:56
Carbon tetrachloride	U		16	55	µg/Kg-dry	1	07/24/12 06:56
Chlorobenzene	U		22	55	µg/Kg-dry	1	07/24/12 06:56
Chloroethane	U		120	180	µg/Kg-dry	1	07/24/12 06:56
Chloroform	U		22	55	µg/Kg-dry	1	07/24/12 06:56
Chloromethane	U		30	180	µg/Kg-dry	1	07/24/12 06:56
cis-1,2-Dichloroethene	U		22	55	µg/Kg-dry	1	07/24/12 06:56
cis-1,3-Dichloropropene	U		19	55	µg/Kg-dry	1	07/24/12 06:56
Cyclohexane	U		25	55	µg/Kg-dry	1	07/24/12 06:56
Dibromochloromethane	U		10	55	µg/Kg-dry	1	07/24/12 06:56
Dichlorodifluoromethane	U		25	55	µg/Kg-dry	1	07/24/12 06:56
Ethylbenzene	U		20	55	µg/Kg-dry	1	07/24/12 06:56
Isopropylbenzene	U		24	55	µg/Kg-dry	1	07/24/12 06:56
Methyl acetate	U		73	360	µg/Kg-dry	1	07/24/12 06:56
Methyl tert-butyl ether	U		23	55	µg/Kg-dry	1	07/24/12 06:56
Methylcyclohexane	U		25	55	µg/Kg-dry	1	07/24/12 06:56
Methylene chloride	U		21	55	µg/Kg-dry	1	07/24/12 06:56
Styrene	U		20	55	µg/Kg-dry	1	07/24/12 06:56
Tetrachloroethene	U		24	55	µg/Kg-dry	1	07/24/12 06:56
Toluene	U		20	55	µg/Kg-dry	1	07/24/12 06:56
trans-1,2-Dichloroethene	U		17	55	µg/Kg-dry	1	07/24/12 06:56
trans-1,3-Dichloropropene	U		18	55	µg/Kg-dry	1	07/24/12 06:56
Trichloroethene	U		25	55	µg/Kg-dry	1	07/24/12 06:56
Trichlorofluoromethane	U		15	55	µg/Kg-dry	1	07/24/12 06:56
Vinyl chloride	U		25	55	µg/Kg-dry	1	07/24/12 06:56
Xylenes, Total	U		64	160	µg/Kg-dry	1	07/24/12 06:56
Surr: 1,2-Dichloroethane-d4	82.2			70-130	%REC	1	07/24/12 06:56
Surr: 4-Bromofluorobenzene	100			70-130	%REC	1	07/24/12 06:56
Surr: Dibromofluoromethane	86.3			70-130	%REC	1	07/24/12 06:56
Surr: Toluene-d8	93.6			70-130	%REC	1	07/24/12 06:56

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-012  
**Collection Date:** 07/12/12 02:30 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-12  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	6.5		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-013  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-13  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/25/12		Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.11	5.6	µg/Kg-dry	1	07/25/12 21:53
2,4,5-TP (Silvex)	U		0.075	11	µg/Kg-dry	1	07/25/12 21:53
2,4-D	U		0.080	5.6	µg/Kg-dry	1	07/25/12 21:53
Surr: DCAA	98.0			30-150	%REC	1	07/25/12 21:53
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		40	45	µg/Kg-dry	1	07/24/12 16:23
Aroclor 1221	U		40	45	µg/Kg-dry	1	07/24/12 16:23
Aroclor 1232	U		40	45	µg/Kg-dry	1	07/24/12 16:23
Aroclor 1242	U		40	45	µg/Kg-dry	1	07/24/12 16:23
<b>Aroclor 1248</b>	<b>620</b>		<b>40</b>	<b>45</b>	<b>µg/Kg-dry</b>	1	07/24/12 16:23
<b>Aroclor 1254</b>	<b>750</b>		<b>12</b>	<b>45</b>	<b>µg/Kg-dry</b>	1	07/24/12 16:23
Aroclor 1260	U		12	45	µg/Kg-dry	1	07/24/12 16:23
Surr: Tetrachloro-m-xylene	92.1			45-124	%REC	1	07/24/12 16:23
Surr: Decachlorobiphenyl	110			40-140	%REC	1	07/24/12 16:23
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		71	220	µg/Kg-dry	20	07/25/12 17:02
4,4'-DDE	U		43	220	µg/Kg-dry	20	07/25/12 17:02
4,4'-DDT	U		52	220	µg/Kg-dry	20	07/25/12 17:02
Aldrin	U		20	220	µg/Kg-dry	20	07/25/12 17:02
alpha-BHC	U		71	220	µg/Kg-dry	20	07/25/12 17:02
alpha-Chlordane	U		61	220	µg/Kg-dry	20	07/25/12 17:02
beta-BHC	U		84	220	µg/Kg-dry	20	07/25/12 17:02
Chlordane, Technical	U		220	560	µg/Kg-dry	20	07/25/12 17:02
delta-BHC	U		82	220	µg/Kg-dry	20	07/25/12 17:02
Dieldrin	U		19	220	µg/Kg-dry	20	07/25/12 17:02
Endosulfan I	U		29	220	µg/Kg-dry	20	07/25/12 17:02
Endosulfan II	U		25	220	µg/Kg-dry	20	07/25/12 17:02
Endosulfan sulfate	U		27	220	µg/Kg-dry	20	07/25/12 17:02
Endrin	U		65	220	µg/Kg-dry	20	07/25/12 17:02
Endrin aldehyde	U		54	220	µg/Kg-dry	20	07/25/12 17:02
Endrin ketone	U		86	220	µg/Kg-dry	20	07/25/12 17:02
gamma-BHC (Lindane)	U		100	220	µg/Kg-dry	20	07/25/12 17:02
gamma-Chlordane	U		37	220	µg/Kg-dry	20	07/25/12 17:02
Heptachlor	U		110	220	µg/Kg-dry	20	07/25/12 17:02

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-013  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-13  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		35	220	µg/Kg-dry	20	07/25/12 17:02
Methoxychlor	U		54	220	µg/Kg-dry	20	07/25/12 17:02
Toxaphene	U		260	1,300	µg/Kg-dry	20	07/25/12 17:02
Surr: Decachlorobiphenyl	80.1			45-135	%REC	20	07/25/12 17:02
Surr: Tetrachloro-m-xylene	80.1			45-124	%REC	20	07/25/12 17:02
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/24/12		Analyst: <b>RH</b>	
BatchID: <u>42528</u>							
Mercury	0.24		0.0011	0.021	mg/Kg-dry	1	07/24/12 17:38
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
BatchID: <u>42527</u>							
Antimony	5.9		0.0098	0.41	mg/Kg-dry	1	07/25/12 07:59
Arsenic	7.3		0.049	0.16	mg/Kg-dry	1	07/25/12 07:59
Beryllium	0.20		0.0049	0.16	mg/Kg-dry	1	07/25/12 07:59
Cadmium	5.0		0.0016	0.16	mg/Kg-dry	1	07/25/12 07:59
Chromium	38		0.011	0.41	mg/Kg-dry	1	07/25/12 07:59
Cobalt	5.6		0.0016	0.41	mg/Kg-dry	1	07/25/12 07:59
Nickel	90		0.0049	0.41	mg/Kg-dry	1	07/25/12 07:59
Selenium	0.57		0.029	0.33	mg/Kg-dry	1	07/25/12 07:59
Silver	1.3		0.0016	0.16	mg/Kg-dry	1	07/27/12 06:50
Thallium	0.10	J	0.0065	0.41	mg/Kg-dry	1	07/25/12 07:59
Vanadium	15		0.021	0.41	mg/Kg-dry	1	07/25/12 07:59
BatchID: <u>42527</u>							
Aluminum	9,100		0.59	8.1	mg/Kg-dry	10	07/26/12 07:01
Barium	290		0.15	4.1	mg/Kg-dry	10	07/26/12 07:01
Copper	240		0.11	4.1	mg/Kg-dry	10	07/26/12 07:01
Iron	50,000		14	65	mg/Kg-dry	10	07/26/12 07:01
Lead	540		0.016	4.1	mg/Kg-dry	10	07/26/12 07:01
Manganese	500		0.11	4.1	mg/Kg-dry	10	07/26/12 07:01
Zinc	990		0.42	8.1	mg/Kg-dry	10	07/26/12 07:01
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
BatchID: <u>42513</u>							
1,1'-Biphenyl	U		54	3,600	µg/Kg-dry	10	07/26/12 17:33
2,4,5-Trichlorophenol	U		88	1,800	µg/Kg-dry	10	07/26/12 17:33
2,4,6-Trichlorophenol	U		87	1,800	µg/Kg-dry	10	07/26/12 17:33
2,4-Dichlorophenol	U		110	1,800	µg/Kg-dry	10	07/26/12 17:33
2,4-Dimethylphenol	U		450	3,600	µg/Kg-dry	10	07/26/12 17:33
2,4-Dinitrophenol	U		470	7,200	µg/Kg-dry	10	07/26/12 17:33
2,4-Dinitrotoluene	U		98	1,800	µg/Kg-dry	10	07/26/12 17:33

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-013  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-13  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		100	1,800	µg/Kg-dry	10	07/26/12 17:33
2-Chloronaphthalene	U		100	880	µg/Kg-dry	10	07/26/12 17:33
2-Chlorophenol	U		98	1,800	µg/Kg-dry	10	07/26/12 17:33
2-Methylnaphthalene	U		110	880	µg/Kg-dry	10	07/26/12 17:33
2-Methylphenol	U		110	1,800	µg/Kg-dry	10	07/26/12 17:33
2-Nitroaniline	U		84	7,200	µg/Kg-dry	10	07/26/12 17:33
2-Nitrophenol	U		96	1,800	µg/Kg-dry	10	07/26/12 17:33
3,3'-Dichlorobenzidine	U		100	7,200	µg/Kg-dry	10	07/26/12 17:33
3-Nitroaniline	U		890	7,200	µg/Kg-dry	10	07/26/12 17:33
4,6-Dinitro-2-methylphenol	U		530	3,600	µg/Kg-dry	10	07/26/12 17:33
4-Bromophenyl phenyl ether	U		95	1,800	µg/Kg-dry	10	07/26/12 17:33
4-Chloro-3-methylphenol	U		99	1,800	µg/Kg-dry	10	07/26/12 17:33
4-Chloroaniline	U		140	3,600	µg/Kg-dry	10	07/26/12 17:33
4-Chlorophenyl phenyl ether	U		100	1,800	µg/Kg-dry	10	07/26/12 17:33
4-Methylphenol	U		110	1,800	µg/Kg-dry	10	07/26/12 17:33
4-Nitroaniline	U		160	7,200	µg/Kg-dry	10	07/26/12 17:33
4-Nitrophenol	U		440	7,200	µg/Kg-dry	10	07/26/12 17:33
Acenaphthene	U		100	330	µg/Kg-dry	10	07/26/12 17:33
Acenaphthylene	U		100	330	µg/Kg-dry	10	07/26/12 17:33
Acetophenone	U		55	3,600	µg/Kg-dry	10	07/26/12 17:33
<b>Anthracene</b>	<b>360</b>		<b>110</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
Atrazine	U		110	550	µg/Kg-dry	10	07/26/12 17:33
Benzaldehyde	U		140	3,600	µg/Kg-dry	10	07/26/12 17:33
<b>Benzo(a)anthracene</b>	<b>1,200</b>		<b>130</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
<b>Benzo(a)pyrene</b>	<b>1,300</b>		<b>170</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
<b>Benzo(b)fluoranthene</b>	<b>1,700</b>		<b>180</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
<b>Benzo(g,h,i)perylene</b>	<b>470</b>		<b>260</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
<b>Benzo(k)fluoranthene</b>	<b>980</b>		<b>150</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
Bis(2-chloroethoxy)methane	U		90	1,800	µg/Kg-dry	10	07/26/12 17:33
Bis(2-chloroethyl)ether	U		92	1,800	µg/Kg-dry	10	07/26/12 17:33
Bis(2-chloroisopropyl)ether	U		86	1,800	µg/Kg-dry	10	07/26/12 17:33
<b>Bis(2-ethylhexyl)phthalate</b>	<b>1,900</b>	J	<b>110</b>	<b>3,600</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
Butyl benzyl phthalate	U		150	1,800	µg/Kg-dry	10	07/26/12 17:33
Caprolactam	U		160	3,600	µg/Kg-dry	10	07/26/12 17:33
Carbazole	U		130	1,800	µg/Kg-dry	10	07/26/12 17:33
<b>Chrysene</b>	<b>1,400</b>		<b>120</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
Dibenzo(a,h)anthracene	U		190	330	µg/Kg-dry	10	07/26/12 17:33
Dibenzofuran	U		100	1,800	µg/Kg-dry	10	07/26/12 17:33
Diethyl phthalate	U		91	3,600	µg/Kg-dry	10	07/26/12 17:33
Dimethyl phthalate	U		92	3,600	µg/Kg-dry	10	07/26/12 17:33

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-013  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-13  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate		U	110	3,600	µg/Kg-dry	10	07/26/12 17:33
Di-n-octyl phthalate		U	140	1,800	µg/Kg-dry	10	07/26/12 17:33
<b>Fluoranthene</b>	<b>2,700</b>		<b>130</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
Fluorene		U	96	330	µg/Kg-dry	10	07/26/12 17:33
Hexachlorobenzene		U	100	1,800	µg/Kg-dry	10	07/26/12 17:33
Hexachlorobutadiene		U	93	550	µg/Kg-dry	10	07/26/12 17:33
Hexachlorocyclopentadiene		U	380	3,600	µg/Kg-dry	10	07/26/12 17:33
Hexachloroethane		U	96	1,800	µg/Kg-dry	10	07/26/12 17:33
<b>Indeno(1,2,3-cd)pyrene</b>	<b>440</b>		<b>210</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
Isophorone		U	95	1,800	µg/Kg-dry	10	07/26/12 17:33
Naphthalene		U	94	330	µg/Kg-dry	10	07/26/12 17:33
Nitrobenzene		U	95	1,800	µg/Kg-dry	10	07/26/12 17:33
N-Nitrosodi-n-propylamine		U	96	1,800	µg/Kg-dry	10	07/26/12 17:33
N-Nitrosodiphenylamine		U	650	1,800	µg/Kg-dry	10	07/26/12 17:33
Pentachlorophenol		U	160	220	µg/Kg-dry	10	07/26/12 17:33
<b>Phenanthrene</b>	<b>1,700</b>		<b>330</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
Phenol		U	93	1,800	µg/Kg-dry	10	07/26/12 17:33
<b>Pyrene</b>	<b>1,900</b>		<b>140</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 17:33
Surr: 2,4,6-Tribromophenol	85.2			34-140	%REC	10	07/26/12 17:33
Surr: 2-Fluorobiphenyl	67.0			12-100	%REC	10	07/26/12 17:33
Surr: 2-Fluorophenol	68.8			33-117	%REC	10	07/26/12 17:33
Surr: 4-Terphenyl-d14	87.4			25-137	%REC	10	07/26/12 17:33
Surr: Nitrobenzene-d5	62.8			37-107	%REC	10	07/26/12 17:33
Surr: Phenol-d6	69.8			40-106	%REC	10	07/26/12 17:33

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: BG

BatchID: 42425

1,1,1-Trichloroethane	U		21	56	µg/Kg-dry	1	07/24/12 07:21
1,1,2,2-Tetrachloroethane	U		25	56	µg/Kg-dry	1	07/24/12 07:21
1,1,2-Trichloroethane	U		20	56	µg/Kg-dry	1	07/24/12 07:21
1,1,2-Trichlorotrifluoroethane	U		21	56	µg/Kg-dry	1	07/24/12 07:21
1,1-Dichloroethane	U		21	56	µg/Kg-dry	1	07/24/12 07:21
1,1-Dichloroethene	U		24	56	µg/Kg-dry	1	07/24/12 07:21
1,2,4-Trichlorobenzene	U		29	56	µg/Kg-dry	1	07/24/12 07:21
1,2-Dibromo-3-chloropropane	U		27	56	µg/Kg-dry	1	07/24/12 07:21
1,2-Dibromoethane	U		22	56	µg/Kg-dry	1	07/24/12 07:21
1,2-Dichlorobenzene	U		22	56	µg/Kg-dry	1	07/24/12 07:21
1,2-Dichloroethane	U		27	56	µg/Kg-dry	1	07/24/12 07:21
1,2-Dichloropropane	U		19	56	µg/Kg-dry	1	07/24/12 07:21
1,3-Dichlorobenzene	U		22	56	µg/Kg-dry	1	07/24/12 07:21

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-013  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-13  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		21	56	µg/Kg-dry	1	07/24/12 07:21
2-Butanone	U		140	370	µg/Kg-dry	1	07/24/12 07:21
2-Hexanone	U		14	56	µg/Kg-dry	1	07/24/12 07:21
4-Methyl-2-pentanone	U		19	56	µg/Kg-dry	1	07/24/12 07:21
Acetone	U		120	190	µg/Kg-dry	1	07/24/12 07:21
Benzene	U		23	56	µg/Kg-dry	1	07/24/12 07:21
Bromodichloromethane	U		13	56	µg/Kg-dry	1	07/24/12 07:21
Bromoform	U		11	56	µg/Kg-dry	1	07/24/12 07:21
Bromomethane	U		21	140	µg/Kg-dry	1	07/24/12 07:21
Carbon disulfide	U		28	56	µg/Kg-dry	1	07/24/12 07:21
Carbon tetrachloride	U		16	56	µg/Kg-dry	1	07/24/12 07:21
Chlorobenzene	U		23	56	µg/Kg-dry	1	07/24/12 07:21
Chloroethane	U		120	190	µg/Kg-dry	1	07/24/12 07:21
Chloroform	U		23	56	µg/Kg-dry	1	07/24/12 07:21
Chloromethane	U		31	190	µg/Kg-dry	1	07/24/12 07:21
cis-1,2-Dichloroethene	U		23	56	µg/Kg-dry	1	07/24/12 07:21
cis-1,3-Dichloropropene	U		19	56	µg/Kg-dry	1	07/24/12 07:21
Cyclohexane	U		25	56	µg/Kg-dry	1	07/24/12 07:21
Dibromochloromethane	U		10	56	µg/Kg-dry	1	07/24/12 07:21
Dichlorodifluoromethane	U		25	56	µg/Kg-dry	1	07/24/12 07:21
<b>Ethylbenzene</b>	<b>420</b>		<b>21</b>	<b>56</b>	<b>µg/Kg-dry</b>	1	07/24/12 07:21
<b>Isopropylbenzene</b>	<b>50</b>	J	<b>24</b>	<b>56</b>	<b>µg/Kg-dry</b>	1	07/24/12 07:21
Methyl acetate	U		75	370	µg/Kg-dry	1	07/24/12 07:21
Methyl tert-butyl ether	U		24	56	µg/Kg-dry	1	07/24/12 07:21
Methylcyclohexane	U		26	56	µg/Kg-dry	1	07/24/12 07:21
Methylene chloride	U		22	56	µg/Kg-dry	1	07/24/12 07:21
Styrene	U		21	56	µg/Kg-dry	1	07/24/12 07:21
Tetrachloroethene	U		25	56	µg/Kg-dry	1	07/24/12 07:21
<b>Toluene</b>	<b>410</b>		<b>21</b>	<b>56</b>	<b>µg/Kg-dry</b>	1	07/24/12 07:21
trans-1,2-Dichloroethene	U		17	56	µg/Kg-dry	1	07/24/12 07:21
trans-1,3-Dichloropropene	U		19	56	µg/Kg-dry	1	07/24/12 07:21
Trichloroethene	U		26	56	µg/Kg-dry	1	07/24/12 07:21
Trichlorofluoromethane	U		15	56	µg/Kg-dry	1	07/24/12 07:21
Vinyl chloride	U		25	56	µg/Kg-dry	1	07/24/12 07:21
<b>Xylenes, Total</b>	<b>1,500</b>		<b>66</b>	<b>170</b>	<b>µg/Kg-dry</b>	1	07/24/12 07:21
Surr: 1,2-Dichloroethane-d4	84.2			70-130	%REC	1	07/24/12 07:21
Surr: 4-Bromofluorobenzene	103			70-130	%REC	1	07/24/12 07:21
Surr: Dibromofluoromethane	86.2			70-130	%REC	1	07/24/12 07:21
Surr: Toluene-d8	90.2			70-130	%REC	1	07/24/12 07:21

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-013  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-13  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	11		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-014  
**Collection Date:** 07/12/12 04:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-14  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/25/12		Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.11	5.7	µg/Kg-dry	1	07/25/12 22:03
2,4,5-TP (Silvex)	U		0.075	11	µg/Kg-dry	1	07/25/12 22:03
2,4-D	U		0.081	5.7	µg/Kg-dry	1	07/25/12 22:03
Surr: DCAA	97.2			30-150	%REC	1	07/25/12 22:03
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		40	45	µg/Kg-dry	1	07/24/12 16:43
Aroclor 1221	U		40	45	µg/Kg-dry	1	07/24/12 16:43
Aroclor 1232	U		40	45	µg/Kg-dry	1	07/24/12 16:43
Aroclor 1242	U		40	45	µg/Kg-dry	1	07/24/12 16:43
Aroclor 1248	U		40	45	µg/Kg-dry	1	07/24/12 16:43
Aroclor 1254	U		13	45	µg/Kg-dry	1	07/24/12 16:43
Aroclor 1260	U		13	45	µg/Kg-dry	1	07/24/12 16:43
Surr: Tetrachloro-m-xylene	88.1			45-124	%REC	1	07/24/12 16:43
Surr: Decachlorobiphenyl	108			40-140	%REC	1	07/24/12 16:43
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		3.6	11	µg/Kg-dry	1	07/25/12 17:17
4,4'-DDE	U		2.2	11	µg/Kg-dry	1	07/25/12 17:17
4,4'-DDT	U		2.6	11	µg/Kg-dry	1	07/25/12 17:17
Aldrin	U		1.0	11	µg/Kg-dry	1	07/25/12 17:17
alpha-BHC	U		3.6	11	µg/Kg-dry	1	07/25/12 17:17
alpha-Chlordane	U		3.1	11	µg/Kg-dry	1	07/25/12 17:17
beta-BHC	U		4.2	11	µg/Kg-dry	1	07/25/12 17:17
Chlordane, Technical	U		11	28	µg/Kg-dry	1	07/25/12 17:17
delta-BHC	U		4.1	11	µg/Kg-dry	1	07/25/12 17:17
Dieldrin	U		0.95	11	µg/Kg-dry	1	07/25/12 17:17
Endosulfan I	U		1.5	11	µg/Kg-dry	1	07/25/12 17:17
Endosulfan II	U		1.2	11	µg/Kg-dry	1	07/25/12 17:17
Endosulfan sulfate	U		1.4	11	µg/Kg-dry	1	07/25/12 17:17
Endrin	U		3.3	11	µg/Kg-dry	1	07/25/12 17:17
Endrin aldehyde	U		2.7	11	µg/Kg-dry	1	07/25/12 17:17
Endrin ketone	U		4.3	11	µg/Kg-dry	1	07/25/12 17:17
gamma-BHC (Lindane)	U		5.2	11	µg/Kg-dry	1	07/25/12 17:17
gamma-Chlordane	U		1.9	11	µg/Kg-dry	1	07/25/12 17:17
Heptachlor	U		5.7	11	µg/Kg-dry	1	07/25/12 17:17

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-014  
**Collection Date:** 07/12/12 04:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-14  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		1.8	11	µg/Kg-dry	1	07/25/12 17:17
Methoxychlor	U		2.7	11	µg/Kg-dry	1	07/25/12 17:17
Toxaphene	U		13	67	µg/Kg-dry	1	07/25/12 17:17
<i>Surr: Decachlorobiphenyl</i>	91.1			45-135	%REC	1	07/25/12 17:17
<i>Surr: Tetrachloro-m-xylene</i>	95.1			45-124	%REC	1	07/25/12 17:17
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/24/12		Analyst: <b>RH</b>	
<u>BatchID: 42528</u>							
<b>Mercury</b>	<b>0.015</b>	J	<b>0.0010</b>	<b>0.021</b>	<b>mg/Kg-dry</b>	1	07/24/12 17:40
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
<u>BatchID: 42527</u>							
<b>Aluminum</b>	<b>3,700</b>		<b>0.064</b>	<b>0.89</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Antimony</b>	<b>0.17</b>	J	<b>0.011</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Arsenic</b>	<b>1.9</b>		<b>0.053</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Barium</b>	<b>15</b>		<b>0.016</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Beryllium</b>	<b>0.13</b>	J	<b>0.0053</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Cadmium</b>	<b>0.11</b>	J	<b>0.0018</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Chromium</b>	<b>7.9</b>		<b>0.012</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Cobalt</b>	<b>2.3</b>		<b>0.0018</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Copper</b>	<b>6.1</b>		<b>0.012</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Iron</b>	<b>6,100</b>		<b>1.5</b>	<b>7.1</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Lead</b>	<b>5.0</b>		<b>0.0018</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Manganese</b>	<b>140</b>		<b>0.012</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Nickel</b>	<b>6.8</b>		<b>0.0053</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Selenium</b>	<b>0.43</b>		<b>0.032</b>	<b>0.35</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Silver</b>	<b>0.012</b>	J	<b>0.0018</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/27/12 07:15
<b>Thallium</b>	<b>0.067</b>	J	<b>0.0071</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Vanadium</b>	<b>10</b>		<b>0.023</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>Zinc</b>	<b>16</b>		<b>0.046</b>	<b>0.89</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:05
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
<u>BatchID: 42513</u>							
1,1'-Biphenyl	U		5.5	370	µg/Kg-dry	1	07/26/12 18:00
2,4,5-Trichlorophenol	U		8.8	180	µg/Kg-dry	1	07/26/12 18:00
2,4,6-Trichlorophenol	U		8.8	180	µg/Kg-dry	1	07/26/12 18:00
2,4-Dichlorophenol	U		11	180	µg/Kg-dry	1	07/26/12 18:00
2,4-Dimethylphenol	U		45	370	µg/Kg-dry	1	07/26/12 18:00
2,4-Dinitrophenol	U		47	730	µg/Kg-dry	1	07/26/12 18:00
2,4-Dinitrotoluene	U		9.9	180	µg/Kg-dry	1	07/26/12 18:00
2,6-Dinitrotoluene	U		10	180	µg/Kg-dry	1	07/26/12 18:00

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-014  
**Collection Date:** 07/12/12 04:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-14  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	U		10	89	µg/Kg-dry	1	07/26/12 18:00
2-Chlorophenol	U		9.9	180	µg/Kg-dry	1	07/26/12 18:00
2-Methylnaphthalene	U		11	89	µg/Kg-dry	1	07/26/12 18:00
2-Methylphenol	U		11	180	µg/Kg-dry	1	07/26/12 18:00
2-Nitroaniline	U		8.4	730	µg/Kg-dry	1	07/26/12 18:00
2-Nitrophenol	U		9.6	180	µg/Kg-dry	1	07/26/12 18:00
3,3'-Dichlorobenzidine	U		10	730	µg/Kg-dry	1	07/26/12 18:00
3-Nitroaniline	U		90	730	µg/Kg-dry	1	07/26/12 18:00
4,6-Dinitro-2-methylphenol	U		53	370	µg/Kg-dry	1	07/26/12 18:00
4-Bromophenyl phenyl ether	U		9.6	180	µg/Kg-dry	1	07/26/12 18:00
4-Chloro-3-methylphenol	U		10	180	µg/Kg-dry	1	07/26/12 18:00
4-Chloroaniline	U		14	370	µg/Kg-dry	1	07/26/12 18:00
4-Chlorophenyl phenyl ether	U		10	180	µg/Kg-dry	1	07/26/12 18:00
4-Methylphenol	U		11	180	µg/Kg-dry	1	07/26/12 18:00
4-Nitroaniline	U		16	730	µg/Kg-dry	1	07/26/12 18:00
4-Nitrophenol	U		45	730	µg/Kg-dry	1	07/26/12 18:00
Acenaphthene	U		10	33	µg/Kg-dry	1	07/26/12 18:00
Acenaphthylene	U		10	33	µg/Kg-dry	1	07/26/12 18:00
Acetophenone	U		5.5	370	µg/Kg-dry	1	07/26/12 18:00
Anthracene	U		11	33	µg/Kg-dry	1	07/26/12 18:00
Atrazine	U		11	55	µg/Kg-dry	1	07/26/12 18:00
Benzaldehyde	U		14	370	µg/Kg-dry	1	07/26/12 18:00
Benzo(a)anthracene	U		13	33	µg/Kg-dry	1	07/26/12 18:00
Benzo(a)pyrene	U		17	33	µg/Kg-dry	1	07/26/12 18:00
Benzo(b)fluoranthene	U		18	33	µg/Kg-dry	1	07/26/12 18:00
Benzo(g,h,i)perylene	U		26	33	µg/Kg-dry	1	07/26/12 18:00
Benzo(k)fluoranthene	U		15	33	µg/Kg-dry	1	07/26/12 18:00
Bis(2-chloroethoxy)methane	U		9.1	180	µg/Kg-dry	1	07/26/12 18:00
Bis(2-chloroethyl)ether	U		9.2	180	µg/Kg-dry	1	07/26/12 18:00
Bis(2-chloroisopropyl)ether	U		8.6	180	µg/Kg-dry	1	07/26/12 18:00
Bis(2-ethylhexyl)phthalate	U		11	370	µg/Kg-dry	1	07/26/12 18:00
Butyl benzyl phthalate	U		15	180	µg/Kg-dry	1	07/26/12 18:00
Caprolactam	U		16	370	µg/Kg-dry	1	07/26/12 18:00
Carbazole	U		13	180	µg/Kg-dry	1	07/26/12 18:00
Chrysene	U		13	33	µg/Kg-dry	1	07/26/12 18:00
Dibenzo(a,h)anthracene	U		19	33	µg/Kg-dry	1	07/26/12 18:00
Dibenzofuran	U		10	180	µg/Kg-dry	1	07/26/12 18:00
Diethyl phthalate	U		9.2	370	µg/Kg-dry	1	07/26/12 18:00
Dimethyl phthalate	U		9.2	370	µg/Kg-dry	1	07/26/12 18:00
Di-n-butyl phthalate	U		11	370	µg/Kg-dry	1	07/26/12 18:00

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-014  
**Collection Date:** 07/12/12 04:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-14  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-octyl phthalate	U		14	180	µg/Kg-dry	1	07/26/12 18:00
<b>Fluoranthene</b>	<b>18</b>	<b>J</b>	<b>13</b>	<b>33</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:00
Fluorene	U		9.7	33	µg/Kg-dry	1	07/26/12 18:00
Hexachlorobenzene	U		10	180	µg/Kg-dry	1	07/26/12 18:00
Hexachlorobutadiene	U		9.4	55	µg/Kg-dry	1	07/26/12 18:00
Hexachlorocyclopentadiene	U		39	370	µg/Kg-dry	1	07/26/12 18:00
Hexachloroethane	U		9.7	180	µg/Kg-dry	1	07/26/12 18:00
Indeno(1,2,3-cd)pyrene	U		21	33	µg/Kg-dry	1	07/26/12 18:00
Isophorone	U		9.6	180	µg/Kg-dry	1	07/26/12 18:00
Naphthalene	U		9.5	33	µg/Kg-dry	1	07/26/12 18:00
Nitrobenzene	U		9.6	180	µg/Kg-dry	1	07/26/12 18:00
N-Nitrosodi-n-propylamine	U		9.7	180	µg/Kg-dry	1	07/26/12 18:00
N-Nitrosodiphenylamine	U		66	180	µg/Kg-dry	1	07/26/12 18:00
Pentachlorophenol	U		16	22	µg/Kg-dry	1	07/26/12 18:00
Phenanthrene	U		33	33	µg/Kg-dry	1	07/26/12 18:00
Phenol	U		9.4	180	µg/Kg-dry	1	07/26/12 18:00
Pyrene	U		14	33	µg/Kg-dry	1	07/26/12 18:00
Surr: 2,4,6-Tribromophenol	100			34-140	%REC	1	07/26/12 18:00
Surr: 2-Fluorobiphenyl	60.8			12-100	%REC	1	07/26/12 18:00
Surr: 2-Fluorophenol	66.9			33-117	%REC	1	07/26/12 18:00
Surr: 4-Terphenyl-d14	80.4			25-137	%REC	1	07/26/12 18:00
Surr: Nitrobenzene-d5	59.3			37-107	%REC	1	07/26/12 18:00
Surr: Phenol-d6	66.0			40-106	%REC	1	07/26/12 18:00

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: BG

BatchID: 42425

1,1,1-Trichloroethane	U		15	39	µg/Kg-dry	1	07/24/12 07:45
1,1,2,2-Tetrachloroethane	U		17	39	µg/Kg-dry	1	07/24/12 07:45
1,1,2-Trichloroethane	U		14	39	µg/Kg-dry	1	07/24/12 07:45
1,1,2-Trichlorotrifluoroethane	U		15	39	µg/Kg-dry	1	07/24/12 07:45
1,1-Dichloroethane	U		14	39	µg/Kg-dry	1	07/24/12 07:45
1,1-Dichloroethene	U		17	39	µg/Kg-dry	1	07/24/12 07:45
1,2,4-Trichlorobenzene	U		20	39	µg/Kg-dry	1	07/24/12 07:45
1,2-Dibromo-3-chloropropane	U		19	39	µg/Kg-dry	1	07/24/12 07:45
1,2-Dibromoethane	U		16	39	µg/Kg-dry	1	07/24/12 07:45
1,2-Dichlorobenzene	U		16	39	µg/Kg-dry	1	07/24/12 07:45
1,2-Dichloroethane	U		19	39	µg/Kg-dry	1	07/24/12 07:45
1,2-Dichloropropane	U		13	39	µg/Kg-dry	1	07/24/12 07:45
1,3-Dichlorobenzene	U		16	39	µg/Kg-dry	1	07/24/12 07:45
1,4-Dichlorobenzene	U		15	39	µg/Kg-dry	1	07/24/12 07:45

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-014  
**Collection Date:** 07/12/12 04:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-14  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Butanone	U		98	260	µg/Kg-dry	1	07/24/12 07:45
2-Hexanone	U		9.7	39	µg/Kg-dry	1	07/24/12 07:45
4-Methyl-2-pentanone	U		13	39	µg/Kg-dry	1	07/24/12 07:45
Acetone	U		84	130	µg/Kg-dry	1	07/24/12 07:45
Benzene	U		16	39	µg/Kg-dry	1	07/24/12 07:45
Bromodichloromethane	U		8.9	39	µg/Kg-dry	1	07/24/12 07:45
Bromoform	U		7.8	39	µg/Kg-dry	1	07/24/12 07:45
Bromomethane	U		15	99	µg/Kg-dry	1	07/24/12 07:45
Carbon disulfide	U		20	39	µg/Kg-dry	1	07/24/12 07:45
Carbon tetrachloride	U		11	39	µg/Kg-dry	1	07/24/12 07:45
Chlorobenzene	U		16	39	µg/Kg-dry	1	07/24/12 07:45
Chloroethane	U		84	130	µg/Kg-dry	1	07/24/12 07:45
Chloroform	U		16	39	µg/Kg-dry	1	07/24/12 07:45
Chloromethane	U		22	130	µg/Kg-dry	1	07/24/12 07:45
cis-1,2-Dichloroethene	U		16	39	µg/Kg-dry	1	07/24/12 07:45
cis-1,3-Dichloropropene	U		14	39	µg/Kg-dry	1	07/24/12 07:45
Cyclohexane	U		18	39	µg/Kg-dry	1	07/24/12 07:45
Dibromochloromethane	U		7.3	39	µg/Kg-dry	1	07/24/12 07:45
Dichlorodifluoromethane	U		18	39	µg/Kg-dry	1	07/24/12 07:45
Ethylbenzene	U		15	39	µg/Kg-dry	1	07/24/12 07:45
Isopropylbenzene	U		17	39	µg/Kg-dry	1	07/24/12 07:45
Methyl acetate	U		53	260	µg/Kg-dry	1	07/24/12 07:45
Methyl tert-butyl ether	U		17	39	µg/Kg-dry	1	07/24/12 07:45
Methylcyclohexane	U		18	39	µg/Kg-dry	1	07/24/12 07:45
Methylene chloride	U		15	39	µg/Kg-dry	1	07/24/12 07:45
Styrene	U		15	39	µg/Kg-dry	1	07/24/12 07:45
Tetrachloroethene	U		18	39	µg/Kg-dry	1	07/24/12 07:45
Toluene	U		15	39	µg/Kg-dry	1	07/24/12 07:45
trans-1,2-Dichloroethene	U		12	39	µg/Kg-dry	1	07/24/12 07:45
trans-1,3-Dichloropropene	U		13	39	µg/Kg-dry	1	07/24/12 07:45
Trichloroethene	U		18	39	µg/Kg-dry	1	07/24/12 07:45
Trichlorofluoromethane	U		11	39	µg/Kg-dry	1	07/24/12 07:45
Vinyl chloride	U		18	39	µg/Kg-dry	1	07/24/12 07:45
Xylenes, Total	U		47	120	µg/Kg-dry	1	07/24/12 07:45
Surr: 1,2-Dichloroethane-d4	88.2			70-130	%REC	1	07/24/12 07:45
Surr: 4-Bromofluorobenzene	102			70-130	%REC	1	07/24/12 07:45
Surr: Dibromofluoromethane	89.0			70-130	%REC	1	07/24/12 07:45
Surr: Toluene-d8	90.5			70-130	%REC	1	07/24/12 07:45

**MOISTURE**

**A2540 G**

Analyst: **CG**

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

**Date:** 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-014  
**Collection Date:** 07/12/12 04:15 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-14  
**Matrix:** SOIL

---

<b>Analyses</b>	<b>Result</b>	<b>Qual</b>	<b>MDL</b>	<b>Report Limit</b>	<b>Units</b>	<b>Dilution Factor</b>	<b>Date Analyzed</b>
<u>BatchID:</u> R107494							
<b>Moisture</b>	12		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-015  
**Collection Date:** 07/16/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-15  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/25/12		Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.10	5.2	µg/Kg-dry	1	07/25/12 22:12
2,4,5-TP (Silvex)	U		0.069	10	µg/Kg-dry	1	07/25/12 22:12
2,4-D	U		0.074	5.2	µg/Kg-dry	1	07/25/12 22:12
Surr: DCAA	97.8			30-150	%REC	1	07/25/12 22:12
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		37	41	µg/Kg-dry	1	07/24/12 17:03
Aroclor 1221	U		37	41	µg/Kg-dry	1	07/24/12 17:03
Aroclor 1232	U		37	41	µg/Kg-dry	1	07/24/12 17:03
Aroclor 1242	U		37	41	µg/Kg-dry	1	07/24/12 17:03
<b>Aroclor 1248</b>	<b>280</b>		<b>37</b>	<b>41</b>	<b>µg/Kg-dry</b>	1	07/24/12 17:03
<b>Aroclor 1254</b>	<b>410</b>		<b>11</b>	<b>41</b>	<b>µg/Kg-dry</b>	1	07/24/12 17:03
Aroclor 1260	U		11	41	µg/Kg-dry	1	07/24/12 17:03
Surr: Tetrachloro-m-xylene	92.1			45-124	%REC	1	07/24/12 17:03
Surr: Decachlorobiphenyl	116			40-140	%REC	1	07/24/12 17:03
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		33	100	µg/Kg-dry	10	07/25/12 17:32
4,4'-DDE	U		20	100	µg/Kg-dry	10	07/25/12 17:32
4,4'-DDT	U		24	100	µg/Kg-dry	10	07/25/12 17:32
Aldrin	U		9.3	100	µg/Kg-dry	10	07/25/12 17:32
alpha-BHC	U		33	100	µg/Kg-dry	10	07/25/12 17:32
alpha-Chlordane	U		28	100	µg/Kg-dry	10	07/25/12 17:32
beta-BHC	U		39	100	µg/Kg-dry	10	07/25/12 17:32
Chlordane, Technical	U		100	260	µg/Kg-dry	10	07/25/12 17:32
delta-BHC	U		38	100	µg/Kg-dry	10	07/25/12 17:32
Dieldrin	U		8.7	100	µg/Kg-dry	10	07/25/12 17:32
Endosulfan I	U		13	100	µg/Kg-dry	10	07/25/12 17:32
Endosulfan II	U		11	100	µg/Kg-dry	10	07/25/12 17:32
Endosulfan sulfate	U		13	100	µg/Kg-dry	10	07/25/12 17:32
Endrin	U		30	100	µg/Kg-dry	10	07/25/12 17:32
Endrin aldehyde	U		25	100	µg/Kg-dry	10	07/25/12 17:32
Endrin ketone	U		40	100	µg/Kg-dry	10	07/25/12 17:32
gamma-BHC (Lindane)	U		48	100	µg/Kg-dry	10	07/25/12 17:32
gamma-Chlordane	U		17	100	µg/Kg-dry	10	07/25/12 17:32
Heptachlor	U		53	100	µg/Kg-dry	10	07/25/12 17:32

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-015  
**Collection Date:** 07/16/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-15  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		16	100	µg/Kg-dry	10	07/25/12 17:32
Methoxychlor	U		25	100	µg/Kg-dry	10	07/25/12 17:32
Toxaphene	U		120	620	µg/Kg-dry	10	07/25/12 17:32
Surr: Decachlorobiphenyl	120			45-135	%REC	10	07/25/12 17:32
Surr: Tetrachloro-m-xylene	100			45-124	%REC	10	07/25/12 17:32
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/24/12		Analyst: <b>RH</b>	
BatchID: 42528							
Mercury	0.10		0.0010	0.020	mg/Kg-dry	1	07/24/12 17:42
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
BatchID: 42527							
Antimony	1.5		0.010	0.42	mg/Kg-dry	1	07/25/12 08:11
Arsenic	4.3		0.050	0.17	mg/Kg-dry	1	07/25/12 08:11
Barium	89		0.015	0.42	mg/Kg-dry	1	07/25/12 08:11
Beryllium	0.16	J	0.0050	0.17	mg/Kg-dry	1	07/25/12 08:11
Cadmium	2.1		0.0017	0.17	mg/Kg-dry	1	07/25/12 08:11
Chromium	22		0.012	0.42	mg/Kg-dry	1	07/25/12 08:11
Cobalt	3.5		0.0017	0.42	mg/Kg-dry	1	07/25/12 08:11
Copper	110		0.012	0.42	mg/Kg-dry	1	07/25/12 08:11
Nickel	62		0.0050	0.42	mg/Kg-dry	1	07/25/12 08:11
Selenium	0.24	J	0.030	0.33	mg/Kg-dry	1	07/25/12 08:11
Thallium	0.075	J	0.0067	0.42	mg/Kg-dry	1	07/25/12 08:11
Vanadium	12		0.022	0.42	mg/Kg-dry	1	07/25/12 08:11
BatchID: 42527							
Aluminum	7,600		0.30	4.2	mg/Kg-dry	5	07/26/12 07:07
Iron	17,000		7.1	33	mg/Kg-dry	5	07/26/12 07:07
Lead	130		0.0084	2.1	mg/Kg-dry	5	07/26/12 07:07
Manganese	240		0.059	2.1	mg/Kg-dry	5	07/26/12 07:07
Silver	0.30	J	0.0084	0.84	mg/Kg-dry	5	07/26/12 07:07
Zinc	320		0.22	4.2	mg/Kg-dry	5	07/26/12 07:07
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
BatchID: 42513							
1,1'-Biphenyl	U		52	3,500	µg/Kg-dry	10	07/26/12 18:26
2,4,5-Trichlorophenol	U		83	1,700	µg/Kg-dry	10	07/26/12 18:26
2,4,6-Trichlorophenol	U		83	1,700	µg/Kg-dry	10	07/26/12 18:26
2,4-Dichlorophenol	U		100	1,700	µg/Kg-dry	10	07/26/12 18:26
2,4-Dimethylphenol	U		430	3,500	µg/Kg-dry	10	07/26/12 18:26
2,4-Dinitrophenol	U		440	6,900	µg/Kg-dry	10	07/26/12 18:26
2,4-Dinitrotoluene	U		93	1,700	µg/Kg-dry	10	07/26/12 18:26

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-015  
**Collection Date:** 07/16/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-15  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		98	1,700	µg/Kg-dry	10	07/26/12 18:26
2-Chloronaphthalene	U		95	840	µg/Kg-dry	10	07/26/12 18:26
2-Chlorophenol	U		94	1,700	µg/Kg-dry	10	07/26/12 18:26
2-Methylnaphthalene	U		100	840	µg/Kg-dry	10	07/26/12 18:26
2-Methylphenol	U		100	1,700	µg/Kg-dry	10	07/26/12 18:26
2-Nitroaniline	U		80	6,900	µg/Kg-dry	10	07/26/12 18:26
2-Nitrophenol	U		91	1,700	µg/Kg-dry	10	07/26/12 18:26
3,3'-Dichlorobenzidine	U		98	6,900	µg/Kg-dry	10	07/26/12 18:26
3-Nitroaniline	U		850	6,900	µg/Kg-dry	10	07/26/12 18:26
4,6-Dinitro-2-methylphenol	U		500	3,500	µg/Kg-dry	10	07/26/12 18:26
4-Bromophenyl phenyl ether	U		91	1,700	µg/Kg-dry	10	07/26/12 18:26
4-Chloro-3-methylphenol	U		94	1,700	µg/Kg-dry	10	07/26/12 18:26
4-Chloroaniline	U		130	3,500	µg/Kg-dry	10	07/26/12 18:26
4-Chlorophenyl phenyl ether	U		96	1,700	µg/Kg-dry	10	07/26/12 18:26
4-Methylphenol	U		100	1,700	µg/Kg-dry	10	07/26/12 18:26
4-Nitroaniline	U		150	6,900	µg/Kg-dry	10	07/26/12 18:26
4-Nitrophenol	U		420	6,900	µg/Kg-dry	10	07/26/12 18:26
Acenaphthene	U		95	310	µg/Kg-dry	10	07/26/12 18:26
Acenaphthylene	U		99	310	µg/Kg-dry	10	07/26/12 18:26
Acetophenone	U		52	3,500	µg/Kg-dry	10	07/26/12 18:26
Anthracene	U		110	310	µg/Kg-dry	10	07/26/12 18:26
Atrazine	U		110	520	µg/Kg-dry	10	07/26/12 18:26
Benzaldehyde	U		130	3,500	µg/Kg-dry	10	07/26/12 18:26
Benzo(a)anthracene	U		130	310	µg/Kg-dry	10	07/26/12 18:26
Benzo(a)pyrene	U		160	310	µg/Kg-dry	10	07/26/12 18:26
Benzo(b)fluoranthene	U		170	310	µg/Kg-dry	10	07/26/12 18:26
Benzo(g,h,i)perylene	U		250	310	µg/Kg-dry	10	07/26/12 18:26
Benzo(k)fluoranthene	U		140	310	µg/Kg-dry	10	07/26/12 18:26
Bis(2-chloroethoxy)methane	U		86	1,700	µg/Kg-dry	10	07/26/12 18:26
Bis(2-chloroethyl)ether	U		87	1,700	µg/Kg-dry	10	07/26/12 18:26
Bis(2-chloroisopropyl)ether	U		81	1,700	µg/Kg-dry	10	07/26/12 18:26
<b>Bis(2-ethylhexyl)phthalate</b>	<b>270</b>	<b>J</b>	<b>100</b>	<b>3,500</b>	<b>µg/Kg-dry</b>	10	07/26/12 18:26
<b>Butyl benzyl phthalate</b>	<b>350</b>	<b>J</b>	<b>140</b>	<b>1,700</b>	<b>µg/Kg-dry</b>	10	07/26/12 18:26
Caprolactam	U		150	3,500	µg/Kg-dry	10	07/26/12 18:26
Carbazole	U		120	1,700	µg/Kg-dry	10	07/26/12 18:26
Chrysene	U		120	310	µg/Kg-dry	10	07/26/12 18:26
Dibenzo(a,h)anthracene	U		180	310	µg/Kg-dry	10	07/26/12 18:26
Dibenzofuran	U		95	1,700	µg/Kg-dry	10	07/26/12 18:26
Diethyl phthalate	U		87	3,500	µg/Kg-dry	10	07/26/12 18:26
Dimethyl phthalate	U		87	3,500	µg/Kg-dry	10	07/26/12 18:26

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-015  
**Collection Date:** 07/16/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-15  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate	U		110	3,500	µg/Kg-dry	10	07/26/12 18:26
Di-n-octyl phthalate	U		130	1,700	µg/Kg-dry	10	07/26/12 18:26
<b>Fluoranthene</b>	<b>180</b>	<b>J</b>	<b>120</b>	<b>310</b>	<b>µg/Kg-dry</b>	10	07/26/12 18:26
Fluorene	U		91	310	µg/Kg-dry	10	07/26/12 18:26
Hexachlorobenzene	U		95	1,700	µg/Kg-dry	10	07/26/12 18:26
Hexachlorobutadiene	U		88	520	µg/Kg-dry	10	07/26/12 18:26
Hexachlorocyclopentadiene	U		360	3,500	µg/Kg-dry	10	07/26/12 18:26
Hexachloroethane	U		91	1,700	µg/Kg-dry	10	07/26/12 18:26
Indeno(1,2,3-cd)pyrene	U		200	310	µg/Kg-dry	10	07/26/12 18:26
Isophorone	U		91	1,700	µg/Kg-dry	10	07/26/12 18:26
Naphthalene	U		89	310	µg/Kg-dry	10	07/26/12 18:26
Nitrobenzene	U		90	1,700	µg/Kg-dry	10	07/26/12 18:26
N-Nitrosodi-n-propylamine	U		91	1,700	µg/Kg-dry	10	07/26/12 18:26
N-Nitrosodiphenylamine	U		620	1,700	µg/Kg-dry	10	07/26/12 18:26
Pentachlorophenol	U		150	210	µg/Kg-dry	10	07/26/12 18:26
Phenanthrene	U		310	310	µg/Kg-dry	10	07/26/12 18:26
Phenol	U		88	1,700	µg/Kg-dry	10	07/26/12 18:26
Pyrene	U		130	310	µg/Kg-dry	10	07/26/12 18:26
Surr: 2,4,6-Tribromophenol	88.4			34-140	%REC	10	07/26/12 18:26
Surr: 2-Fluorobiphenyl	67.6			12-100	%REC	10	07/26/12 18:26
Surr: 2-Fluorophenol	63.4			33-117	%REC	10	07/26/12 18:26
Surr: 4-Terphenyl-d14	92.4			25-137	%REC	10	07/26/12 18:26
Surr: Nitrobenzene-d5	58.2			37-107	%REC	10	07/26/12 18:26
Surr: Phenol-d6	65.6			40-106	%REC	10	07/26/12 18:26

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: BG

BatchID: 42425

1,1,1-Trichloroethane	U		30	79	µg/Kg-dry	1	07/24/12 08:09
1,1,2,2-Tetrachloroethane	U		35	79	µg/Kg-dry	1	07/24/12 08:09
1,1,2-Trichloroethane	U		28	79	µg/Kg-dry	1	07/24/12 08:09
1,1,2-Trichlorotrifluoroethane	U		29	79	µg/Kg-dry	1	07/24/12 08:09
1,1-Dichloroethane	U		29	79	µg/Kg-dry	1	07/24/12 08:09
1,1-Dichloroethene	U		33	79	µg/Kg-dry	1	07/24/12 08:09
1,2,4-Trichlorobenzene	U		41	79	µg/Kg-dry	1	07/24/12 08:09
1,2-Dibromo-3-chloropropane	U		39	79	µg/Kg-dry	1	07/24/12 08:09
1,2-Dibromoethane	U		31	79	µg/Kg-dry	1	07/24/12 08:09
1,2-Dichlorobenzene	U		32	79	µg/Kg-dry	1	07/24/12 08:09
1,2-Dichloroethane	U		38	79	µg/Kg-dry	1	07/24/12 08:09
1,2-Dichloropropane	U		26	79	µg/Kg-dry	1	07/24/12 08:09
1,3-Dichlorobenzene	U		32	79	µg/Kg-dry	1	07/24/12 08:09

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-015  
**Collection Date:** 07/16/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-15  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene	U		30	79	µg/Kg-dry	1	07/24/12 08:09
2-Butanone	U		200	530	µg/Kg-dry	1	07/24/12 08:09
2-Hexanone	U		19	79	µg/Kg-dry	1	07/24/12 08:09
4-Methyl-2-pentanone	U		27	79	µg/Kg-dry	1	07/24/12 08:09
Acetone	U		170	260	µg/Kg-dry	1	07/24/12 08:09
Benzene	U		32	79	µg/Kg-dry	1	07/24/12 08:09
Bromodichloromethane	U		18	79	µg/Kg-dry	1	07/24/12 08:09
Bromoform	U		16	79	µg/Kg-dry	1	07/24/12 08:09
Bromomethane	U		30	200	µg/Kg-dry	1	07/24/12 08:09
Carbon disulfide	U		39	79	µg/Kg-dry	1	07/24/12 08:09
Carbon tetrachloride	U		23	79	µg/Kg-dry	1	07/24/12 08:09
Chlorobenzene	U		32	79	µg/Kg-dry	1	07/24/12 08:09
Chloroethane	U		170	260	µg/Kg-dry	1	07/24/12 08:09
Chloroform	U		33	79	µg/Kg-dry	1	07/24/12 08:09
Chloromethane	U		44	260	µg/Kg-dry	1	07/24/12 08:09
cis-1,2-Dichloroethene	U		32	79	µg/Kg-dry	1	07/24/12 08:09
cis-1,3-Dichloropropene	U		27	79	µg/Kg-dry	1	07/24/12 08:09
Cyclohexane	U		36	79	µg/Kg-dry	1	07/24/12 08:09
Dibromochloromethane	U		15	79	µg/Kg-dry	1	07/24/12 08:09
Dichlorodifluoromethane	U		36	79	µg/Kg-dry	1	07/24/12 08:09
<b>Ethylbenzene</b>	<b>65</b>	<b>J</b>	<b>29</b>	<b>79</b>	<b>µg/Kg-dry</b>	1	07/24/12 08:09
Isopropylbenzene	U		34	79	µg/Kg-dry	1	07/24/12 08:09
Methyl acetate	U		110	530	µg/Kg-dry	1	07/24/12 08:09
Methyl tert-butyl ether	U		34	79	µg/Kg-dry	1	07/24/12 08:09
Methylcyclohexane	U		37	79	µg/Kg-dry	1	07/24/12 08:09
Methylene chloride	U		31	79	µg/Kg-dry	1	07/24/12 08:09
Styrene	U		30	79	µg/Kg-dry	1	07/24/12 08:09
Tetrachloroethene	U		35	79	µg/Kg-dry	1	07/24/12 08:09
<b>Toluene</b>	<b>410</b>		<b>30</b>	<b>79</b>	<b>µg/Kg-dry</b>	1	07/24/12 08:09
trans-1,2-Dichloroethene	U		24	79	µg/Kg-dry	1	07/24/12 08:09
trans-1,3-Dichloropropene	U		27	79	µg/Kg-dry	1	07/24/12 08:09
Trichloroethene	U		37	79	µg/Kg-dry	1	07/24/12 08:09
Trichlorofluoromethane	U		22	79	µg/Kg-dry	1	07/24/12 08:09
Vinyl chloride	U		36	79	µg/Kg-dry	1	07/24/12 08:09
<b>Xylenes, Total</b>	<b>360</b>		<b>94</b>	<b>240</b>	<b>µg/Kg-dry</b>	1	07/24/12 08:09
Surr: 1,2-Dichloroethane-d4	80.6			70-130	%REC	1	07/24/12 08:09
Surr: 4-Bromofluorobenzene	102			70-130	%REC	1	07/24/12 08:09
Surr: Dibromofluoromethane	81.2			70-130	%REC	1	07/24/12 08:09
Surr: Toluene-d8	91.0			70-130	%REC	1	07/24/12 08:09

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-015  
**Collection Date:** 07/16/12 09:15 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-15  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	5.6		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-016  
**Collection Date:** 07/16/12 09:25 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-16  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/25/12		Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.11	5.8	µg/Kg-dry	1	07/25/12 22:21
2,4,5-TP (Silvex)	U		0.077	12	µg/Kg-dry	1	07/25/12 22:21
2,4-D	U		0.083	5.8	µg/Kg-dry	1	07/25/12 22:21
Surr: DCAA	108			30-150	%REC	1	07/25/12 22:21
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		42	47	µg/Kg-dry	1	07/24/12 17:23
Aroclor 1221	U		42	47	µg/Kg-dry	1	07/24/12 17:23
Aroclor 1232	U		42	47	µg/Kg-dry	1	07/24/12 17:23
Aroclor 1242	U		42	47	µg/Kg-dry	1	07/24/12 17:23
Aroclor 1248	U		42	47	µg/Kg-dry	1	07/24/12 17:23
Aroclor 1254	U		13	47	µg/Kg-dry	1	07/24/12 17:23
Aroclor 1260	U		13	47	µg/Kg-dry	1	07/24/12 17:23
Surr: Tetrachloro-m-xylene	90.1			45-124	%REC	1	07/24/12 17:23
Surr: Decachlorobiphenyl	108			40-140	%REC	1	07/24/12 17:23
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		19	59	µg/Kg-dry	5	07/25/12 17:46
4,4'-DDE	U		12	59	µg/Kg-dry	5	07/25/12 17:46
4,4'-DDT	U		14	59	µg/Kg-dry	5	07/25/12 17:46
Aldrin	U		5.3	59	µg/Kg-dry	5	07/25/12 17:46
alpha-BHC	U		19	59	µg/Kg-dry	5	07/25/12 17:46
alpha-Chlordane	U		16	59	µg/Kg-dry	5	07/25/12 17:46
beta-BHC	U		22	59	µg/Kg-dry	5	07/25/12 17:46
Chlordane, Technical	U		59	150	µg/Kg-dry	5	07/25/12 17:46
delta-BHC	U		22	59	µg/Kg-dry	5	07/25/12 17:46
Dieldrin	U		5.0	59	µg/Kg-dry	5	07/25/12 17:46
Endosulfan I	U		7.7	59	µg/Kg-dry	5	07/25/12 17:46
Endosulfan II	U		6.5	59	µg/Kg-dry	5	07/25/12 17:46
Endosulfan sulfate	U		7.3	59	µg/Kg-dry	5	07/25/12 17:46
Endrin	U		17	59	µg/Kg-dry	5	07/25/12 17:46
Endrin aldehyde	U		14	59	µg/Kg-dry	5	07/25/12 17:46
Endrin ketone	U		23	59	µg/Kg-dry	5	07/25/12 17:46
gamma-BHC (Lindane)	U		27	59	µg/Kg-dry	5	07/25/12 17:46
gamma-Chlordane	U		9.9	59	µg/Kg-dry	5	07/25/12 17:46
Heptachlor	U		30	59	µg/Kg-dry	5	07/25/12 17:46

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-016  
**Collection Date:** 07/16/12 09:25 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-16  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		9.3	59	µg/Kg-dry	5	07/25/12 17:46
Methoxychlor	U		14	59	µg/Kg-dry	5	07/25/12 17:46
Toxaphene	U		69	350	µg/Kg-dry	5	07/25/12 17:46
Surr: Decachlorobiphenyl	95.1			45-135	%REC	5	07/25/12 17:46
Surr: Tetrachloro-m-xylene	100			45-124	%REC	5	07/25/12 17:46
<b>MERCURY BY CVAA</b>			<b>SW7471</b>	Prep: SW7471 / 7/24/12		Analyst: <b>RH</b>	
BatchID: <u>42528</u>							
Mercury	0.018	J	0.0011	0.021	mg/Kg-dry	1	07/24/12 17:49
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
BatchID: <u>42527</u>							
Aluminum	3,800		0.071	0.99	mg/Kg-dry	1	07/25/12 08:18
Antimony	0.17	J	0.012	0.49	mg/Kg-dry	1	07/25/12 08:18
Arsenic	2.5		0.059	0.20	mg/Kg-dry	1	07/25/12 08:18
Barium	15		0.018	0.49	mg/Kg-dry	1	07/25/12 08:18
Beryllium	0.14	J	0.0059	0.20	mg/Kg-dry	1	07/25/12 08:18
Cadmium	0.20		0.0020	0.20	mg/Kg-dry	1	07/25/12 08:18
Chromium	8.6		0.014	0.49	mg/Kg-dry	1	07/25/12 08:18
Cobalt	2.8		0.0020	0.49	mg/Kg-dry	1	07/25/12 08:18
Copper	8.8		0.014	0.49	mg/Kg-dry	1	07/25/12 08:18
Iron	7,300		1.7	7.9	mg/Kg-dry	1	07/25/12 08:18
Lead	5.7		0.0020	0.49	mg/Kg-dry	1	07/25/12 08:18
Manganese	130		0.014	0.49	mg/Kg-dry	1	07/25/12 08:18
Nickel	7.9		0.0059	0.49	mg/Kg-dry	1	07/25/12 08:18
Selenium	0.34	J	0.036	0.40	mg/Kg-dry	1	07/25/12 08:18
Silver	0.014	J	0.0020	0.20	mg/Kg-dry	1	07/27/12 07:27
Thallium	0.084	J	0.0079	0.49	mg/Kg-dry	1	07/25/12 08:18
Vanadium	12		0.026	0.49	mg/Kg-dry	1	07/25/12 08:18
Zinc	41		0.051	0.99	mg/Kg-dry	1	07/25/12 08:18
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
BatchID: <u>42513</u>							
1,1'-Biphenyl	U		5.9	390	µg/Kg-dry	1	07/26/12 18:53
2,4,5-Trichlorophenol	U		9.5	190	µg/Kg-dry	1	07/26/12 18:53
2,4,6-Trichlorophenol	U		9.5	190	µg/Kg-dry	1	07/26/12 18:53
2,4-Dichlorophenol	U		12	190	µg/Kg-dry	1	07/26/12 18:53
2,4-Dimethylphenol	U		49	390	µg/Kg-dry	1	07/26/12 18:53
2,4-Dinitrophenol	U		51	790	µg/Kg-dry	1	07/26/12 18:53
2,4-Dinitrotoluene	U		11	190	µg/Kg-dry	1	07/26/12 18:53
2,6-Dinitrotoluene	U		11	190	µg/Kg-dry	1	07/26/12 18:53

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-016  
**Collection Date:** 07/16/12 09:25 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-16  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	U		11	95	µg/Kg-dry	1	07/26/12 18:53
2-Chlorophenol	U		11	190	µg/Kg-dry	1	07/26/12 18:53
2-Methylnaphthalene	U		12	95	µg/Kg-dry	1	07/26/12 18:53
2-Methylphenol	U		11	190	µg/Kg-dry	1	07/26/12 18:53
2-Nitroaniline	U		9.1	790	µg/Kg-dry	1	07/26/12 18:53
2-Nitrophenol	U		10	190	µg/Kg-dry	1	07/26/12 18:53
3,3'-Dichlorobenzidine	U		11	790	µg/Kg-dry	1	07/26/12 18:53
3-Nitroaniline	U		97	790	µg/Kg-dry	1	07/26/12 18:53
4,6-Dinitro-2-methylphenol	U		57	390	µg/Kg-dry	1	07/26/12 18:53
4-Bromophenyl phenyl ether	U		10	190	µg/Kg-dry	1	07/26/12 18:53
4-Chloro-3-methylphenol	U		11	190	µg/Kg-dry	1	07/26/12 18:53
4-Chloroaniline	U		15	390	µg/Kg-dry	1	07/26/12 18:53
4-Chlorophenyl phenyl ether	U		11	190	µg/Kg-dry	1	07/26/12 18:53
4-Methylphenol	U		12	190	µg/Kg-dry	1	07/26/12 18:53
4-Nitroaniline	U		18	790	µg/Kg-dry	1	07/26/12 18:53
4-Nitrophenol	U		48	790	µg/Kg-dry	1	07/26/12 18:53
<b>Acenaphthene</b>	<b>80</b>		<b>11</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
Acenaphthylene	U		11	36	µg/Kg-dry	1	07/26/12 18:53
Acetophenone	U		5.9	390	µg/Kg-dry	1	07/26/12 18:53
<b>Anthracene</b>	<b>160</b>		<b>12</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
Atrazine	U		12	60	µg/Kg-dry	1	07/26/12 18:53
Benzaldehyde	U		15	390	µg/Kg-dry	1	07/26/12 18:53
<b>Benzo(a)anthracene</b>	<b>250</b>		<b>15</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
<b>Benzo(a)pyrene</b>	<b>210</b>		<b>18</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
<b>Benzo(b)fluoranthene</b>	<b>270</b>		<b>19</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
<b>Benzo(g,h,i)perylene</b>	<b>60</b>		<b>28</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
<b>Benzo(k)fluoranthene</b>	<b>180</b>		<b>16</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
Bis(2-chloroethoxy)methane	U		9.8	190	µg/Kg-dry	1	07/26/12 18:53
Bis(2-chloroethyl)ether	U		9.9	190	µg/Kg-dry	1	07/26/12 18:53
Bis(2-chloroisopropyl)ether	U		9.3	190	µg/Kg-dry	1	07/26/12 18:53
Bis(2-ethylhexyl)phthalate	U		12	390	µg/Kg-dry	1	07/26/12 18:53
Butyl benzyl phthalate	U		17	190	µg/Kg-dry	1	07/26/12 18:53
Caprolactam	U		17	390	µg/Kg-dry	1	07/26/12 18:53
Carbazole	U		14	190	µg/Kg-dry	1	07/26/12 18:53
<b>Chrysene</b>	<b>250</b>		<b>14</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
<b>Dibenzo(a,h)anthracene</b>	<b>21</b>	J	<b>20</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
<b>Dibenzofuran</b>	<b>64</b>	J	<b>11</b>	<b>190</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
Diethyl phthalate	U		9.9	390	µg/Kg-dry	1	07/26/12 18:53
Dimethyl phthalate	U		9.9	390	µg/Kg-dry	1	07/26/12 18:53
Di-n-butyl phthalate	U		12	390	µg/Kg-dry	1	07/26/12 18:53

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-016  
**Collection Date:** 07/16/12 09:25 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-16  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-octyl phthalate		U	15	190	µg/Kg-dry	1	07/26/12 18:53
<b>Fluoranthene</b>	<b>650</b>		<b>14</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
<b>Fluorene</b>	<b>97</b>		<b>10</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
Hexachlorobenzene		U	11	190	µg/Kg-dry	1	07/26/12 18:53
Hexachlorobutadiene		U	10	60	µg/Kg-dry	1	07/26/12 18:53
Hexachlorocyclopentadiene		U	42	390	µg/Kg-dry	1	07/26/12 18:53
Hexachloroethane		U	10	190	µg/Kg-dry	1	07/26/12 18:53
<b>Indeno(1,2,3-cd)pyrene</b>	<b>60</b>		<b>23</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
Isophorone		U	10	190	µg/Kg-dry	1	07/26/12 18:53
<b>Naphthalene</b>	<b>49</b>		<b>10</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
Nitrobenzene		U	10	190	µg/Kg-dry	1	07/26/12 18:53
N-Nitrosodi-n-propylamine		U	10	190	µg/Kg-dry	1	07/26/12 18:53
N-Nitrosodiphenylamine		U	71	190	µg/Kg-dry	1	07/26/12 18:53
Pentachlorophenol		U	18	24	µg/Kg-dry	1	07/26/12 18:53
<b>Phenanthrene</b>	<b>550</b>		<b>36</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
Phenol		U	10	190	µg/Kg-dry	1	07/26/12 18:53
<b>Pyrene</b>	<b>490</b>		<b>15</b>	<b>36</b>	<b>µg/Kg-dry</b>	1	07/26/12 18:53
Surr: 2,4,6-Tribromophenol	101			34-140	%REC	1	07/26/12 18:53
Surr: 2-Fluorobiphenyl	60.9			12-100	%REC	1	07/26/12 18:53
Surr: 2-Fluorophenol	68.8			33-117	%REC	1	07/26/12 18:53
Surr: 4-Terphenyl-d14	84.0			25-137	%REC	1	07/26/12 18:53
Surr: Nitrobenzene-d5	60.7			37-107	%REC	1	07/26/12 18:53
Surr: Phenol-d6	64.7			40-106	%REC	1	07/26/12 18:53

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: BG

BatchID: 42425

1,1,1-Trichloroethane	U		17	44	µg/Kg-dry	1	07/24/12 08:33
1,1,2,2-Tetrachloroethane	U		19	44	µg/Kg-dry	1	07/24/12 08:33
1,1,2-Trichloroethane	U		16	44	µg/Kg-dry	1	07/24/12 08:33
1,1,2-Trichlorotrifluoroethane	U		16	44	µg/Kg-dry	1	07/24/12 08:33
1,1-Dichloroethane	U		16	44	µg/Kg-dry	1	07/24/12 08:33
1,1-Dichloroethene	U		18	44	µg/Kg-dry	1	07/24/12 08:33
1,2,4-Trichlorobenzene	U		23	44	µg/Kg-dry	1	07/24/12 08:33
1,2-Dibromo-3-chloropropane	U		21	44	µg/Kg-dry	1	07/24/12 08:33
1,2-Dibromoethane	U		17	44	µg/Kg-dry	1	07/24/12 08:33
1,2-Dichlorobenzene	U		18	44	µg/Kg-dry	1	07/24/12 08:33
1,2-Dichloroethane	U		21	44	µg/Kg-dry	1	07/24/12 08:33
1,2-Dichloropropane	U		15	44	µg/Kg-dry	1	07/24/12 08:33
1,3-Dichlorobenzene	U		18	44	µg/Kg-dry	1	07/24/12 08:33
1,4-Dichlorobenzene	U		17	44	µg/Kg-dry	1	07/24/12 08:33

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-016  
**Collection Date:** 07/16/12 09:25 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-16  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Butanone	U		110	290	µg/Kg-dry	1	07/24/12 08:33
2-Hexanone	U		11	44	µg/Kg-dry	1	07/24/12 08:33
4-Methyl-2-pentanone	U		15	44	µg/Kg-dry	1	07/24/12 08:33
Acetone	U		93	150	µg/Kg-dry	1	07/24/12 08:33
Benzene	U		18	44	µg/Kg-dry	1	07/24/12 08:33
Bromodichloromethane	U		9.8	44	µg/Kg-dry	1	07/24/12 08:33
Bromoform	U		8.6	44	µg/Kg-dry	1	07/24/12 08:33
Bromomethane	U		17	110	µg/Kg-dry	1	07/24/12 08:33
Carbon disulfide	U		22	44	µg/Kg-dry	1	07/24/12 08:33
Carbon tetrachloride	U		12	44	µg/Kg-dry	1	07/24/12 08:33
Chlorobenzene	U		18	44	µg/Kg-dry	1	07/24/12 08:33
Chloroethane	U		93	150	µg/Kg-dry	1	07/24/12 08:33
Chloroform	U		18	44	µg/Kg-dry	1	07/24/12 08:33
Chloromethane	U		24	150	µg/Kg-dry	1	07/24/12 08:33
cis-1,2-Dichloroethene	U		18	44	µg/Kg-dry	1	07/24/12 08:33
cis-1,3-Dichloropropene	U		15	44	µg/Kg-dry	1	07/24/12 08:33
Cyclohexane	U		20	44	µg/Kg-dry	1	07/24/12 08:33
Dibromochloromethane	U		8.1	44	µg/Kg-dry	1	07/24/12 08:33
Dichlorodifluoromethane	U		20	44	µg/Kg-dry	1	07/24/12 08:33
Ethylbenzene	U		16	44	µg/Kg-dry	1	07/24/12 08:33
Isopropylbenzene	U		19	44	µg/Kg-dry	1	07/24/12 08:33
Methyl acetate	U		59	290	µg/Kg-dry	1	07/24/12 08:33
Methyl tert-butyl ether	U		19	44	µg/Kg-dry	1	07/24/12 08:33
Methylcyclohexane	U		20	44	µg/Kg-dry	1	07/24/12 08:33
Methylene chloride	U		17	44	µg/Kg-dry	1	07/24/12 08:33
Styrene	U		16	44	µg/Kg-dry	1	07/24/12 08:33
Tetrachloroethene	U		20	44	µg/Kg-dry	1	07/24/12 08:33
Toluene	U		16	44	µg/Kg-dry	1	07/24/12 08:33
trans-1,2-Dichloroethene	U		14	44	µg/Kg-dry	1	07/24/12 08:33
trans-1,3-Dichloropropene	U		15	44	µg/Kg-dry	1	07/24/12 08:33
Trichloroethene	U		20	44	µg/Kg-dry	1	07/24/12 08:33
Trichlorofluoromethane	U		12	44	µg/Kg-dry	1	07/24/12 08:33
Vinyl chloride	U		20	44	µg/Kg-dry	1	07/24/12 08:33
Xylenes, Total	U		52	130	µg/Kg-dry	1	07/24/12 08:33
Surr: 1,2-Dichloroethane-d4	80.9			70-130	%REC	1	07/24/12 08:33
Surr: 4-Bromofluorobenzene	101			70-130	%REC	1	07/24/12 08:33
Surr: Dibromofluoromethane	85.2			70-130	%REC	1	07/24/12 08:33
Surr: Toluene-d8	90.7			70-130	%REC	1	07/24/12 08:33

**MOISTURE**

**A2540 G**

Analyst: **CG**

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

**Date:** 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071612-MF-016  
**Collection Date:** 07/16/12 09:25 AM

**Work Order:** 1207530  
**Lab ID:** 1207530-16  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<u>BatchID:</u> R107494							
Moisture	18		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-017  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-17  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 7/25/12		Analyst: <b>JD</b>
<u>BatchID: 42548</u>							
2,4,5-T	U		0.11	5.6	µg/Kg-dry	1	07/25/12 22:31
2,4,5-TP (Silvex)	U		0.075	11	µg/Kg-dry	1	07/25/12 22:31
2,4-D	U		0.080	5.6	µg/Kg-dry	1	07/25/12 22:31
Surr: DCAA	98.0			30-150	%REC	1	07/25/12 22:31
<b>PCBS</b>			<b>SW8082</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42468</u>							
Aroclor 1016	U		38	43	µg/Kg-dry	1	07/24/12 17:43
Aroclor 1221	U		38	43	µg/Kg-dry	1	07/24/12 17:43
Aroclor 1232	U		38	43	µg/Kg-dry	1	07/24/12 17:43
Aroclor 1242	U		38	43	µg/Kg-dry	1	07/24/12 17:43
<b>Aroclor 1248</b>	<b>640</b>		<b>38</b>	<b>43</b>	<b>µg/Kg-dry</b>	1	07/24/12 17:43
<b>Aroclor 1254</b>	<b>790</b>		<b>12</b>	<b>43</b>	<b>µg/Kg-dry</b>	1	07/24/12 17:43
Aroclor 1260	U		12	43	µg/Kg-dry	1	07/24/12 17:43
Surr: Tetrachloro-m-xylene	96.1			45-124	%REC	1	07/24/12 17:43
Surr: Decachlorobiphenyl	108			40-140	%REC	1	07/24/12 17:43
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3541 / 7/23/12		Analyst: <b>JD</b>
<u>BatchID: 42469</u>							
4,4'-DDD	U		69	220	µg/Kg-dry	20	07/25/12 18:01
4,4'-DDE	U		42	220	µg/Kg-dry	20	07/25/12 18:01
4,4'-DDT	U		50	220	µg/Kg-dry	20	07/25/12 18:01
Aldrin	U		19	220	µg/Kg-dry	20	07/25/12 18:01
alpha-BHC	U		69	220	µg/Kg-dry	20	07/25/12 18:01
alpha-Chlordane	U		59	220	µg/Kg-dry	20	07/25/12 18:01
beta-BHC	U		81	220	µg/Kg-dry	20	07/25/12 18:01
Chlordane, Technical	U		210	540	µg/Kg-dry	20	07/25/12 18:01
delta-BHC	U		80	220	µg/Kg-dry	20	07/25/12 18:01
Dieldrin	U		18	220	µg/Kg-dry	20	07/25/12 18:01
Endosulfan I	U		28	220	µg/Kg-dry	20	07/25/12 18:01
Endosulfan II	U		24	220	µg/Kg-dry	20	07/25/12 18:01
Endosulfan sulfate	U		26	220	µg/Kg-dry	20	07/25/12 18:01
Endrin	U		63	220	µg/Kg-dry	20	07/25/12 18:01
Endrin aldehyde	U		52	220	µg/Kg-dry	20	07/25/12 18:01
Endrin ketone	U		83	220	µg/Kg-dry	20	07/25/12 18:01
gamma-BHC (Lindane)	U		100	220	µg/Kg-dry	20	07/25/12 18:01
gamma-Chlordane	U		36	220	µg/Kg-dry	20	07/25/12 18:01
Heptachlor	U		110	220	µg/Kg-dry	20	07/25/12 18:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-017  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-17  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Heptachlor epoxide	U		34	220	µg/Kg-dry	20	07/25/12 18:01
Methoxychlor	U		53	220	µg/Kg-dry	20	07/25/12 18:01
Toxaphene	U		250	1,300	µg/Kg-dry	20	07/25/12 18:01
<i>Surr: Decachlorobiphenyl</i>	80.1			45-135	%REC	20	07/25/12 18:01
<i>Surr: Tetrachloro-m-xylene</i>	100			45-124	%REC	20	07/25/12 18:01
<b>MERCURY BY CVA</b>			<b>SW7471</b>	Prep: SW7471 / 7/24/12		Analyst: <b>RH</b>	
<u>BatchID: 42528</u>							
<b>Mercury</b>	<b>0.22</b>		<b>0.0011</b>	<b>0.021</b>	<b>mg/Kg-dry</b>	1	07/24/12 17:51
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3050B / 7/24/12		Analyst: <b>ML</b>	
<u>BatchID: 42527</u>							
<b>Antimony</b>	<b>4.3</b>		<b>0.011</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:24
<b>Arsenic</b>	<b>6.6</b>		<b>0.054</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:24
<b>Beryllium</b>	<b>0.18</b>		<b>0.0054</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:24
<b>Cadmium</b>	<b>5.1</b>		<b>0.0018</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:24
<b>Chromium</b>	<b>58</b>		<b>0.013</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:24
<b>Cobalt</b>	<b>5.6</b>		<b>0.0018</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:24
<b>Nickel</b>	<b>83</b>		<b>0.0054</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:24
<b>Selenium</b>	<b>0.41</b>		<b>0.032</b>	<b>0.36</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:24
<b>Thallium</b>	<b>0.071</b>	J	<b>0.0072</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:24
<b>Vanadium</b>	<b>18</b>		<b>0.023</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	07/25/12 08:24
<u>BatchID: 42527</u>							
<b>Aluminum</b>	<b>9,000</b>		<b>0.65</b>	<b>9.0</b>	<b>mg/Kg-dry</b>	10	07/26/12 07:13
<b>Barium</b>	<b>360</b>		<b>0.16</b>	<b>4.5</b>	<b>mg/Kg-dry</b>	10	07/26/12 07:13
<b>Copper</b>	<b>180</b>		<b>0.13</b>	<b>4.5</b>	<b>mg/Kg-dry</b>	10	07/26/12 07:13
<b>Iron</b>	<b>42,000</b>		<b>15</b>	<b>72</b>	<b>mg/Kg-dry</b>	10	07/26/12 07:13
<b>Lead</b>	<b>410</b>		<b>0.018</b>	<b>4.5</b>	<b>mg/Kg-dry</b>	10	07/26/12 07:13
<b>Manganese</b>	<b>330</b>		<b>0.13</b>	<b>4.5</b>	<b>mg/Kg-dry</b>	10	07/26/12 07:13
<b>Silver</b>	<b>1.1</b>	J	<b>0.018</b>	<b>1.8</b>	<b>mg/Kg-dry</b>	10	07/26/12 07:13
<b>Zinc</b>	<b>970</b>		<b>0.47</b>	<b>9.0</b>	<b>mg/Kg-dry</b>	10	07/26/12 07:13
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8270</b>	Prep: SW3541 / 7/24/12		Analyst: <b>RM</b>	
<u>BatchID: 42513</u>							
1,1'-Biphenyl	U		55	3,600	µg/Kg-dry	10	07/26/12 19:20
2,4,5-Trichlorophenol	U		88	1,800	µg/Kg-dry	10	07/26/12 19:20
2,4,6-Trichlorophenol	U		88	1,800	µg/Kg-dry	10	07/26/12 19:20
2,4-Dichlorophenol	U		110	1,800	µg/Kg-dry	10	07/26/12 19:20
2,4-Dimethylphenol	U		450	3,600	µg/Kg-dry	10	07/26/12 19:20
2,4-Dinitrophenol	U		470	7,300	µg/Kg-dry	10	07/26/12 19:20
2,4-Dinitrotoluene	U		99	1,800	µg/Kg-dry	10	07/26/12 19:20

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-017  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-17  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2,6-Dinitrotoluene	U		100	1,800	µg/Kg-dry	10	07/26/12 19:20
2-Chloronaphthalene	U		100	880	µg/Kg-dry	10	07/26/12 19:20
2-Chlorophenol	U		99	1,800	µg/Kg-dry	10	07/26/12 19:20
2-Methylnaphthalene	U		110	880	µg/Kg-dry	10	07/26/12 19:20
2-Methylphenol	U		110	1,800	µg/Kg-dry	10	07/26/12 19:20
2-Nitroaniline	U		84	7,300	µg/Kg-dry	10	07/26/12 19:20
2-Nitrophenol	U		96	1,800	µg/Kg-dry	10	07/26/12 19:20
3,3'-Dichlorobenzidine	U		100	7,300	µg/Kg-dry	10	07/26/12 19:20
3-Nitroaniline	U		900	7,300	µg/Kg-dry	10	07/26/12 19:20
4,6-Dinitro-2-methylphenol	U		530	3,600	µg/Kg-dry	10	07/26/12 19:20
4-Bromophenyl phenyl ether	U		96	1,800	µg/Kg-dry	10	07/26/12 19:20
4-Chloro-3-methylphenol	U		100	1,800	µg/Kg-dry	10	07/26/12 19:20
4-Chloroaniline	U		140	3,600	µg/Kg-dry	10	07/26/12 19:20
4-Chlorophenyl phenyl ether	U		100	1,800	µg/Kg-dry	10	07/26/12 19:20
4-Methylphenol	U		110	1,800	µg/Kg-dry	10	07/26/12 19:20
4-Nitroaniline	U		160	7,300	µg/Kg-dry	10	07/26/12 19:20
4-Nitrophenol	U		450	7,300	µg/Kg-dry	10	07/26/12 19:20
Acenaphthene	U		100	330	µg/Kg-dry	10	07/26/12 19:20
Acenaphthylene	U		100	330	µg/Kg-dry	10	07/26/12 19:20
Acetophenone	U		55	3,600	µg/Kg-dry	10	07/26/12 19:20
<b>Anthracene</b>	<b>500</b>		<b>110</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
Atrazine	U		110	550	µg/Kg-dry	10	07/26/12 19:20
Benzaldehyde	U		140	3,600	µg/Kg-dry	10	07/26/12 19:20
<b>Benzo(a)anthracene</b>	<b>2,000</b>		<b>130</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
<b>Benzo(a)pyrene</b>	<b>1,800</b>		<b>170</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
<b>Benzo(b)fluoranthene</b>	<b>2,500</b>		<b>180</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
<b>Benzo(g,h,i)perylene</b>	<b>570</b>		<b>260</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
<b>Benzo(k)fluoranthene</b>	<b>1,400</b>		<b>150</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
Bis(2-chloroethoxy)methane	U		91	1,800	µg/Kg-dry	10	07/26/12 19:20
Bis(2-chloroethyl)ether	U		92	1,800	µg/Kg-dry	10	07/26/12 19:20
Bis(2-chloroisopropyl)ether	U		86	1,800	µg/Kg-dry	10	07/26/12 19:20
<b>Bis(2-ethylhexyl)phthalate</b>	<b>520</b>	J	<b>110</b>	<b>3,600</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
<b>Butyl benzyl phthalate</b>	<b>290</b>	J	<b>150</b>	<b>1,800</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
Caprolactam	U		160	3,600	µg/Kg-dry	10	07/26/12 19:20
Carbazole	U		130	1,800	µg/Kg-dry	10	07/26/12 19:20
<b>Chrysene</b>	<b>2,100</b>		<b>120</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
Dibenzo(a,h)anthracene	U		190	330	µg/Kg-dry	10	07/26/12 19:20
Dibenzofuran	U		100	1,800	µg/Kg-dry	10	07/26/12 19:20
Diethyl phthalate	U		92	3,600	µg/Kg-dry	10	07/26/12 19:20
Dimethyl phthalate	U		92	3,600	µg/Kg-dry	10	07/26/12 19:20

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-017  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-17  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-butyl phthalate		U	110	3,600	µg/Kg-dry	10	07/26/12 19:20
Di-n-octyl phthalate		U	140	1,800	µg/Kg-dry	10	07/26/12 19:20
<b>Fluoranthene</b>	<b>3,900</b>		<b>130</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
Fluorene		U	97	330	µg/Kg-dry	10	07/26/12 19:20
Hexachlorobenzene		U	100	1,800	µg/Kg-dry	10	07/26/12 19:20
Hexachlorobutadiene		U	93	550	µg/Kg-dry	10	07/26/12 19:20
Hexachlorocyclopentadiene		U	390	3,600	µg/Kg-dry	10	07/26/12 19:20
Hexachloroethane		U	97	1,800	µg/Kg-dry	10	07/26/12 19:20
<b>Indeno(1,2,3-cd)pyrene</b>	<b>540</b>		<b>210</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
Isophorone		U	96	1,800	µg/Kg-dry	10	07/26/12 19:20
Naphthalene		U	94	330	µg/Kg-dry	10	07/26/12 19:20
Nitrobenzene		U	96	1,800	µg/Kg-dry	10	07/26/12 19:20
N-Nitrosodi-n-propylamine		U	97	1,800	µg/Kg-dry	10	07/26/12 19:20
N-Nitrosodiphenylamine		U	660	1,800	µg/Kg-dry	10	07/26/12 19:20
Pentachlorophenol		U	160	220	µg/Kg-dry	10	07/26/12 19:20
<b>Phenanthrene</b>	<b>2,100</b>		<b>330</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
Phenol		U	93	1,800	µg/Kg-dry	10	07/26/12 19:20
<b>Pyrene</b>	<b>2,900</b>		<b>140</b>	<b>330</b>	<b>µg/Kg-dry</b>	10	07/26/12 19:20
Surr: 2,4,6-Tribromophenol	78.0			34-140	%REC	10	07/26/12 19:20
Surr: 2-Fluorobiphenyl	61.6			12-100	%REC	10	07/26/12 19:20
Surr: 2-Fluorophenol	61.8			33-117	%REC	10	07/26/12 19:20
Surr: 4-Terphenyl-d14	84.2			25-137	%REC	10	07/26/12 19:20
Surr: Nitrobenzene-d5	56.0			37-107	%REC	10	07/26/12 19:20
Surr: Phenol-d6	64.0			40-106	%REC	10	07/26/12 19:20

## VOLATILE ORGANIC COMPOUNDS

SW8260

Prep: SW5035 / 7/19/12

Analyst: BG

BatchID: 42425

1,1,1-Trichloroethane	U		21	56	µg/Kg-dry	1	07/24/12 08:57
1,1,2,2-Tetrachloroethane	U		25	56	µg/Kg-dry	1	07/24/12 08:57
1,1,2-Trichloroethane	U		20	56	µg/Kg-dry	1	07/24/12 08:57
1,1,2-Trichlorotrifluoroethane	U		21	56	µg/Kg-dry	1	07/24/12 08:57
1,1-Dichloroethane	U		21	56	µg/Kg-dry	1	07/24/12 08:57
1,1-Dichloroethene	U		24	56	µg/Kg-dry	1	07/24/12 08:57
1,2,4-Trichlorobenzene	U		29	56	µg/Kg-dry	1	07/24/12 08:57
1,2-Dibromo-3-chloropropane	U		27	56	µg/Kg-dry	1	07/24/12 08:57
1,2-Dibromoethane	U		22	56	µg/Kg-dry	1	07/24/12 08:57
1,2-Dichlorobenzene	U		22	56	µg/Kg-dry	1	07/24/12 08:57
1,2-Dichloroethane	U		27	56	µg/Kg-dry	1	07/24/12 08:57
1,2-Dichloropropane	U		19	56	µg/Kg-dry	1	07/24/12 08:57
1,3-Dichlorobenzene	U		23	56	µg/Kg-dry	1	07/24/12 08:57

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-017  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-17  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-Dichlorobenzene		U	21	56	µg/Kg-dry	1	07/24/12 08:57
2-Butanone		U	140	370	µg/Kg-dry	1	07/24/12 08:57
2-Hexanone		U	14	56	µg/Kg-dry	1	07/24/12 08:57
4-Methyl-2-pentanone		U	19	56	µg/Kg-dry	1	07/24/12 08:57
<b>Acetone</b>	<b>170</b>	J	<b>120</b>	<b>190</b>	<b>µg/Kg-dry</b>	1	07/24/12 08:57
Benzene		U	23	56	µg/Kg-dry	1	07/24/12 08:57
Bromodichloromethane		U	13	56	µg/Kg-dry	1	07/24/12 08:57
Bromoform		U	11	56	µg/Kg-dry	1	07/24/12 08:57
Bromomethane		U	22	140	µg/Kg-dry	1	07/24/12 08:57
Carbon disulfide		U	28	56	µg/Kg-dry	1	07/24/12 08:57
Carbon tetrachloride		U	16	56	µg/Kg-dry	1	07/24/12 08:57
Chlorobenzene		U	23	56	µg/Kg-dry	1	07/24/12 08:57
Chloroethane		U	120	190	µg/Kg-dry	1	07/24/12 08:57
Chloroform		U	23	56	µg/Kg-dry	1	07/24/12 08:57
Chloromethane		U	31	190	µg/Kg-dry	1	07/24/12 08:57
cis-1,2-Dichloroethene		U	23	56	µg/Kg-dry	1	07/24/12 08:57
cis-1,3-Dichloropropene		U	19	56	µg/Kg-dry	1	07/24/12 08:57
Cyclohexane		U	25	56	µg/Kg-dry	1	07/24/12 08:57
Dibromochloromethane		U	10	56	µg/Kg-dry	1	07/24/12 08:57
Dichlorodifluoromethane		U	25	56	µg/Kg-dry	1	07/24/12 08:57
<b>Ethylbenzene</b>	<b>190</b>		<b>21</b>	<b>56</b>	<b>µg/Kg-dry</b>	1	07/24/12 08:57
Isopropylbenzene		U	24	56	µg/Kg-dry	1	07/24/12 08:57
Methyl acetate		U	75	370	µg/Kg-dry	1	07/24/12 08:57
Methyl tert-butyl ether		U	24	56	µg/Kg-dry	1	07/24/12 08:57
Methylcyclohexane		U	26	56	µg/Kg-dry	1	07/24/12 08:57
Methylene chloride		U	22	56	µg/Kg-dry	1	07/24/12 08:57
Styrene		U	21	56	µg/Kg-dry	1	07/24/12 08:57
Tetrachloroethene		U	25	56	µg/Kg-dry	1	07/24/12 08:57
<b>Toluene</b>	<b>350</b>		<b>21</b>	<b>56</b>	<b>µg/Kg-dry</b>	1	07/24/12 08:57
trans-1,2-Dichloroethene		U	17	56	µg/Kg-dry	1	07/24/12 08:57
trans-1,3-Dichloropropene		U	19	56	µg/Kg-dry	1	07/24/12 08:57
Trichloroethene		U	26	56	µg/Kg-dry	1	07/24/12 08:57
Trichlorofluoromethane		U	15	56	µg/Kg-dry	1	07/24/12 08:57
Vinyl chloride		U	25	56	µg/Kg-dry	1	07/24/12 08:57
<b>Xylenes, Total</b>	<b>620</b>		<b>66</b>	<b>170</b>	<b>µg/Kg-dry</b>	1	07/24/12 08:57
Surr: 1,2-Dichloroethane-d4	81.8			70-130	%REC	1	07/24/12 08:57
Surr: 4-Bromofluorobenzene	102			70-130	%REC	1	07/24/12 08:57
Surr: Dibromofluoromethane	84.8			70-130	%REC	1	07/24/12 08:57
Surr: Toluene-d8	90.2			70-130	%REC	1	07/24/12 08:57

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** S-R2330004-071212-MF-017  
**Collection Date:** 07/12/12 04:00 PM

**Work Order:** 1207530  
**Lab ID:** 1207530-17  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>CG</b>
BatchID: <u>R107494</u>							
Moisture	12		0.025	0.050	% of sample	1	07/19/12 14:00

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** Trip Blank #1  
**Collection Date:** 07/11/12

**Work Order:** 1207530  
**Lab ID:** 1207530-18  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260</b>		Prep: SW5035 / 7/19/12		Analyst: <b>AK</b>
<u>BatchID: 42425</u>							
1,1,1-Trichloroethane	U		11	30	µg/Kg	1	07/23/12 13:02
1,1,2,2-Tetrachloroethane	U		13	30	µg/Kg	1	07/23/12 13:02
1,1,2-Trichloroethane	U		11	30	µg/Kg	1	07/23/12 13:02
1,1,2-Trichlorotrifluoroethane	U		11	30	µg/Kg	1	07/23/12 13:02
1,1-Dichloroethane	U		11	30	µg/Kg	1	07/23/12 13:02
1,1-Dichloroethene	U		13	30	µg/Kg	1	07/23/12 13:02
1,2,4-Trichlorobenzene	U		16	30	µg/Kg	1	07/23/12 13:02
1,2-Dibromo-3-chloropropane	U		15	30	µg/Kg	1	07/23/12 13:02
1,2-Dibromoethane	U		12	30	µg/Kg	1	07/23/12 13:02
1,2-Dichlorobenzene	U		12	30	µg/Kg	1	07/23/12 13:02
1,2-Dichloroethane	U		14	30	µg/Kg	1	07/23/12 13:02
1,2-Dichloropropane	U		9.9	30	µg/Kg	1	07/23/12 13:02
1,3-Dichlorobenzene	U		12	30	µg/Kg	1	07/23/12 13:02
1,4-Dichlorobenzene	U		11	30	µg/Kg	1	07/23/12 13:02
2-Butanone	U		74	200	µg/Kg	1	07/23/12 13:02
2-Hexanone	U		7.4	30	µg/Kg	1	07/23/12 13:02
4-Methyl-2-pentanone	U		10	30	µg/Kg	1	07/23/12 13:02
Acetone	U		64	100	µg/Kg	1	07/23/12 13:02
Benzene	U		12	30	µg/Kg	1	07/23/12 13:02
Bromodichloromethane	U		6.7	30	µg/Kg	1	07/23/12 13:02
Bromoform	U		5.9	30	µg/Kg	1	07/23/12 13:02
Bromomethane	U		11	75	µg/Kg	1	07/23/12 13:02
Carbon disulfide	U		15	30	µg/Kg	1	07/23/12 13:02
Carbon tetrachloride	U		8.5	30	µg/Kg	1	07/23/12 13:02
Chlorobenzene	U		12	30	µg/Kg	1	07/23/12 13:02
Chloroethane	U		64	100	µg/Kg	1	07/23/12 13:02
Chloroform	U		12	30	µg/Kg	1	07/23/12 13:02
Chloromethane	U		17	100	µg/Kg	1	07/23/12 13:02
cis-1,2-Dichloroethene	U		12	30	µg/Kg	1	07/23/12 13:02
cis-1,3-Dichloropropene	U		10	30	µg/Kg	1	07/23/12 13:02
Cyclohexane	U		13	30	µg/Kg	1	07/23/12 13:02
Dibromochloromethane	U		5.6	30	µg/Kg	1	07/23/12 13:02
Dichlorodifluoromethane	U		14	30	µg/Kg	1	07/23/12 13:02
Ethylbenzene	U		11	30	µg/Kg	1	07/23/12 13:02
Isopropylbenzene	U		13	30	µg/Kg	1	07/23/12 13:02
Methyl acetate	U		40	200	µg/Kg	1	07/23/12 13:02
Methyl tert-butyl ether	U		13	30	µg/Kg	1	07/23/12 13:02

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** Trip Blank #1  
**Collection Date:** 07/11/12

**Work Order:** 1207530  
**Lab ID:** 1207530-18  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		14	30	µg/Kg	1	07/23/12 13:02
Methylene chloride	U		12	30	µg/Kg	1	07/23/12 13:02
Styrene	U		11	30	µg/Kg	1	07/23/12 13:02
Tetrachloroethene	U		13	30	µg/Kg	1	07/23/12 13:02
Toluene	U		11	30	µg/Kg	1	07/23/12 13:02
trans-1,2-Dichloroethene	U		9.2	30	µg/Kg	1	07/23/12 13:02
trans-1,3-Dichloropropene	U		10	30	µg/Kg	1	07/23/12 13:02
Trichloroethene	U		14	30	µg/Kg	1	07/23/12 13:02
Trichlorofluoromethane	U		8.3	30	µg/Kg	1	07/23/12 13:02
Vinyl chloride	U		14	30	µg/Kg	1	07/23/12 13:02
Xylenes, Total	U		35	90	µg/Kg	1	07/23/12 13:02
Surr: 1,2-Dichloroethane-d4	84.2			70-130	%REC	1	07/23/12 13:02
Surr: 4-Bromofluorobenzene	97.0			70-130	%REC	1	07/23/12 13:02
Surr: Dibromofluoromethane	86.4			70-130	%REC	1	07/23/12 13:02
Surr: Toluene-d8	91.9			70-130	%REC	1	07/23/12 13:02

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** Trip Blank #2  
**Collection Date:** 07/11/12

**Work Order:** 1207530  
**Lab ID:** 1207530-19  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260</b>		Prep: SW5035 / 7/19/12		Analyst: <b>AK</b>
<u>BatchID: 42425</u>							
1,1,1-Trichloroethane	U		11	30	µg/Kg	1	07/23/12 13:26
1,1,2,2-Tetrachloroethane	U		13	30	µg/Kg	1	07/23/12 13:26
1,1,2-Trichloroethane	U		11	30	µg/Kg	1	07/23/12 13:26
1,1,2-Trichlorotrifluoroethane	U		11	30	µg/Kg	1	07/23/12 13:26
1,1-Dichloroethane	U		11	30	µg/Kg	1	07/23/12 13:26
1,1-Dichloroethene	U		13	30	µg/Kg	1	07/23/12 13:26
1,2,4-Trichlorobenzene	U		16	30	µg/Kg	1	07/23/12 13:26
1,2-Dibromo-3-chloropropane	U		15	30	µg/Kg	1	07/23/12 13:26
1,2-Dibromoethane	U		12	30	µg/Kg	1	07/23/12 13:26
1,2-Dichlorobenzene	U		12	30	µg/Kg	1	07/23/12 13:26
1,2-Dichloroethane	U		14	30	µg/Kg	1	07/23/12 13:26
1,2-Dichloropropane	U		9.9	30	µg/Kg	1	07/23/12 13:26
1,3-Dichlorobenzene	U		12	30	µg/Kg	1	07/23/12 13:26
1,4-Dichlorobenzene	U		11	30	µg/Kg	1	07/23/12 13:26
2-Butanone	U		74	200	µg/Kg	1	07/23/12 13:26
2-Hexanone	U		7.4	30	µg/Kg	1	07/23/12 13:26
4-Methyl-2-pentanone	U		10	30	µg/Kg	1	07/23/12 13:26
Acetone	U		64	100	µg/Kg	1	07/23/12 13:26
Benzene	U		12	30	µg/Kg	1	07/23/12 13:26
Bromodichloromethane	U		6.7	30	µg/Kg	1	07/23/12 13:26
Bromoform	U		5.9	30	µg/Kg	1	07/23/12 13:26
Bromomethane	U		11	75	µg/Kg	1	07/23/12 13:26
Carbon disulfide	U		15	30	µg/Kg	1	07/23/12 13:26
Carbon tetrachloride	U		8.5	30	µg/Kg	1	07/23/12 13:26
Chlorobenzene	U		12	30	µg/Kg	1	07/23/12 13:26
Chloroethane	U		64	100	µg/Kg	1	07/23/12 13:26
Chloroform	U		12	30	µg/Kg	1	07/23/12 13:26
Chloromethane	U		17	100	µg/Kg	1	07/23/12 13:26
cis-1,2-Dichloroethene	U		12	30	µg/Kg	1	07/23/12 13:26
cis-1,3-Dichloropropene	U		10	30	µg/Kg	1	07/23/12 13:26
Cyclohexane	U		13	30	µg/Kg	1	07/23/12 13:26
Dibromochloromethane	U		5.6	30	µg/Kg	1	07/23/12 13:26
Dichlorodifluoromethane	U		14	30	µg/Kg	1	07/23/12 13:26
Ethylbenzene	U		11	30	µg/Kg	1	07/23/12 13:26
Isopropylbenzene	U		13	30	µg/Kg	1	07/23/12 13:26
Methyl acetate	U		40	200	µg/Kg	1	07/23/12 13:26
Methyl tert-butyl ether	U		13	30	µg/Kg	1	07/23/12 13:26

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 30-Jul-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** Trip Blank #2  
**Collection Date:** 07/11/12

**Work Order:** 1207530  
**Lab ID:** 1207530-19  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		14	30	µg/Kg	1	07/23/12 13:26
Methylene chloride	U		12	30	µg/Kg	1	07/23/12 13:26
Styrene	U		11	30	µg/Kg	1	07/23/12 13:26
Tetrachloroethene	U		13	30	µg/Kg	1	07/23/12 13:26
Toluene	U		11	30	µg/Kg	1	07/23/12 13:26
trans-1,2-Dichloroethene	U		9.2	30	µg/Kg	1	07/23/12 13:26
trans-1,3-Dichloropropene	U		10	30	µg/Kg	1	07/23/12 13:26
Trichloroethene	U		14	30	µg/Kg	1	07/23/12 13:26
Trichlorofluoromethane	U		8.3	30	µg/Kg	1	07/23/12 13:26
Vinyl chloride	U		14	30	µg/Kg	1	07/23/12 13:26
Xylenes, Total	U		35	90	µg/Kg	1	07/23/12 13:26
Surr: 1,2-Dichloroethane-d4	81.8			70-130	%REC	1	07/23/12 13:26
Surr: 4-Bromofluorobenzene	104			70-130	%REC	1	07/23/12 13:26
Surr: Dibromofluoromethane	91.2			70-130	%REC	1	07/23/12 13:26
Surr: Toluene-d8	87.7			70-130	%REC	1	07/23/12 13:26

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

**QC BATCH REPORT**

Batch ID: **42453** Instrument ID **GC7** Method: **SW8151**

MBLK		Sample ID: <b>HBLKS1-42453-42453</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>07/24/12 10:09 AM</b>			
Client ID:		Run ID: <b>GC7_120724A</b>				SeqNo: <b>2034752</b>		Prep Date: <b>07/23/12</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-T	U	5.0									
2,4,5-TP (Silvex)	U	10									
2,4-D	U	5.0									
Surr: DCAA	56.4	0	50	0	113	30-150	0				

LCS		Sample ID: <b>HLCSS1-42453-42453</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>07/24/12 10:18 AM</b>			
Client ID:		Run ID: <b>GC7_120724A</b>				SeqNo: <b>2034753</b>		Prep Date: <b>07/23/12</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-T	43.5	5.0	50	0	87	50-150	0				
2,4,5-TP (Silvex)	49.5	10	50	0	99	50-150	0				
2,4-D	53.6	5.0	50	0	107	50-150	0				
Surr: DCAA	57.5	0	50	0	115	30-150	0				

MS		Sample ID: <b>1207530-01B MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>07/24/12 11:14 AM</b>			
Client ID: <b>S-R2330004-071112-MF-001</b>		Run ID: <b>GC7_120724A</b>				SeqNo: <b>2034724</b>		Prep Date: <b>07/23/12</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-T	49.99	4.8	48.25	0	104	50-150	0				
2,4,5-TP (Silvex)	51.73	9.7	48.25	0	107	50-150	0				
2,4-D	55.59	4.8	48.25	0	115	50-150	0				
Surr: DCAA	66.88	0	48.25	0	139	30-150	0				

MSD		Sample ID: <b>1207530-01B MSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>07/24/12 11:24 AM</b>			
Client ID: <b>S-R2330004-071112-MF-001</b>		Run ID: <b>GC7_120724A</b>				SeqNo: <b>2034725</b>		Prep Date: <b>07/23/12</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-T	50.43	4.9	49.06	0	103	50-150	49.99	0.874	30		
2,4,5-TP (Silvex)	51.12	9.8	49.06	0	104	50-150	51.73	1.19	30		
2,4-D	55.33	4.9	49.06	0	113	50-150	55.59	0.456	30		
Surr: DCAA	67.01	0	49.06	0	137	30-150	66.88	0.196	30		

The following samples were analyzed in this batch:

1207530-01B	1207530-02B	1207530-03B
1207530-04B	1207530-05B	1207530-06B

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42468 Instrument ID GC4 Method: SW8082

MBLK		Sample ID: PBLKS1-42468-42468				Units: µg/Kg		Analysis Date: 07/23/12 05:54 PM		
Client ID:		Run ID: GC4_120723A			SeqNo: 2033839		Prep Date: 07/23/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	U	40								
Aroclor 1221	U	40								
Aroclor 1232	U	40								
Aroclor 1242	U	40								
Aroclor 1248	U	40								
Aroclor 1254	U	40								
Aroclor 1260	U	40								
Surr: Tetrachloro-m-xylene	30.67	0	33.3	0	92.1	45-124	0			
Surr: Decachlorobiphenyl	36	0	33.3	0	108	40-140	0			

LCS		Sample ID: PLCSS1-42468-42468				Units: µg/Kg		Analysis Date: 07/23/12 06:14 PM		
Client ID:		Run ID: GC4_120723A			SeqNo: 2033840		Prep Date: 07/23/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	909.7	40	833	0	109	50-130	0			
Aroclor 1260	982	40	833	0	118	50-130	0			
Surr: Tetrachloro-m-xylene	34	0	33.3	0	102	45-124	0			
Surr: Decachlorobiphenyl	35	0	33.3	0	105	40-140	0			

MS		Sample ID: 1207530-02B MS				Units: µg/Kg		Analysis Date: 07/24/12 12:24 PM		
Client ID: S-R2330004-071112-MF-002		Run ID: GC4_120724A			SeqNo: 2039074		Prep Date: 07/23/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	855.2	38	787.8	0	109	40-140	0			
Aroclor 1260	963.7	38	787.8	0	122	40-140	0			
Surr: Tetrachloro-m-xylene	30.26	0	31.49	0	96.1	45-124	0			
Surr: Decachlorobiphenyl	34.36	0	31.49	0	109	40-140	0			

MSD		Sample ID: 1207530-02B MSD				Units: µg/Kg		Analysis Date: 07/24/12 12:44 PM		
Client ID: S-R2330004-071112-MF-002		Run ID: GC4_120724A			SeqNo: 2039075		Prep Date: 07/23/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	921	39	808.7	0	114	40-140	855.2	7.4	50	
Aroclor 1260	934.9	39	808.7	0	116	40-140	963.7	3.03	50	
Surr: Tetrachloro-m-xylene	31.39	0	32.33	0	97.1	45-124	30.26	3.65	50	
Surr: Decachlorobiphenyl	32.36	0	32.33	0	100	40-140	34.36	6	50	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: **42468**      Instrument ID **GC4**      Method: **SW8082**

---

**The following samples were analyzed in this batch:**

1207530-01B	1207530-02B	1207530-03B
1207530-04B	1207530-05B	1207530-06B
1207530-07B	1207530-08B	1207530-09B
1207530-10B	1207530-11B	1207530-12B
1207530-13B	1207530-14B	1207530-15B
1207530-16B	1207530-17B	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42469 Instrument ID GC7 Method: SW8081

MBLK	Sample ID: PBLKS1-42469-42469	Units: µg/Kg					Analysis Date: 07/23/12 06:52 PM				
Client ID:	Run ID: GC7_120723A	SeqNo: 2034456			Prep Date: 07/23/12		DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
4,4'-DDD	U	10									
4,4'-DDE	U	10									
4,4'-DDT	U	10									
Aldrin	U	10									
alpha-BHC	U	10									
alpha-Chlordane	U	10									
beta-BHC	U	10									
Chlordane, Technical	U	25									
delta-BHC	U	10									
Dieldrin	U	10									
Endosulfan I	U	10									
Endosulfan II	U	10									
Endosulfan sulfate	U	10									
Endrin	U	10									
Endrin aldehyde	U	10									
Endrin ketone	U	10									
gamma-BHC (Lindane)	U	10									
gamma-Chlordane	U	10									
Heptachlor	U	10									
Heptachlor epoxide	U	10									
Methoxychlor	U	10									
Toxaphene	U	60									
Surr: Decachlorobiphenyl	25.67	0	33.3	0	77.1	45-135	0				
Surr: Tetrachloro-m-xylene	29.67	0	33.3	0	89.1	45-124	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42469 Instrument ID GC7 Method: SW8081

LCS		Sample ID: PLCSS1-42469-42469				Units: µg/Kg		Analysis Date: 07/23/12 07:07 PM		
Client ID:		Run ID: GC7_120723A			SeqNo: 2034457		Prep Date: 07/23/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	31.67	10	33.33	0	95	30-135	0			
4,4'-DDE	40.67	10	33.33	0	122	70-125	0			
4,4'-DDT	30.67	10	33.33	0	92	45-140	0			
Aldrin	23.33	10	33.33	0	70	45-140	0			
alpha-BHC	33	10	33.33	0	99	60-125	0			
alpha-Chlordane	27.67	10	33.33	0	83	50-150	0			
beta-BHC	26.33	10	33.33	0	79	60-125	0			
delta-BHC	36.33	10	33.33	0	109	55-130	0			
Dieldrin	29.67	10	33.33	0	89	65-125	0			
Endosulfan I	22	10	33.33	0	66	15-135	0			
Endosulfan II	28.67	10	33.33	0	86	35-140	0			
Endosulfan sulfate	26.67	10	33.33	0	80	60-135	0			
Endrin	31	10	33.33	0	93	60-135	0			
Endrin aldehyde	23.33	10	33.33	0	70	35-145	0			
Endrin ketone	23.33	10	33.33	0	70	50-150	0			
gamma-BHC (Lindane)	29.33	10	33.33	0	88	60-125	0			
gamma-Chlordane	21.67	10	33.33	0	65	50-150	0			
Heptachlor	27.33	10	33.33	0	82	50-140	0			
Heptachlor epoxide	30	10	33.33	0	90	65-130	0			
Methoxychlor	37.67	10	33.33	0	113	55-145	0			
Surr: Decachlorobiphenyl	25.33	0	33.3	0	76.1	45-135	0			
Surr: Tetrachloro-m-xylene	30.67	0	33.3	0	92.1	45-124	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42469 Instrument ID GC7 Method: SW8081

MS		Sample ID: 1207530-02B MS				Units: µg/Kg		Analysis Date: 07/25/12 02:06 PM		
Client ID: S-R2330004-071112-MF-002		Run ID: GC7_120725A				SeqNo: 2039380		Prep Date: 07/23/12		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	29.92	20	32.52	0	92	30-135	0			
4,4'-DDE	31.22	20	32.52	0	96	70-125	0			
4,4'-DDT	42.28	20	32.52	0	130	45-140	0			
Aldrin	17.56	20	32.52	0	54	45-140	0			J
alpha-BHC	27.32	20	32.52	0	84	60-125	0			
alpha-Chlordane	18.86	20	32.52	0	58	50-150	0			J
beta-BHC	28.62	20	32.52	0	88	60-125	0			
delta-BHC	31.22	20	32.52	0	96	55-130	0			
Dieldrin	25.37	20	32.52	0	78	65-125	0			
Endosulfan I	14.96	20	32.52	0	46	15-135	0			J
Endosulfan II	26.67	20	32.52	0	82	35-140	0			
Endosulfan sulfate	32.52	20	32.52	0	100	60-135	0			
Endrin	34.47	20	32.52	0	106	60-135	0			
Endrin aldehyde	18.86	20	32.52	0	58	35-145	0			J
Endrin ketone	27.97	20	32.52	0	86	50-150	0			
gamma-BHC (Lindane)	37.07	20	32.52	0	114	60-125	0			
gamma-Chlordane	14.31	20	32.52	0	44	50-150	0			JS
Heptachlor	30.57	20	32.52	0	94	50-140	0			
Heptachlor epoxide	23.41	20	32.52	0	72	65-130	0			
Methoxychlor	40.98	20	32.52	0	126	55-145	0			
Surr: Decachlorobiphenyl	31.87	0	32.49	0	98.1	45-135	0			
Surr: Tetrachloro-m-xylene	30.57	0	32.49	0	94.1	45-124	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42469 Instrument ID GC7 Method: SW8081

MSD		Sample ID: 1207530-02B MSD				Units: µg/Kg		Analysis Date: 07/25/12 02:21 PM		
Client ID: S-R2330004-071112-MF-002		Run ID: GC7_120725A				SeqNo: 2039381		Prep Date: 07/23/12		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	29.09	19	31.62	0	92	30-135	29.92	2.8	35	
4,4'-DDE	29.09	19	31.62	0	92	70-125	31.22	7.05	35	
4,4'-DDT	41.74	19	31.62	0	132	45-140	42.28	1.27	35	
Aldrin	16.44	19	31.62	0	52	45-140	17.56	0	35	J
alpha-BHC	27.83	19	31.62	0	88	60-125	27.32	1.86	35	
alpha-Chlordane	19.61	19	31.62	0	62	50-150	18.86	3.87	35	
beta-BHC	30.99	19	31.62	0	98	60-125	28.62	7.96	35	
delta-BHC	32.89	19	31.62	0	104	55-130	31.22	5.21	35	
Dieldrin	27.2	19	31.62	0	86	65-125	25.37	6.96	35	
Endosulfan I	13.91	19	31.62	0	44	15-135	14.96	0	35	J
Endosulfan II	25.93	19	31.62	0	82	35-140	26.67	2.8	35	
Endosulfan sulfate	32.89	19	31.62	0	104	60-135	32.52	1.13	35	
Endrin	34.15	19	31.62	0	108	60-135	34.47	0.927	35	
Endrin aldehyde	19.61	19	31.62	0	62	35-145	18.86	3.87	35	
Endrin ketone	28.46	19	31.62	0	90	50-150	27.97	1.75	35	
gamma-BHC (Lindane)	36.68	19	31.62	0	116	60-125	37.07	1.06	35	
gamma-Chlordane	17.71	19	31.62	0	56	50-150	14.31	0	35	J
Heptachlor	31.62	19	31.62	0	100	50-140	30.57	3.39	35	
Heptachlor epoxide	24.67	19	31.62	0	78	65-130	23.41	5.21	35	
Methoxychlor	41.11	19	31.62	0	130	55-145	40.98	0.329	35	
Surr: Decachlorobiphenyl	32.89	0	31.59	0	104	45-135	31.87	3.15	35	
Surr: Tetrachloro-m-xylene	31.62	0	31.59	0	100	45-124	30.57	3.39	35	

The following samples were analyzed in this batch:

1207530-01B	1207530-02B	1207530-03B
1207530-04B	1207530-05B	1207530-06B
1207530-07B	1207530-08B	1207530-09B
1207530-10B	1207530-11B	1207530-12B
1207530-13B	1207530-14B	1207530-15B
1207530-16B	1207530-17B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42548 Instrument ID GC7 Method: SW8151

MBLK		Sample ID: HBLKS1-42548-42548				Units: µg/Kg		Analysis Date: 07/25/12 08:19 PM		
Client ID:		Run ID: GC7_120725B		SeqNo: 2037608		Prep Date: 07/25/12		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	U	5.0								
2,4,5-TP (Silvex)	U	10								
2,4-D	U	5.0								
Surr: DCAA	52.8	0	50	0	106	30-150	0			

LCS		Sample ID: HLCSS1-42548-42548				Units: µg/Kg		Analysis Date: 07/25/12 08:28 PM		
Client ID:		Run ID: GC7_120725B		SeqNo: 2037609		Prep Date: 07/25/12		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	47.7	5.0	50	0	95.4	50-150	0			
2,4,5-TP (Silvex)	45.3	10	50	0	90.6	50-150	0			
2,4-D	58.9	5.0	50	0	118	50-150	0			
Surr: DCAA	50.6	0	50	0	101	30-150	0			

MS		Sample ID: 1207530-07B MS				Units: µg/Kg		Analysis Date: 07/25/12 08:47 PM		
Client ID: S-R2330004-071212-MF-007		Run ID: GC7_120725B		SeqNo: 2037594		Prep Date: 07/25/12		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	42.43	4.8	47.67	0	89	50-150	0			
2,4,5-TP (Silvex)	40.23	9.5	47.67	0	84.4	50-150	0			
2,4-D	55.3	4.8	47.67	0	116	50-150	0			
Surr: DCAA	46.52	0	47.67	0	97.6	30-150	0			

MSD		Sample ID: 1207530-07B MSD				Units: µg/Kg		Analysis Date: 07/25/12 08:57 PM		
Client ID: S-R2330004-071212-MF-007		Run ID: GC7_120725B		SeqNo: 2037595		Prep Date: 07/25/12		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-T	46.08	4.8	48.31	0	95.4	50-150	42.43	8.27	30	
2,4,5-TP (Silvex)	43.57	9.7	48.31	0	90.2	50-150	40.23	7.97	30	
2,4-D	59.03	4.8	48.31	0	122	50-150	55.3	6.53	30	
Surr: DCAA	49.76	0	48.31	0	103	30-150	46.52	6.71	30	

The following samples were analyzed in this batch:

1207530-07B	1207530-08B	1207530-09B
1207530-10B	1207530-11B	1207530-12B
1207530-13B	1207530-14B	1207530-15B
1207530-16B	1207530-17B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42450 Instrument ID HG1 Method: SW7471

MBLK		Sample ID: MBLK-42450-42450				Units: mg/Kg			Analysis Date: 07/23/12 04:01 PM		
Client ID:		Run ID: HG1_120723B				SeqNo: 2034115			Prep Date: 07/20/12		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.005333	0.020								J	

LCS		Sample ID: LCS-42450-42450				Units: mg/Kg			Analysis Date: 07/23/12 04:03 PM		
Client ID:		Run ID: HG1_120723B				SeqNo: 2034117			Prep Date: 07/20/12		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.1733	0.020	0.1665		0	104	80-120	0			

MS		Sample ID: 1207530-10BMS				Units: mg/Kg			Analysis Date: 07/23/12 04:55 PM		
Client ID: S-R2330004-071212-MF-010		Run ID: HG1_120723B				SeqNo: 2034146			Prep Date: 07/20/12		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.6444	0.17	0.1435	0.6089	24.8	75-125		0		SO	

MSD		Sample ID: 1207530-10BMSD				Units: mg/Kg			Analysis Date: 07/23/12 04:57 PM		
Client ID: S-R2330004-071212-MF-010		Run ID: HG1_120723B				SeqNo: 2034147			Prep Date: 07/20/12		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.5983	0.17	0.1423	0.6089	-7.42	75-125	0.6444	7.42	35	SO	

The following samples were analyzed in this batch:

1207530-01B	1207530-02B	1207530-03B
1207530-04B	1207530-05B	1207530-06B
1207530-07B	1207530-08B	1207530-09B
1207530-10B	1207530-11B	1207530-12B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42528 Instrument ID HG1 Method: SW7471

MBLK		Sample ID: MBLK-42528-42528				Units: mg/Kg		Analysis Date: 07/24/12 05:33 PM		
Client ID:		Run ID: HG1_120724A				SeqNo: 2035154		Prep Date: 07/24/12		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.001667	0.020								J

LCS		Sample ID: LCS-42528-42528				Units: mg/Kg		Analysis Date: 07/24/12 05:35 PM		
Client ID:		Run ID: HG1_120724A				SeqNo: 2035155		Prep Date: 07/24/12		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1635	0.020	0.1665	0	98.2	80-120	0			

MS		Sample ID: 1207530-15BMS				Units: mg/Kg		Analysis Date: 07/24/12 05:45 PM		
Client ID: S-R2330004-071612-MF-015		Run ID: HG1_120724A				SeqNo: 2035159		Prep Date: 07/24/12		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.2734	0.019	0.1561	0.09742	113	75-125	0			

MSD		Sample ID: 1207530-15BMSD				Units: mg/Kg		Analysis Date: 07/24/12 05:47 PM		
Client ID: S-R2330004-071612-MF-015		Run ID: HG1_120724A				SeqNo: 2035160		Prep Date: 07/24/12		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.2448	0.019	0.1591	0.09742	92.7	75-125	0.2734	11	35	

The following samples were analyzed in this batch:

1207530-13B	1207530-14B	1207530-15B
1207530-16B	1207530-17B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **42527**      Instrument ID **ICPMS1**      Method: **SW6020A**

MBLK		Sample ID: <b>MBLK-42527-42527</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>07/25/12 04:41 AM</b>		
Client ID:		Run ID: <b>ICPMS1_120724A</b>			SeqNo: <b>2035563</b>		Prep Date: <b>07/24/12</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	U	0.50								
Antimony	0.07555	0.25								J
Arsenic	U	0.25								
Barium	0.01694	0.25								J
Beryllium	0.01334	0.10								J
Cadmium	0.01106	0.10								J
Chromium	0.04552	0.25								J
Cobalt	0.01315	0.25								J
Copper	0.009185	0.25								J
Lead	0.02528	0.25								J
Manganese	U	0.25								
Nickel	0.0106	0.25								J
Selenium	U	0.25								
Thallium	0.01984	0.25								J
Vanadium	U	0.25								
Zinc	U	0.50								

MBLK		Sample ID: <b>MBLK-42527-42527</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>07/25/12 02:57 PM</b>		
Client ID:		Run ID: <b>ICPMS1_120725A</b>			SeqNo: <b>2036558</b>		Prep Date: <b>07/24/12</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	0.003282	0.25								J

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42527 Instrument ID ICPMS1 Method: SW6020A

LCS		Sample ID: LCS-42527-42527				Units: mg/Kg		Analysis Date: 07/25/12 04:54 AM		
Client ID:		Run ID: ICPMS1_120724A				SeqNo: 2035565		Prep Date: 07/24/12		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	4.016	0.50	5	0	80.3	80-120	0			
Antimony	4.621	0.25	5	0	92.4	80-120	0			
Arsenic	4.438	0.25	5	0	88.8	80-120	0			
Barium	4.614	0.25	5	0	92.3	80-120	0			
Beryllium	4.768	0.10	5	0	95.4	80-120	0			
Cadmium	4.914	0.10	5	0	98.3	80-120	0			
Chromium	4.804	0.25	5	0	96.1	80-120	0			
Cobalt	4.758	0.25	5	0	95.2	80-120	0			
Copper	4.748	0.25	5	0	95	80-120	0			
Iron	487.1	4.0	500	0	97.4	80-120	0			
Lead	4.916	0.25	5	0	98.3	80-120	0			
Manganese	4.763	0.25	5	0	95.3	80-120	0			
Nickel	4.771	0.25	5	0	95.4	80-120	0			
Selenium	4.35	0.25	5	0	87	80-120	0			
Thallium	4.587	0.25	5	0	91.7	80-120	0			
Vanadium	4.812	0.25	5	0	96.2	80-120	0			
Zinc	4.754	0.50	5	0	95.1	80-120	0			

LCS		Sample ID: LCS-42527-42527				Units: mg/Kg		Analysis Date: 07/25/12 03:28 PM		
Client ID:		Run ID: ICPMS1_120725A				SeqNo: 2036563		Prep Date: 07/24/12		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	4.604	0.25	5	0	92.1	80-120	0			B

MS		Sample ID: 1207530-01BMS				Units: mg/Kg		Analysis Date: 07/25/12 05:56 AM		
Client ID: S-R2330004-071112-MF-001		Run ID: ICPMS1_120724A				SeqNo: 2035573		Prep Date: 07/24/12		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	7.217	0.37	7.429	2.752	60.1	75-125	0			S
Arsenic	10.53	0.37	7.429	5.296	70.5	75-125	0			S
Barium	122.4	0.37	7.429	87.06	476	75-125	0			SO
Cadmium	7.92	0.15	7.429	1.495	86.5	75-125	0			
Chromium	24.05	0.37	7.429	15.66	113	75-125	0			
Cobalt	11.42	0.37	7.429	5.153	84.3	75-125	0			
Copper	114.1	0.37	7.429	113.1	13.9	75-125	0			SO
Nickel	22.67	0.37	7.429	17.12	74.7	75-125	0			S
Selenium	6.487	0.37	7.429	0.7788	76.8	75-125	0			
Thallium	6.848	0.37	7.429	0.1997	89.5	75-125	0			
Vanadium	29.27	0.37	7.429	16.08	178	75-125	0			S

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42527 Instrument ID ICPMS1 Method: SW6020A

MS				Sample ID: 1207530-01BMS				Units: mg/Kg		Analysis Date: 07/25/12 03:47 PM	
Client ID: S-R2330004-071112-MF-001				Run ID: ICPMS1_120725A				SeqNo: 2036572		Prep Date: 07/24/12 DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Beryllium	7.402	1.5	7.429	0.3322	95.2	75-125	0				
Iron	20240	59	742.9	18710	205	75-125	0			SO	
Lead	133.2	3.7	7.429	93.39	536	75-125	0			SO	
Manganese	502.7	3.7	7.429	447.2	747	75-125	0			SO	
Silver	7.114	3.7	7.429	0.7532	85.6	75-125	0			B	
Zinc	393.5	7.4	7.429	476.4	-1120	75-125	0			SO	

MSD				Sample ID: 1207530-01BMSD				Units: mg/Kg		Analysis Date: 07/25/12 06:02 AM	
Client ID: S-R2330004-071112-MF-001				Run ID: ICPMS1_120724A				SeqNo: 2035574		Prep Date: 07/24/12 DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Antimony	7.81	0.38	7.553	2.752	67	75-125	7.217	7.89	25	S	
Arsenic	11.68	0.38	7.553	5.296	84.5	75-125	10.53	10.3	25		
Barium	95.17	0.38	7.553	87.06	107	75-125	122.4	25.1	25	RO	
Cadmium	8.036	0.15	7.553	1.495	86.6	75-125	7.92	1.46	25		
Chromium	26.15	0.38	7.553	15.66	139	75-125	24.05	8.36	25	S	
Cobalt	12.73	0.38	7.553	5.153	100	75-125	11.42	10.8	25		
Copper	101.4	0.38	7.553	113.1	-154	75-125	114.1	11.8	25	SO	
Nickel	26.2	0.38	7.553	17.12	120	75-125	22.67	14.5	25		
Selenium	6.585	0.38	7.553	0.7788	76.9	75-125	6.487	1.5	25		
Thallium	6.937	0.38	7.553	0.1997	89.2	75-125	6.848	1.29	25		
Vanadium	31.55	0.38	7.553	16.08	205	75-125	29.27	7.49	25	S	

MSD				Sample ID: 1207530-01BMSD				Units: mg/Kg		Analysis Date: 07/25/12 03:53 PM	
Client ID: S-R2330004-071112-MF-001				Run ID: ICPMS1_120725A				SeqNo: 2036573		Prep Date: 07/24/12 DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Beryllium	7.507	1.5	7.553	0.3322	95	75-125	7.402	1.41	25		
Iron	20140	60	755.3	18710	188	75-125	20240	0.504	25	SO	
Lead	92.3	3.8	7.553	93.39	-14.4	75-125	133.2	36.3	25	SRO	
Manganese	490.7	3.8	7.553	447.2	577	75-125	502.7	2.41	25	SO	
Silver	7.135	3.8	7.553	0.7532	84.5	75-125	7.114	0.302	25	B	
Zinc	348.9	7.6	7.553	476.4	-1690	75-125	393.5	12	25	SO	

The following samples were analyzed in this batch:

1207530-01B	1207530-02B	1207530-03B
1207530-04B	1207530-05B	1207530-06B
1207530-07B	1207530-08B	1207530-09B
1207530-10B	1207530-11B	1207530-12B
1207530-13B	1207530-14B	1207530-15B
1207530-16B	1207530-17B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42513 Instrument ID SVMS5 Method: SW8270

MBLK	Sample ID: SBLKS1-42513-42513	Units: µg/Kg		Analysis Date: 07/24/12 10:58 PM						
Client ID:	Run ID: SVMS5_120724A	SeqNo: 2036482	Prep Date: 07/24/12	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	U	330								
2,4,5-Trichlorophenol	U	160								
2,4,6-Trichlorophenol	U	160								
2,4-Dichlorophenol	U	160								
2,4-Dimethylphenol	U	330								
2,4-Dinitrophenol	U	660								
2,4-Dinitrotoluene	U	160								
2,6-Dinitrotoluene	U	160								
2-Chloronaphthalene	U	80								
2-Chlorophenol	U	160								
2-Methylnaphthalene	U	80								
2-Methylphenol	U	160								
2-Nitroaniline	U	660								
2-Nitrophenol	U	160								
3,3'-Dichlorobenzidine	U	660								
3-Nitroaniline	U	660								
4,6-Dinitro-2-methylphenol	U	330								
4-Bromophenyl phenyl ether	U	160								
4-Chloro-3-methylphenol	U	160								
4-Chloroaniline	U	660								
4-Chlorophenyl phenyl ether	U	160								
4-Methylphenol	U	160								
4-Nitroaniline	U	660								
4-Nitrophenol	U	660								
Acenaphthene	U	30								
Acenaphthylene	U	30								
Acetophenone	U	330								
Anthracene	U	30								
Atrazine	U	330								
Benzaldehyde	U	330								
Benzo(a)anthracene	U	30								
Benzo(a)pyrene	U	30								
Benzo(b)fluoranthene	U	30								
Benzo(g,h,i)perylene	U	30								
Benzo(k)fluoranthene	U	30								
Bis(2-chloroethoxy)methane	U	160								
Bis(2-chloroethyl)ether	U	160								
Bis(2-chloroisopropyl)ether	U	160								
Bis(2-ethylhexyl)phthalate	38.67	330								J
Butyl benzyl phthalate	52	160								J
Caprolactam	U	330								
Carbazole	U	160								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

Batch ID: <b>42513</b>	Instrument ID <b>SVMS5</b>	Method: <b>SW8270</b>						
Chrysene	U	30						
Dibenzo(a,h)anthracene	U	30						
Dibenzofuran	U	160						
Diethyl phthalate	U	330						
Dimethyl phthalate	U	330						
Di-n-butyl phthalate	U	330						
Di-n-octyl phthalate	U	160						
Fluoranthene	U	30						
Fluorene	U	30						
Hexachlorobenzene	U	160						
Hexachlorobutadiene	U	160						
Hexachlorocyclopentadiene	U	330						
Hexachloroethane	U	160						
Indeno(1,2,3-cd)pyrene	U	30						
Isophorone	U	160						
Naphthalene	U	30						
Nitrobenzene	U	160						
N-Nitrosodi-n-propylamine	U	160						
N-Nitrosodiphenylamine	U	160						
Pentachlorophenol	U	330						
Phenanthrene	U	30						
Phenol	U	160						
Pyrene	U	30						
<i>Surr: 2,4,6-Tribromophenol</i>	1341	0	1667	0	80.5	34-140	0	
<i>Surr: 2-Fluorobiphenyl</i>	1210	0	1667	0	72.6	12-100	0	
<i>Surr: 2-Fluorophenol</i>	1338	0	1667	0	80.3	33-117	0	
<i>Surr: 4-Terphenyl-d14</i>	1698	0	1667	0	102	25-137	0	
<i>Surr: Nitrobenzene-d5</i>	1191	0	1667	0	71.5	37-107	0	
<i>Surr: Phenol-d6</i>	1239	0	1667	0	74.3	40-106	0	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42513 Instrument ID SVMS5 Method: SW8270

LCS		Sample ID: SLCSS1-42513-42513				Units: µg/Kg		Analysis Date: 07/24/12 10:26 PM		
Client ID:		Run ID: SVMS5_120724A			SeqNo: 2036481		Prep Date: 07/24/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	615	160	666.7	0	92.2	50-110	0			
2,4,6-Trichlorophenol	577.3	160	666.7	0	86.6	45-110	0			
2,4-Dichlorophenol	575.3	160	666.7	0	86.3	45-110	0			
2,4-Dimethylphenol	419.7	330	666.7	0	62.9	30-105	0			
2,4-Dinitrophenol	540.3	660	666.7	0	81	15-130	0			J
2,4-Dinitrotoluene	586.7	160	666.7	0	88	50-115	0			
2,6-Dinitrotoluene	611.7	160	666.7	0	91.7	50-110	0			
2-Chloronaphthalene	585.7	80	666.7	0	87.8	45-105	0			
2-Chlorophenol	602.3	160	666.7	0	90.3	45-105	0			
2-Methylnaphthalene	588.7	80	666.7	0	88.3	45-105	0			
2-Methylphenol	594.7	160	666.7	0	89.2	40-105	0			
2-Nitroaniline	629.3	660	666.7	0	94.4	45-120	0			J
2-Nitrophenol	583.3	160	666.7	0	87.5	40-110	0			
3-Nitroaniline	621.3	660	666.7	0	93.2	25-150	0			J
4-Bromophenyl phenyl ether	580	160	666.7	0	87	45-115	0			
4-Chloro-3-methylphenol	575	160	666.7	0	86.2	45-115	0			
4-Chloroaniline	569.3	660	666.7	0	85.4	15-110	0			J
4-Chlorophenyl phenyl ether	582	160	666.7	0	87.3	45-110	0			
4-Methylphenol	614.7	160	666.7	0	92.2	40-105	0			
4-Nitroaniline	540	660	666.7	0	81	35-150	0			J
4-Nitrophenol	418	660	666.7	0	62.7	15-140	0			J
Acenaphthene	594.7	30	666.7	0	89.2	45-110	0			
Acenaphthylene	603	30	666.7	0	90.4	45-105	0			
Anthracene	629.3	30	666.7	0	94.4	55-105	0			
Benzo(a)anthracene	620.3	30	666.7	0	93	50-110	0			
Benzo(a)pyrene	610.7	30	666.7	0	91.6	50-110	0			
Benzo(b)fluoranthene	589.7	30	666.7	0	88.4	45-115	0			
Benzo(g,h,i)perylene	599	30	666.7	0	89.8	40-125	0			
Benzo(k)fluoranthene	667.7	30	666.7	0	100	45-115	0			
Bis(2-chloroethoxy)methane	592.3	160	666.7	0	88.8	45-110	0			
Bis(2-chloroethyl)ether	580.3	160	666.7	0	87	40-105	0			
Bis(2-chloroisopropyl)ether	594	160	666.7	0	89.1	20-115	0			
Bis(2-ethylhexyl)phthalate	599	330	666.7	0	89.8	45-125	0			
Butyl benzyl phthalate	636.7	160	666.7	0	95.5	50-125	0			
Carbazole	818.3	160	666.7	0	123	50-150	0			
Chrysene	643.3	30	666.7	0	96.5	55-110	0			
Dibenzo(a,h)anthracene	648.7	30	666.7	0	97.3	40-125	0			
Dibenzofuran	612.3	160	666.7	0	91.8	50-105	0			
Diethyl phthalate	607	330	666.7	0	91	50-115	0			
Dimethyl phthalate	608.3	330	666.7	0	91.2	50-110	0			
Di-n-butyl phthalate	653.3	330	666.7	0	98	55-110	0			
Di-n-octyl phthalate	623	160	666.7	0	93.4	40-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1207530

**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: <b>42513</b>	Instrument ID <b>SVMS5</b>	Method: <b>SW8270</b>					
Fluoranthene	683.3	30	666.7	0	102	55-115	0
Fluorene	620.7	30	666.7	0	93.1	50-110	0
Hexachlorobenzene	578.3	160	666.7	0	86.7	45-120	0
Hexachlorobutadiene	540	160	666.7	0	81	40-115	0
Hexachlorocyclopentadiene	395.3	330	666.7	0	59.3	40-115	0
Hexachloroethane	546.3	160	666.7	0	81.9	35-110	0
Indeno(1,2,3-cd)pyrene	640.3	30	666.7	0	96	40-120	0
Isophorone	615.3	160	666.7	0	92.3	45-110	0
Naphthalene	588.3	30	666.7	0	88.2	40-105	0
Nitrobenzene	601.3	160	666.7	0	90.2	40-115	0
N-Nitrosodi-n-propylamine	644.7	160	666.7	0	96.7	40-115	0
N-Nitrosodiphenylamine	744.3	160	666.7	0	112	50-115	0
Pentachlorophenol	587	330	666.7	0	88	25-120	0
Phenanthrene	627.3	30	666.7	0	94.1	50-110	0
Phenol	631.7	160	666.7	0	94.7	40-100	0
Pyrene	673.7	30	666.7	0	101	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1366</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>81.9</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1346</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>80.7</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1391</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>83.5</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>1696</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>102</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1291</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>77.4</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1351</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>81</i>	<i>40-106</i>	<i>0</i>

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42513 Instrument ID SVMS5 Method: SW8270

LCS		Sample ID: SLCSS1-42513-42513				Units: µg/Kg		Analysis Date: 07/25/12 07:35 PM		
Client ID:		Run ID: SVMS7_120725A			SeqNo: 2038909		Prep Date: 07/24/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	614.7	160	666.7	0	92.2	50-110	0			
2,4,6-Trichlorophenol	598.3	160	666.7	0	89.7	45-110	0			
2,4-Dichlorophenol	598.3	160	666.7	0	89.7	45-110	0			
2,4-Dimethylphenol	289.3	330	666.7	0	43.4	30-105	0			J
2,4-Dinitrophenol	526.7	660	666.7	0	79	15-130	0			J
2,4-Dinitrotoluene	661.3	160	666.7	0	99.2	50-115	0			
2,6-Dinitrotoluene	635.7	160	666.7	0	95.3	50-110	0			
2-Chloronaphthalene	595.3	80	666.7	0	89.3	45-105	0			
2-Chlorophenol	584	160	666.7	0	87.6	45-105	0			
2-Methylnaphthalene	592	80	666.7	0	88.8	45-105	0			
2-Methylphenol	545.7	160	666.7	0	81.8	40-105	0			
2-Nitroaniline	616.3	660	666.7	0	92.4	45-120	0			J
2-Nitrophenol	600.3	160	666.7	0	90	40-110	0			
3-Nitroaniline	755.7	660	666.7	0	113	25-150	0			
4-Bromophenyl phenyl ether	617.7	160	666.7	0	92.6	45-115	0			
4-Chloro-3-methylphenol	600	160	666.7	0	90	45-115	0			
4-Chloroaniline	337.3	660	666.7	0	50.6	15-110	0			J
4-Chlorophenyl phenyl ether	599	160	666.7	0	89.8	45-110	0			
4-Methylphenol	570.3	160	666.7	0	85.5	40-105	0			
4-Nitroaniline	604.3	660	666.7	0	90.6	35-150	0			J
4-Nitrophenol	608.3	660	666.7	0	91.2	15-140	0			J
Acenaphthene	597.3	30	666.7	0	89.6	45-110	0			
Acenaphthylene	599.7	30	666.7	0	89.9	45-105	0			
Anthracene	613.7	30	666.7	0	92	55-105	0			
Benzo(a)anthracene	604.7	30	666.7	0	90.7	50-110	0			
Benzo(a)pyrene	632.7	30	666.7	0	94.9	50-110	0			
Benzo(b)fluoranthene	610.7	30	666.7	0	91.6	45-115	0			
Benzo(g,h,i)perylene	649.7	30	666.7	0	97.4	40-125	0			
Benzo(k)fluoranthene	678	30	666.7	0	102	45-115	0			
Bis(2-chloroethoxy)methane	585.3	160	666.7	0	87.8	45-110	0			
Bis(2-chloroethyl)ether	574.3	160	666.7	0	86.1	40-105	0			
Bis(2-chloroisopropyl)ether	579.7	160	666.7	0	86.9	20-115	0			
Bis(2-ethylhexyl)phthalate	622	330	666.7	0	93.3	45-125	0			
Butyl benzyl phthalate	637.3	160	666.7	0	95.6	50-125	0			
Carbazole	699	160	666.7	0	105	50-150	0			
Chrysene	638.7	30	666.7	0	95.8	55-110	0			
Dibenzo(a,h)anthracene	659.7	30	666.7	0	98.9	40-125	0			
Dibenzofuran	598.7	160	666.7	0	89.8	50-105	0			
Diethyl phthalate	613.3	330	666.7	0	92	50-115	0			
Dimethyl phthalate	608.7	330	666.7	0	91.3	50-110	0			
Di-n-butyl phthalate	648	330	666.7	0	97.2	55-110	0			
Di-n-octyl phthalate	625	160	666.7	0	93.7	40-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1207530

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>42513</b>	Instrument ID <b>SVMS5</b>	Method: <b>SW8270</b>					
Fluoranthene	645	30	666.7	0	96.7	55-115	0
Fluorene	603.3	30	666.7	0	90.5	50-110	0
Hexachlorobenzene	632.3	160	666.7	0	94.8	45-120	0
Hexachlorobutadiene	587	160	666.7	0	88	40-115	0
Hexachlorocyclopentadiene	567.7	330	666.7	0	85.1	40-115	0
Hexachloroethane	565.7	160	666.7	0	84.8	35-110	0
Indeno(1,2,3-cd)pyrene	655	30	666.7	0	98.2	40-120	0
Isophorone	587.3	160	666.7	0	88.1	45-110	0
Naphthalene	588.3	30	666.7	0	88.2	40-105	0
Nitrobenzene	596.3	160	666.7	0	89.4	40-115	0
N-Nitrosodi-n-propylamine	607.7	160	666.7	0	91.1	40-115	0
N-Nitrosodiphenylamine	626	160	666.7	0	93.9	50-115	0
Pentachlorophenol	611.7	330	666.7	0	91.7	25-120	0
Phenanthrene	611	30	666.7	0	91.6	50-110	0
Phenol	548.3	160	666.7	0	82.2	40-100	0
Pyrene	653.3	30	666.7	0	98	45-125	0
<i>Surr: 2,4,6-Tribromophenol</i>	<i>1481</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>88.9</i>	<i>34-140</i>	<i>0</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>1100</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>66</i>	<i>12-100</i>	<i>0</i>
<i>Surr: 2-Fluorophenol</i>	<i>1214</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>72.9</i>	<i>33-117</i>	<i>0</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>1464</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>87.9</i>	<i>25-137</i>	<i>0</i>
<i>Surr: Nitrobenzene-d5</i>	<i>1167</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>70</i>	<i>37-107</i>	<i>0</i>
<i>Surr: Phenol-d6</i>	<i>1171</i>	<i>0</i>	<i>1667</i>	<i>0</i>	<i>70.3</i>	<i>40-106</i>	<i>0</i>

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42513 Instrument ID SVMS5 Method: SW8270

MS		Sample ID: 1207530-02B MS			Units: µg/Kg			Analysis Date: 07/26/12 04:17 AM		
Client ID: S-R2330004-071112-MF-002		Run ID: SVMS6_120725A			SeqNo: 2037738		Prep Date: 07/24/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1217	310	1293	0	94.1	50-110	0			
2,4,6-Trichlorophenol	1139	310	1293	0	88.1	45-110	0			
2,4-Dichlorophenol	1108	310	1293	0	85.7	45-110	0			
2,4-Dimethylphenol	1035	640	1293	0	80	30-105	0			
2,4-Dinitrophenol	U	1,300	1293	0	0	15-130	0			S
2,4-Dinitrotoluene	1199	310	1293	0	92.7	50-115	0			
2,6-Dinitrotoluene	1217	310	1293	0	94.1	50-110	0			
2-Chloronaphthalene	1101	160	1293	0	85.1	45-105	0			
2-Chlorophenol	1088	310	1293	0	84.1	45-105	0			
2-Methylnaphthalene	1128	160	1293	32.56	84.8	45-105	0			
2-Methylphenol	1082	310	1293	0	83.7	40-105	0			
2-Nitroaniline	1403	1,300	1293	0	109	45-120	0			
2-Nitrophenol	1027	310	1293	0	79.4	40-110	0			
3-Nitroaniline	1461	1,300	1293	0	113	25-110	0			S
4-Bromophenyl phenyl ether	1193	310	1293	0	92.3	45-115	0			
4-Chloro-3-methylphenol	1150	310	1293	0	88.9	45-115	0			
4-Chloroaniline	707.7	1,300	1293	0	54.7	15-110	0			J
4-Chlorophenyl phenyl ether	1242	310	1293	0	96	45-110	0			
4-Methylphenol	1139	310	1293	25.66	86.1	40-105	0			
4-Nitroaniline	2654	1,300	1293	0	205	35-150	0			S
4-Nitrophenol	1422	1,300	1293	0	110	15-140	0			
Acenaphthene	1169	58	1293	25.66	88.4	45-110	0			
Acenaphthylene	1152	58	1293	0	89.1	45-105	0			
Anthracene	1346	58	1293	40.46	101	55-105	0			
Benzo(a)anthracene	1443	58	1293	107.2	103	50-110	0			
Benzo(a)pyrene	1426	58	1293	115.1	101	50-110	0			
Benzo(b)fluoranthene	1602	58	1293	155.6	112	45-115	0			
Benzo(g,h,i)perylene	808.6	58	1293	65.13	57.5	40-125	0			
Benzo(k)fluoranthene	1607	58	1293	85.52	118	45-115	0			S
Bis(2-chloroethoxy)methane	1063	310	1293	0	82.2	45-110	0			
Bis(2-chloroethyl)ether	1012	310	1293	0	78.2	40-105	0			
Bis(2-chloroisopropyl)ether	952	310	1293	0	73.6	20-115	0			
Bis(2-ethylhexyl)phthalate	1339	640	1293	109.2	95.1	45-125	0			
Butyl benzyl phthalate	1278	310	1293	56.58	94.5	50-125	0			
Carbazole	3225	310	1293	26.31	247	50-150	0			S
Chrysene	1410	58	1293	115.8	100	55-110	0			
Dibenzo(a,h)anthracene	824.1	58	1293	17.1	62.4	40-125	0			
Dibenzofuran	1228	310	1293	38.81	92	50-105	0			
Diethyl phthalate	1195	640	1293	0	92.4	50-115	0			
Dimethyl phthalate	1158	640	1293	0	89.6	50-110	0			
Di-n-butyl phthalate	1185	640	1293	0	91.6	55-110	0			
Di-n-octyl phthalate	1715	310	1293	0	133	40-130	0			S

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1207530

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>42513</b>	Instrument ID <b>SVMS5</b>	Method: <b>SW8270</b>							
Fluoranthene	1730	58	1293	170.4	121	55-115	0	S	
Fluorene	1317	58	1293	59.54	97.3	50-110	0		
Hexachlorobenzene	1264	310	1293	0	97.7	45-120	0		
Hexachlorobutadiene	1066	310	1293	0	82.4	40-115	0		
Hexachlorocyclopentadiene	U	640	1293	0	0	40-115	0	S	
Hexachloroethane	679.3	310	1293	0	52.5	35-110	0		
Indeno(1,2,3-cd)pyrene	858.3	58	1293	52.3	62.4	40-120	0		
Isophorone	1035	310	1293	0	80	45-110	0		
Naphthalene	1154	58	1293	66.11	84.1	40-105	0		
Nitrobenzene	1085	310	1293	0	83.9	40-115	0		
N-Nitrosodi-n-propylamine	1046	310	1293	0	80.9	40-115	0		
N-Nitrosodiphenylamine	1244	310	1293	0	96.2	50-115	0		
Pentachlorophenol	1221	640	1293	0	94.4	25-120	0		
Phenanthrene	1439	58	1293	153.6	99.4	50-110	0		
Phenol	1038	310	1293	0	80.3	40-100	0		
Pyrene	1553	58	1293	147.7	109	45-125	0		
<i>Surr: 2,4,6-Tribromophenol</i>	3152	0	3232	0	97.5	34-140	0		
<i>Surr: 2-Fluorobiphenyl</i>	1991	0	3232	0	61.6	12-100	0		
<i>Surr: 2-Fluorophenol</i>	2265	0	3232	0	70.1	33-117	0		
<i>Surr: 4-Terphenyl-d14</i>	2683	0	3232	0	83	25-137	0		
<i>Surr: Nitrobenzene-d5</i>	2110	0	3232	0	65.3	37-107	0		
<i>Surr: Phenol-d6</i>	2192	0	3232	0	67.8	40-106	0		

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42513 Instrument ID SVMS5 Method: SW8270

MSD		Sample ID: 1207530-02B MSD			Units: µg/Kg			Analysis Date: 07/25/12 12:01 PM		
Client ID: S-R2330004-071112-MF-002		Run ID: SVMS5_120724A			SeqNo: 2036494		Prep Date: 07/24/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	1173	310	1285	0	91.2	50-110	1217	3.72	30	
2,4,6-Trichlorophenol	1123	310	1285	0	87.4	45-110	1139	1.39	30	
2,4-Dichlorophenol	1068	310	1285	0	83.1	45-110	1108	3.61	30	
2,4-Dimethylphenol	1016	640	1285	0	79	30-105	1035	1.85	30	
2,4-Dinitrophenol	608.5	1,300	1285	0	47.3	15-130	0	0	30	J
2,4-Dinitrotoluene	1054	310	1285	0	82	50-115	1199	12.9	30	
2,6-Dinitrotoluene	1119	310	1285	0	87	50-110	1217	8.43	30	
2-Chloronaphthalene	1078	150	1285	0	83.9	45-105	1101	2.07	30	
2-Chlorophenol	1090	310	1285	0	84.8	45-105	1088	0.177	30	
2-Methylnaphthalene	1109	150	1285	32.56	83.8	45-105	1128	1.74	30	
2-Methylphenol	1120	310	1285	0	87.1	40-105	1082	3.45	30	
2-Nitroaniline	1276	1,300	1285	0	99.3	45-120	1403	0	30	J
2-Nitrophenol	909.1	310	1285	0	70.7	40-110	1027	12.2	30	
3-Nitroaniline	1267	1,300	1285	0	98.6	25-110	1461	0	30	J
4-Bromophenyl phenyl ether	1115	310	1285	0	86.8	45-115	1193	6.73	30	
4-Chloro-3-methylphenol	1110	310	1285	0	86.4	45-115	1150	3.5	30	
4-Chloroaniline	868	1,300	1285	0	67.5	15-110	707.7	0	30	J
4-Chlorophenyl phenyl ether	1102	310	1285	0	85.7	45-110	1242	11.9	30	
4-Methylphenol	1178	310	1285	25.66	89.6	40-105	1139	3.36	30	
4-Nitroaniline	1763	1,300	1285	0	137	35-150	2654	40.3	30	R
4-Nitrophenol	1023	1,300	1285	0	79.6	15-140	1422	0	30	J
Acenaphthene	1149	58	1285	25.66	87.4	45-110	1169	1.65	30	
Acenaphthylene	1151	58	1285	0	89.5	45-105	1152	0.0891	30	
Anthracene	1355	58	1285	40.46	102	55-105	1346	0.648	30	
Benzo(a)anthracene	1451	58	1285	107.2	105	50-110	1443	0.565	30	
Benzo(a)pyrene	1352	58	1285	115.1	96.2	50-110	1426	5.33	30	
Benzo(b)fluoranthene	1428	58	1285	155.6	99	45-115	1602	11.4	30	
Benzo(g,h,i)perylene	1096	58	1285	65.13	80.2	40-125	808.6	30.2	30	R
Benzo(k)fluoranthene	1287	58	1285	85.52	93.5	45-115	1607	22.1	30	
Bis(2-chloroethoxy)methane	1063	310	1285	0	82.7	45-110	1063	0.074	30	
Bis(2-chloroethyl)ether	1039	310	1285	0	80.8	40-105	1012	2.68	30	
Bis(2-chloroisopropyl)ether	1063	310	1285	0	82.7	20-115	952	11	30	
Bis(2-ethylhexyl)phthalate	1220	640	1285	109.2	86.4	45-125	1339	9.3	30	
Butyl benzyl phthalate	1244	310	1285	56.58	92.4	50-125	1278	2.69	30	
Carbazole	1746	310	1285	26.31	134	50-150	3225	59.5	30	R
Chrysene	1474	58	1285	115.8	106	55-110	1410	4.41	30	
Dibenzo(a,h)anthracene	1086	58	1285	17.1	83.2	40-125	824.1	27.5	30	
Dibenzofuran	1214	310	1285	38.81	91.5	50-105	1228	1.12	30	
Diethyl phthalate	1166	640	1285	0	90.7	50-115	1195	2.5	30	
Dimethyl phthalate	1128	640	1285	0	87.8	50-110	1158	2.62	30	
Di-n-butyl phthalate	1266	640	1285	0	98.5	55-110	1185	6.66	30	
Di-n-octyl phthalate	1318	310	1285	0	103	40-130	1715	26.2	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

Batch ID: <b>42513</b>	Instrument ID <b>SVMS5</b>		Method: <b>SW8270</b>							
Fluoranthene	1843	58	1285	170.4	130	55-115	1730	6.37	30	S
Fluorene	1315	58	1285	59.54	97.7	50-110	1317	0.201	30	
Hexachlorobenzene	1089	310	1285	0	84.7	45-120	1264	14.8	30	
Hexachlorobutadiene	949	310	1285	0	73.8	40-115	1066	11.6	30	
Hexachlorocyclopentadiene	120.8	640	1285	0	9.4	40-115	0	0	30	JS
Hexachloroethane	918.1	310	1285	0	71.4	35-110	679.3	29.9	30	
Indeno(1,2,3-cd)pyrene	1157	58	1285	52.3	85.9	40-120	858.3	29.6	30	
Isophorone	1103	310	1285	0	85.8	45-110	1035	6.4	30	
Naphthalene	1137	58	1285	66.11	83.3	40-105	1154	1.49	30	
Nitrobenzene	1062	310	1285	0	82.6	40-115	1085	2.09	30	
N-Nitrosodi-n-propylamine	1164	310	1285	0	90.6	40-115	1046	10.7	30	
N-Nitrosodiphenylamine	1460	310	1285	0	114	50-115	1244	16	30	
Pentachlorophenol	1175	640	1285	0	91.4	25-120	1221	3.82	30	
Phenanthrene	1528	58	1285	153.6	107	50-110	1439	6.01	30	
Phenol	1148	310	1285	0	89.3	40-100	1038	10.1	30	
Pyrene	1709	58	1285	147.7	122	45-125	1553	9.56	30	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2735</i>	<i>0</i>	<i>3213</i>	<i>0</i>	<i>85.1</i>	<i>34-140</i>	<i>3152</i>	<i>14.2</i>	<i>40</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>2471</i>	<i>0</i>	<i>3213</i>	<i>0</i>	<i>76.9</i>	<i>12-100</i>	<i>1991</i>	<i>21.5</i>	<i>40</i>	
<i>Surr: 2-Fluorophenol</i>	<i>2521</i>	<i>0</i>	<i>3213</i>	<i>0</i>	<i>78.5</i>	<i>33-117</i>	<i>2265</i>	<i>10.7</i>	<i>40</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>3268</i>	<i>0</i>	<i>3213</i>	<i>0</i>	<i>102</i>	<i>25-137</i>	<i>2683</i>	<i>19.7</i>	<i>40</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>2263</i>	<i>0</i>	<i>3213</i>	<i>0</i>	<i>70.4</i>	<i>37-107</i>	<i>2110</i>	<i>7.01</i>	<i>40</i>	
<i>Surr: Phenol-d6</i>	<i>2458</i>	<i>0</i>	<i>3213</i>	<i>0</i>	<i>76.5</i>	<i>40-106</i>	<i>2192</i>	<i>11.4</i>	<i>40</i>	

The following samples were analyzed in this batch:

1207530-01B	1207530-02B	1207530-03B
1207530-04B	1207530-05B	1207530-06B
1207530-07B	1207530-08B	1207530-09B
1207530-10B	1207530-11B	1207530-12B
1207530-13B	1207530-14B	1207530-15B
1207530-16B	1207530-17B	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42425 Instrument ID VMS5 Method: SW8260

MBLK		Sample ID: MBLK-42425-42425			Units: µg/Kg		Analysis Date: 07/23/12 12:38 PM			
Client ID:		Run ID: VMS5_120723A			SeqNo: 2034173		Prep Date: 07/19/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1,2-Trichlorotrifluoroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2,4-Trichlorobenzene	U	30								
1,2-Dibromo-3-chloropropane	U	30								
1,2-Dibromoethane	U	30								
1,2-Dichlorobenzene	U	30								
1,2-Dichloroethane	U	30								
1,2-Dichloropropane	U	30								
1,3-Dichlorobenzene	U	30								
1,4-Dichlorobenzene	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	129.5	100								
Benzene	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	75								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Cyclohexane	U	30								
Dibromochloromethane	U	30								
Dichlorodifluoromethane	U	30								
Ethylbenzene	U	30								
Isopropylbenzene	U	30								
Methyl acetate	488	200								
Methyl tert-butyl ether	U	30								
Methylcyclohexane	U	30								
Methylene chloride	U	30								
Styrene	U	30								
Tetrachloroethene	U	30								
Toluene	U	30								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1207530

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>42425</b>	Instrument ID <b>VMS5</b>	Method: <b>SW8260</b>						
trans-1,2-Dichloroethene	U	30						
trans-1,3-Dichloropropene	U	30						
Trichloroethene	U	30						
Trichlorofluoromethane	U	30						
Vinyl chloride	U	30						
Xylenes, Total	U	90						
<i>Surr: 1,2-Dichloroethane-d4</i>	826	0	1000	0	82.6	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	980.5	0	1000	0	98	70-130	0	
<i>Surr: Dibromofluoromethane</i>	888.5	0	1000	0	88.8	70-130	0	
<i>Surr: Toluene-d8</i>	880.5	0	1000	0	88	70-130	0	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42425 Instrument ID VMS5 Method: SW8260

MBLK		Sample ID: MBLK-42425-42425			Units: µg/Kg		Analysis Date: 07/23/12 11:57 PM			
Client ID:		Run ID: VMS9_120723B			SeqNo: 2034252		Prep Date: 07/19/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1,2-Trichlorotrifluoroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2,4-Trichlorobenzene	U	30								
1,2-Dibromo-3-chloropropane	U	30								
1,2-Dibromoethane	U	30								
1,2-Dichlorobenzene	U	30								
1,2-Dichloroethane	U	30								
1,2-Dichloropropane	U	30								
1,3-Dichlorobenzene	U	30								
1,4-Dichlorobenzene	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	U	100								
Benzene	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	75								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Cyclohexane	U	30								
Dibromochloromethane	U	30								
Dichlorodifluoromethane	U	30								
Ethylbenzene	U	30								
Isopropylbenzene	U	30								
Methyl acetate	U	200								
Methyl tert-butyl ether	U	30								
Methylcyclohexane	U	30								
Methylene chloride	U	30								
Styrene	U	30								
Tetrachloroethene	U	30								
Toluene	U	30								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1207530

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>42425</b>	Instrument ID <b>VMS5</b>	Method: <b>SW8260</b>						
trans-1,2-Dichloroethene	U	30						
trans-1,3-Dichloropropene	U	30						
Trichloroethene	U	30						
Trichlorofluoromethane	U	30						
Vinyl chloride	U	30						
Xylenes, Total	U	90						
<i>Surr: 1,2-Dichloroethane-d4</i>	969.5	0	1000	0	97	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	914	0	1000	0	91.4	70-130	0	
<i>Surr: Dibromofluoromethane</i>	993	0	1000	0	99.3	70-130	0	
<i>Surr: Toluene-d8</i>	926.5	0	1000	0	92.6	70-130	0	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **42425**      Instrument ID **VMS5**      Method: **SW8260**

<b>MBLK</b>	Sample ID: <b>MBLK-42425-42425</b>	Units: <b>µg/Kg</b>	Analysis Date: <b>07/24/12 12:50 PM</b>
Client ID:	Run ID: <b>VMS5_120723B</b>	SeqNo: <b>2034665</b>	Prep Date: <b>07/19/12</b> DF: <b>1</b>

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1,2-Trichlorotrifluoroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2,4-Trichlorobenzene	U	30								
1,2-Dibromo-3-chloropropane	U	30								
1,2-Dibromoethane	U	30								
1,2-Dichlorobenzene	U	30								
1,2-Dichloroethane	U	30								
1,2-Dichloropropane	U	30								
1,3-Dichlorobenzene	U	30								
1,4-Dichlorobenzene	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	U	100								
Benzene	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	75								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Cyclohexane	U	30								
Dibromochloromethane	U	30								
Dichlorodifluoromethane	U	30								
Ethylbenzene	U	30								
Isopropylbenzene	U	30								
Methyl acetate	U	200								
Methyl tert-butyl ether	U	30								
Methylcyclohexane	U	30								
Methylene chloride	U	30								
Styrene	U	30								
Tetrachloroethene	U	30								
Toluene	U	30								

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1207530

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>42425</b>	Instrument ID <b>VMS5</b>	Method: <b>SW8260</b>						
trans-1,2-Dichloroethene	U	30						
trans-1,3-Dichloropropene	U	30						
Trichloroethene	U	30						
Trichlorofluoromethane	U	30						
Vinyl chloride	U	30						
Xylenes, Total	U	90						
<i>Surr: 1,2-Dichloroethane-d4</i>	824	0	1000	0	82.4	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	1019	0	1000	0	102	70-130	0	
<i>Surr: Dibromofluoromethane</i>	844.5	0	1000	0	84.4	70-130	0	
<i>Surr: Toluene-d8</i>	907	0	1000	0	90.7	70-130	0	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42425 Instrument ID VMS5 Method: SW8260

LCS		Sample ID: LCS-42425-42425				Units: µg/Kg		Analysis Date: 07/23/12 10:40 AM		
Client ID:		Run ID: VMS5_120723A			SeqNo: 2034170		Prep Date: 07/19/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	992	30	1000	0	99.2	70-135	0			
1,1,2,2-Tetrachloroethane	775	30	1000	0	77.5	55-130	0			
1,1,2-Trichloroethane	881	30	1000	0	88.1	60-125	0			
1,1-Dichloroethane	1028	30	1000	0	103	75-125	0			
1,1-Dichloroethene	1164	30	1000	0	116	65-135	0			
1,2,4-Trichlorobenzene	1154	30	1000	0	115	65-130	0			
1,2-Dibromo-3-chloropropane	963	30	1000	0	96.3	40-135	0			
1,2-Dibromoethane	920	30	1000	0	92	70-125	0			
1,2-Dichlorobenzene	1075	30	1000	0	108	75-120	0			
1,2-Dichloroethane	987.5	30	1000	0	98.8	70-135	0			
1,2-Dichloropropane	896.5	30	1000	0	89.6	70-120	0			
1,3-Dichlorobenzene	976	30	1000	0	97.6	70-125	0			
1,4-Dichlorobenzene	1009	30	1000	0	101	70-125	0			
2-Butanone	905.5	200	1000	0	90.6	30-160	0			
2-Hexanone	885	30	1000	0	88.5	45-145	0			
4-Methyl-2-pentanone	947	30	1000	0	94.7	45-145	0			
Acetone	907.5	100	1000	0	90.8	20-160	0			B
Benzene	1031	30	1000	0	103	75-125	0			
Bromodichloromethane	930	30	1000	0	93	70-130	0			
Bromoform	972	30	1000	0	97.2	55-135	0			
Bromomethane	1578	75	1000	0	158	30-160	0			
Carbon disulfide	1274	30	1000	0	127	45-160	0			
Carbon tetrachloride	1013	30	1000	0	101	65-135	0			
Chlorobenzene	952.5	30	1000	0	95.2	75-125	0			
Chloroethane	1106	100	1000	0	111	40-155	0			
Chloroform	1064	30	1000	0	106	70-125	0			
Chloromethane	982	100	1000	0	98.2	50-130	0			
cis-1,2-Dichloroethene	1078	30	1000	0	108	65-125	0			
cis-1,3-Dichloropropene	916.5	30	1000	0	91.6	70-125	0			
Dibromochloromethane	918	30	1000	0	91.8	65-135	0			
Dichlorodifluoromethane	1099	30	1000	0	110	35-135	0			
Ethylbenzene	983	30	1000	0	98.3	75-125	0			
Isopropylbenzene	1015	30	1000	0	102	75-130	0			
Methyl tert-butyl ether	1002	30	1000	0	100	75-125	0			
Methylene chloride	1087	30	1000	0	109	55-145	0			
Styrene	919.5	30	1000	0	92	75-125	0			
Tetrachloroethene	1076	30	1000	0	108	64-140	0			
Toluene	984	30	1000	0	98.4	70-125	0			
trans-1,2-Dichloroethene	1096	30	1000	0	110	65-135	0			
trans-1,3-Dichloropropene	962.5	30	1000	0	96.2	65-125	0			
Trichloroethene	1040	30	1000	0	104	75-125	0			
Trichlorofluoromethane	1125	30	1000	0	112	25-185	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: <b>42425</b>	Instrument ID <b>VMS5</b>	Method: <b>SW8260</b>						
Vinyl chloride	989.5	30	1000	0	99	60-125	0	
Xylenes, Total	2858	90	3000	0	95.3	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	887.5	0	1000	0	88.8	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	948	0	1000	0	94.8	70-130	0	
<i>Surr: Dibromofluoromethane</i>	939	0	1000	0	93.9	70-130	0	
<i>Surr: Toluene-d8</i>	956	0	1000	0	95.6	70-130	0	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **42425**      Instrument ID **VMS5**      Method: **SW8260**

LCS		Sample ID: <b>LCS-42425-42425</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>07/23/12 10:40 PM</b>			
Client ID:		Run ID: <b>VMS9_120723B</b>			SeqNo: <b>2034251</b>		Prep Date: <b>07/19/12</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1086	30	1000	0	109	70-135	0			
1,1,2,2-Tetrachloroethane	1042	30	1000	0	104	55-130	0			
1,1,2-Trichloroethane	1014	30	1000	0	101	60-125	0			
1,1-Dichloroethane	948.5	30	1000	0	94.8	75-125	0			
1,1-Dichloroethene	1032	30	1000	0	103	65-135	0			
1,2,4-Trichlorobenzene	1204	30	1000	0	120	65-130	0			
1,2-Dibromo-3-chloropropane	1032	30	1000	0	103	40-135	0			
1,2-Dibromoethane	1117	30	1000	0	112	70-125	0			
1,2-Dichlorobenzene	1064	30	1000	0	106	75-120	0			
1,2-Dichloroethane	985	30	1000	0	98.5	70-135	0			
1,2-Dichloropropane	1038	30	1000	0	104	70-120	0			
1,3-Dichlorobenzene	1063	30	1000	0	106	70-125	0			
1,4-Dichlorobenzene	1052	30	1000	0	105	70-125	0			
2-Butanone	1099	200	1000	0	110	30-160	0			
2-Hexanone	1127	30	1000	0	113	45-145	0			
4-Methyl-2-pentanone	1017	30	1000	0	102	45-145	0			
Acetone	1150	100	1000	0	115	20-160	0			
Benzene	1052	30	1000	0	105	75-125	0			
Bromodichloromethane	928	30	1000	0	92.8	70-130	0			
Bromoform	994.5	30	1000	0	99.4	55-135	0			
Bromomethane	1040	75	1000	0	104	30-160	0			
Carbon disulfide	1078	30	1000	0	108	45-160	0			
Carbon tetrachloride	993	30	1000	0	99.3	65-135	0			
Chlorobenzene	1082	30	1000	0	108	75-125	0			
Chloroethane	879.5	100	1000	0	88	40-155	0			
Chloroform	984.5	30	1000	0	98.4	70-125	0			
Chloromethane	924.5	100	1000	0	92.4	50-130	0			
cis-1,2-Dichloroethene	931.5	30	1000	0	93.2	65-125	0			
cis-1,3-Dichloropropene	918	30	1000	0	91.8	70-125	0			
Dibromochloromethane	940	30	1000	0	94	65-135	0			
Dichlorodifluoromethane	841.5	30	1000	0	84.2	35-135	0			
Ethylbenzene	1143	30	1000	0	114	75-125	0			
Isopropylbenzene	1180	30	1000	0	118	75-130	0			
Methyl tert-butyl ether	938	30	1000	0	93.8	75-125	0			
Methylene chloride	980.5	30	1000	0	98	55-145	0			
Styrene	1004	30	1000	0	100	75-125	0			
Tetrachloroethene	1122	30	1000	0	112	64-140	0			
Toluene	1079	30	1000	0	108	70-125	0			
trans-1,2-Dichloroethene	1012	30	1000	0	101	65-135	0			
trans-1,3-Dichloropropene	919	30	1000	0	91.9	65-125	0			
Trichloroethene	1025	30	1000	0	102	75-125	0			
Trichlorofluoromethane	907	30	1000	0	90.7	25-185	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: <b>42425</b>	Instrument ID <b>VMS5</b>	Method: <b>SW8260</b>						
Vinyl chloride	944.5	30	1000	0	94.4	60-125	0	
Xylenes, Total	3417	90	3000	0	114	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>954</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>95.4</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>946.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>94.6</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1013</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>1016</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>102</i>	<i>70-130</i>	<i>0</i>	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42425 Instrument ID VMS5 Method: SW8260

LCS		Sample ID: LCS-42425-42425			Units: µg/Kg			Analysis Date: 07/23/12 11:36 PM		
Client ID:		Run ID: VMS5_120723B			SeqNo: 2034642		Prep Date: 07/19/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	978.5	30	1000	0	97.8	70-135	0			
1,1,2,2-Tetrachloroethane	891.5	30	1000	0	89.2	55-130	0			
1,1,2-Trichloroethane	962.5	30	1000	0	96.2	60-125	0			
1,1-Dichloroethane	948.5	30	1000	0	94.8	75-125	0			
1,1-Dichloroethene	978.5	30	1000	0	97.8	65-135	0			
1,2,4-Trichlorobenzene	1052	30	1000	0	105	65-130	0			
1,2-Dibromo-3-chloropropane	799.5	30	1000	0	80	40-135	0			
1,2-Dibromoethane	982.5	30	1000	0	98.2	70-125	0			
1,2-Dichlorobenzene	1018	30	1000	0	102	75-120	0			
1,2-Dichloroethane	972.5	30	1000	0	97.2	70-135	0			
1,2-Dichloropropane	976	30	1000	0	97.6	70-120	0			
1,3-Dichlorobenzene	1020	30	1000	0	102	70-125	0			
1,4-Dichlorobenzene	1028	30	1000	0	103	70-125	0			
2-Butanone	795.5	200	1000	0	79.6	30-160	0			
2-Hexanone	873	30	1000	0	87.3	45-145	0			
4-Methyl-2-pentanone	902	30	1000	0	90.2	45-145	0			
Acetone	679	100	1000	0	67.9	20-160	0			
Benzene	986.5	30	1000	0	98.6	75-125	0			
Bromodichloromethane	885.5	30	1000	0	88.6	70-130	0			
Bromoform	903	30	1000	0	90.3	55-135	0			
Bromomethane	1556	75	1000	0	156	30-160	0			
Carbon disulfide	1040	30	1000	0	104	45-160	0			
Carbon tetrachloride	987	30	1000	0	98.7	65-135	0			
Chlorobenzene	1007	30	1000	0	101	75-125	0			
Chloroethane	925	100	1000	0	92.5	40-155	0			
Chloroform	947.5	30	1000	0	94.8	70-125	0			
Chloromethane	873	100	1000	0	87.3	50-130	0			
cis-1,2-Dichloroethene	951	30	1000	0	95.1	65-125	0			
cis-1,3-Dichloropropene	923.5	30	1000	0	92.4	70-125	0			
Dibromochloromethane	933.5	30	1000	0	93.4	65-135	0			
Dichlorodifluoromethane	868	30	1000	0	86.8	35-135	0			
Ethylbenzene	1030	30	1000	0	103	75-125	0			
Isopropylbenzene	1023	30	1000	0	102	75-130	0			
Methyl tert-butyl ether	940	30	1000	0	94	75-125	0			
Methylene chloride	922	30	1000	0	92.2	55-145	0			
Styrene	1004	30	1000	0	100	75-125	0			
Tetrachloroethene	1067	30	1000	0	107	64-140	0			
Toluene	974.5	30	1000	0	97.4	70-125	0			
trans-1,2-Dichloroethene	969.5	30	1000	0	97	65-135	0			
trans-1,3-Dichloropropene	966	30	1000	0	96.6	65-125	0			
Trichloroethene	1046	30	1000	0	105	75-125	0			
Trichlorofluoromethane	913.5	30	1000	0	91.4	25-185	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

Batch ID: <b>42425</b>	Instrument ID <b>VMS5</b>	Method: <b>SW8260</b>						
Vinyl chloride	902.5	30	1000	0	90.2	60-125	0	
Xylenes, Total	3054	90	3000	0	102	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	803	0	1000	0	80.3	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	1022	0	1000	0	102	70-130	0	
<i>Surr: Dibromofluoromethane</i>	852	0	1000	0	85.2	70-130	0	
<i>Surr: Toluene-d8</i>	898	0	1000	0	89.8	70-130	0	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42425 Instrument ID VMS5 Method: SW8260

MS		Sample ID: 1207530-11A MS			Units: µg/Kg			Analysis Date: 07/23/12 08:45 PM		
Client ID: S-R2330004-071212-MF-011		Run ID: VMS5_120723A			SeqNo: 2034211		Prep Date: 07/19/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1081	33	1114	0	97.1	70-135	0			
1,1,2,2-Tetrachloroethane	964.4	33	1114	0	86.6	55-130	0			
1,1,2-Trichloroethane	1037	33	1114	0	93.1	60-125	0			
1,1-Dichloroethane	1045	33	1114	0	93.8	75-125	0			
1,1-Dichloroethene	1087	33	1114	0	97.6	65-135	0			
1,2,4-Trichlorobenzene	1095	33	1114	0	98.3	65-130	0			
1,2-Dibromo-3-chloropropane	900.9	33	1114	0	80.9	40-135	0			
1,2-Dibromoethane	1067	33	1114	0	95.8	70-125	0			
1,2-Dichlorobenzene	1089	33	1114	0	97.8	75-120	0			
1,2-Dichloroethane	1047	33	1114	0	94	70-135	0			
1,2-Dichloropropane	1077	33	1114	0	96.8	70-120	0			
1,3-Dichlorobenzene	1106	33	1114	0	99.4	70-125	0			
1,4-Dichlorobenzene	1092	33	1114	0	98	70-125	0			
2-Butanone	916.5	220	1114	0	82.3	30-160	0			
2-Hexanone	986.6	33	1114	0	88.6	45-145	0			
4-Methyl-2-pentanone	997.8	33	1114	0	89.6	45-145	0			
Acetone	950.4	110	1114	0	85.4	20-160	0			B
Benzene	1100	33	1114	0	98.8	75-125	0			
Bromodichloromethane	1019	33	1114	0	91.5	70-130	0			
Bromoform	1090	33	1114	0	97.9	55-135	0			
Bromomethane	1514	84	1114	0	136	30-160	0			
Carbon disulfide	1175	33	1114	0	106	45-160	0			
Carbon tetrachloride	1111	33	1114	0	99.8	65-135	0			
Chlorobenzene	1114	33	1114	0	100	75-125	0			
Chloroethane	1019	110	1114	0	91.5	40-155	0			
Chloroform	1061	33	1114	0	95.2	70-125	0			
Chloromethane	1028	110	1114	0	92.4	50-130	0			
cis-1,2-Dichloroethene	1054	33	1114	0	94.6	65-125	0			
cis-1,3-Dichloropropene	983.3	33	1114	0	88.3	70-125	0			
Dibromochloromethane	1034	33	1114	0	92.8	65-135	0			
Dichlorodifluoromethane	804	33	1114	0	72.2	35-135	0			
Ethylbenzene	1147	33	1114	0	103	75-125	0			
Isopropylbenzene	1143	33	1114	0	103	75-130	0			
Methyl tert-butyl ether	1008	33	1114	0	90.5	75-125	0			
Methylene chloride	1068	33	1114	0	96	55-145	0			
Styrene	1057	33	1114	0	94.9	75-125	0			
Tetrachloroethene	1158	33	1114	0	104	64-140	0			
Toluene	1100	33	1114	0	98.8	70-125	0			
trans-1,2-Dichloroethene	1128	33	1114	0	101	65-135	0			
trans-1,3-Dichloropropene	999.4	33	1114	0	89.8	65-125	0			
Trichloroethene	1135	33	1114	0	102	75-125	0			
Trichlorofluoromethane	1047	33	1114	0	94	25-185	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1207530  
**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: <b>42425</b>	Instrument ID <b>VMS5</b>	Method: <b>SW8260</b>						
Vinyl chloride	998.3	33	1114	0	89.6	60-125	0	
Xylenes, Total	3404	100	3341	0	102	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>910.9</i>	<i>0</i>	<i>1114</i>	<i>0</i>	<i>81.8</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1177</i>	<i>0</i>	<i>1114</i>	<i>0</i>	<i>106</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>963.8</i>	<i>0</i>	<i>1114</i>	<i>0</i>	<i>86.6</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>1008</i>	<i>0</i>	<i>1114</i>	<i>0</i>	<i>90.6</i>	<i>70-130</i>	<i>0</i>	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42425 Instrument ID VMS5 Method: SW8260

MSD				Sample ID: 1207530-11A MSD			Units: µg/Kg		Analysis Date: 07/23/12 09:09 PM		
Client ID: S-R2330004-071212-MF-011				Run ID: VMS5_120723A			SeqNo: 2034212		Prep Date: 07/19/12		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1,1-Trichloroethane	1067	33	1114	0	95.8	70-135	1081	1.35	30		
1,1,2,2-Tetrachloroethane	947.7	33	1114	0	85.1	55-130	964.4	1.75	30		
1,1,2-Trichloroethane	1027	33	1114	0	92.2	60-125	1037	0.917	30		
1,1-Dichloroethane	1015	33	1114	0	91.2	75-125	1045	2.92	30		
1,1-Dichloroethene	1116	33	1114	0	100	65-135	1087	2.63	30		
1,2,4-Trichlorobenzene	1168	33	1114	0	105	65-130	1095	6.45	30		
1,2-Dibromo-3-chloropropane	864.7	33	1114	0	77.6	40-135	900.9	4.1	30		
1,2-Dibromoethane	1056	33	1114	0	94.8	70-125	1067	0.997	30		
1,2-Dichlorobenzene	1104	33	1114	0	99.1	75-120	1089	1.32	30		
1,2-Dichloroethane	1034	33	1114	0	92.8	70-135	1047	1.23	30		
1,2-Dichloropropane	1079	33	1114	0	96.8	70-120	1077	0.103	30		
1,3-Dichlorobenzene	1124	33	1114	0	101	70-125	1106	1.6	30		
1,4-Dichlorobenzene	1128	33	1114	0	101	70-125	1092	3.21	30		
2-Butanone	863.6	220	1114	0	77.6	30-160	916.5	5.94	30		
2-Hexanone	942.7	33	1114	0	84.6	45-145	986.6	4.56	30		
4-Methyl-2-pentanone	973.8	33	1114	0	87.4	45-145	997.8	2.43	30		
Acetone	907.6	110	1114	0	81.5	20-160	950.4	4.61	30	B	
Benzene	1102	33	1114	0	99	75-125	1100	0.202	30		
Bromodichloromethane	1025	33	1114	0	92	70-130	1019	0.599	30		
Bromoform	1027	33	1114	0	92.2	55-135	1090	6	30		
Bromomethane	1586	84	1114	0	142	30-160	1514	4.63	30		
Carbon disulfide	1141	33	1114	0	102	45-160	1175	2.88	30		
Carbon tetrachloride	1080	33	1114	0	97	65-135	1111	2.9	30		
Chlorobenzene	1097	33	1114	0	98.6	75-125	1114	1.46	30		
Chloroethane	1083	110	1114	0	97.2	40-155	1019	6.09	30		
Chloroform	1061	33	1114	0	95.2	70-125	1061	0	30		
Chloromethane	957.7	110	1114	0	86	50-130	1028	7.12	30		
cis-1,2-Dichloroethene	1023	33	1114	0	91.9	65-125	1054	2.95	30		
cis-1,3-Dichloropropene	966	33	1114	0	86.8	70-125	983.3	1.77	30		
Dibromochloromethane	1026	33	1114	0	92.2	65-135	1034	0.757	30		
Dichlorodifluoromethane	828	33	1114	0	74.4	35-135	804	2.93	30		
Ethylbenzene	1130	33	1114	0	101	75-125	1147	1.52	30		
Isopropylbenzene	1163	33	1114	0	104	75-130	1143	1.74	30		
Methyl tert-butyl ether	1074	33	1114	0	96.4	75-125	1008	6.37	30		
Methylene chloride	1100	33	1114	0	98.8	55-145	1068	2.88	30		
Styrene	1063	33	1114	0	95.5	75-125	1057	0.63	30		
Tetrachloroethene	1176	33	1114	0	106	64-140	1158	1.53	30		
Toluene	1095	33	1114	0	98.4	70-125	1100	0.457	30		
trans-1,2-Dichloroethene	1140	33	1114	0	102	65-135	1128	1.08	30		
trans-1,3-Dichloropropene	984.4	33	1114	0	88.4	65-125	999.4	1.52	30		
Trichloroethene	1158	33	1114	0	104	75-125	1135	1.94	30		
Trichlorofluoromethane	1004	33	1114	0	90.2	25-185	1047	4.23	30		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1207530

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>42425</b>	Instrument ID <b>VMS5</b>	Method: <b>SW8260</b>								
Vinyl chloride	1008	33	1114	0	90.6	60-125	998.3	0.999	30	
Xylenes, Total	3407	100	3341	0	102	75-125	3404	0.0817	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>915.4</i>	<i>0</i>	<i>1114</i>	<i>0</i>	<i>82.2</i>	<i>70-130</i>	<i>910.9</i>	<i>0.488</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1181</i>	<i>0</i>	<i>1114</i>	<i>0</i>	<i>106</i>	<i>70-130</i>	<i>1177</i>	<i>0.378</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>949.9</i>	<i>0</i>	<i>1114</i>	<i>0</i>	<i>85.3</i>	<i>70-130</i>	<i>963.8</i>	<i>1.45</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>1011</i>	<i>0</i>	<i>1114</i>	<i>0</i>	<i>90.8</i>	<i>70-130</i>	<i>1008</i>	<i>0.276</i>	<i>30</i>	

---

**The following samples were analyzed in this batch:**

1207530-01A	1207530-02A	1207530-03A
1207530-04A	1207530-05A	1207530-06A
1207530-07A	1207530-08A	1207530-09A
1207530-10A	1207530-11A	1207530-12A
1207530-13A	1207530-14A	1207530-15A
1207530-16A	1207530-17A	1207530-18A
1207530-19A		

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1207530  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **R107494** Instrument ID **MOIST** Method: **A2540 G**

<b>MBLK</b>	Sample ID: <b>WBLKS1-R107494</b>		Units: % of sample				Analysis Date: <b>07/19/12 02:00 PM</b>			
Client ID:	Run ID: <b>MOIST_120719B</b>		SeqNo: <b>2031517</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

<b>LCS</b>	Sample ID: <b>LCS-R107494</b>		Units: % of sample				Analysis Date: <b>07/19/12 02:00 PM</b>			
Client ID:	Run ID: <b>MOIST_120719B</b>		SeqNo: <b>2031516</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

<b>DUP</b>	Sample ID: <b>1207530-01BDUP</b>		Units: % of sample				Analysis Date: <b>07/19/12 02:00 PM</b>			
Client ID: <b>S-R2330004-071112-MF-001</b>	Run ID: <b>MOIST_120719B</b>		SeqNo: <b>2031498</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 6.71 0.050 0 0 0 0-0 5.71 16.1 20 H

<b>DUP</b>	Sample ID: <b>1207530-07BDUP</b>		Units: % of sample				Analysis Date: <b>07/19/12 02:00 PM</b>			
Client ID: <b>S-R2330004-071212-MF-007</b>	Run ID: <b>MOIST_120719B</b>		SeqNo: <b>2031505</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 8.1 0.050 0 0 0 0-0 7.74 4.55 20

The following samples were analyzed in this batch:

1207530-01B	1207530-02B	1207530-03B
1207530-04B	1207530-05B	1207530-06B
1207530-07B	1207530-08B	1207530-09B
1207530-10B	1207530-11B	1207530-12B
1207530-13B	1207530-14B	1207530-15B
1207530-16B	1207530-17B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



**ALS Environmental**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

# Chain of Custody Form

Page 1 of 4

COC ID: **20834**

**ALS Environmental**  
 3352 128th Ave.  
 Holland, MI 49424-9263  
 Tel: +1 616 399 6070  
 Fax: +1 616 399 6185

ALS Project Manager: 193

ALS Work Order #: **V207536**

**Customer Information**

**Project Information**

**Parameter/Method Request for Analysis**

Purchase Order		Project Name	Van Buren Landfill	A	VOCs
Work Order		Project Number		B	SVOCS
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	TAL metals (per SOW)
Send Report To	Frank Blehl	Invoice Attn	Accounts Payable	D	PCBs
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecourse Rd	E	PCDDs/PCDFs
				F	Pest. / Herb.
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	G	
Phone	(734) 397-3100	Phone		H	
Fax	(734) 397-3131	Fax		I	
e-Mail Address	fblehl@manniksmithgroup.com	e-Mail Address	m.friedhoff@manniksmithgroup.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	S. R2330004.071112.MF.001	7/11/12	1115	S	MeOH	2	X										
2	" " " " " " " "	"	"	"	-	2		X	X	X		X					
3	S. R2330004.071112.MF.002	"	1145	S	MeOH	2	X										
4	" " " " " " " "	"	"	"	-	2		X	X	X		X					
5	S. R2330004.071112.MF.003	"	1315	S	MeOH	2	X										
6	" " " " " " " "	"	"	"	-	2		X	X	X		X					
7	S. R2330004.071112.MF.004	"	1345	S	MeOH	2	X										
8	" " " " " " " "	"	"	"	-	2		X	X	X		X					
9	S. R2330004.071112.MF.005	"	1545	S	MeOH	2	X										
10	" " " " " " " "	"	"	S	-	2		X	X	X		X					

Sampler(s) Please Print & Sign: Michael Friedhoff / Michael Blehl

Shipment Method: Pickup

Required Turnaround Time: (Check Box)  Std 10 WK Days  5 WK Days  Other  2 WK Days  24 Hour

Results Due Date: \_\_\_\_\_

Relinquished by: Michael Friedhoff Date: 7/18/12 Time: 0915

Relinquished by: A.S. R Date: 7/18/12 Time: 1230

Received by (Laboratory): One...

Checked by (Laboratory): 193

Notes: Rec'd 7/19/12 0730 Qc 7/12

Logged by (Laboratory): DES Date: 7/19/12 Time: 1100

QC Package: (Check One Box Below)

Level II Std QC  TRRP CheckList

Level III Std QC/Raw Data  TRRP Level IV

Level IV SW846/GLP

Other \_\_\_\_\_

Cooler ID: \_\_\_\_\_ Cooler Temp: 2.2°C

Preservative Key: 1-HCl 2-HNO<sub>3</sub> 3-H<sub>2</sub>SO<sub>4</sub> 4-NaOH 5-Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 6-NaHSO<sub>4</sub> 7-Other 8-4°C 9-5035



**ALS Environmental**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

### Chain of Custody Form

Page 2 of 4

COC ID: 20833

**ALS Environmental**  
 3352 128th Ave.  
 Holland, MI 49424-9263  
 Tel: +1 616 399 6070  
 Fax: +1 616 399 6185

ALS Project Manager: TJB ALS Work Order #: 1207530

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Van Buren Landfill	A	VOCs											
Work Order		Project Number		B	SVOCs											
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	TAL Metals (per Sow)											
Send Report To	Frank Blehl	Invoice Attn	Accounts Payable	D	PCBs											
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecourse Rd	E	PCDDs / PCDFs											
				F	Pest./ Herb.											
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	G												
Phone	(734) 397-3100	Phone		H												
Fax	(734) 397-3131	Fax		I												
e-Mail Address	<u>frank.blehl@manniksmithgroup.com</u>	e-Mail Address	<u>mfridhoff@manniksmithgroup.com</u>	J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
6	S. R2330004.071212.MF.006	7/12/12	0815	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					
7	S. R2330004.071212.MF.007	"	0915	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					
8	S. R2330004.071212.MF.008	"	1030	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					
9	S. R2330004.071212.MF.009	"	1115	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					
10	S. R2330004.071212.MF.010	"	1415	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					

Sampler(s) Please Print & Sign <u>Michael Friedhoff</u>		Shipment Method <u>- Pickup</u>		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> Std 10 WK Days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> Other <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour				Results Due Date: _____			
Relinquished by: <u>Michael Friedhoff</u>	Date: <u>7/18/12</u>	Time: <u>0915</u>	Received by: <u>TJB</u>	Notes: <u>Rec'd 7/19/12 0230 DES</u>							
Relinquished by: <u>TJB</u>	Date: <u>7/18/12</u>	Time: <u>1230</u>	Received by (Laboratory): <u>Orin</u>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)					
Logged by (Laboratory): <u>DES</u>	Date: <u>7/19/12</u>	Time: <u>1100</u>	Checked by (Laboratory): <u>TJB</u>		<u>2.2°C</u>	<input checked="" type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP CheckList				
Preservative Key: 1-HCl 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH 5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 6-NaHSO <sub>4</sub> 7-Other 8-4°C 9-5035						<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV				
						<input type="checkbox"/> Level IV SW846/CLP					
						<input type="checkbox"/> Other					

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.  
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.  
 3. The Chain of Custody is a legal document. All information must be completed accurately.



**ALS Environmental**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

# Chain of Custody Form

Page 3 of 4

COC ID: **20832**

**ALS Environmental**  
 3352 128th Ave.  
 Holland, MI 49424-9263  
 Tel: +1 616 399 6070  
 Fax: +1 616 399 6185

ALS Project Manager: TBS

ALS Work Order #: 1207530

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Van Buren Landfill	A	VOCs											
Work Order		Project Number		B	SVOCs											
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	TAL Metals (per Sow)											
Send Report To	Frank Blehl	Invoice Attn	Accounts Payable	D	PCBs											
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecorse Rd	E	PCDDs/PCDFs											
				F	Pest./Herb.											
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	G												
Phone	(734) 397-3100	Phone		H												
Fax	(734) 397-3131	Fax		I												
e-Mail Address	<u>fb.blehl@manniksmithgroup.com</u>	e-Mail Address	<u>mfrick@manniksmithgroup.com</u>	J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
11	S-R2330004-071212-MF-011	7/12/12	1415	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					
12	S-R2330004-071212-MF-012	"	1430	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					
13	S-R2330004-071212-MF-013	"	1600	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					
14	S-R2330004-071212-MF-014	"	1615	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					
15	S-R2330004-071612-MF-015	7/16/12	0915	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					

Sampler(s) Please Print & Sign <u>Mechael Frick</u>		Shipment Method <u>Priority</u>		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> Std 10 WK Days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> Other <input type="checkbox"/> 24 Hour				Results Due Date:			
Relinquished by: <u>Mechael Frick</u>	Date: <u>7/18/12</u>	Time: <u>0915</u>	Received by: <u>[Signature]</u>	Notes: <u>Rec'd 7/19/12 0730 [Signature]</u>				QC Package: (Check One Box Below)			
Relinquished by: <u>[Signature]</u>	Date: <u>7/18/12</u>	Time: <u>1230</u>	Received by (Laboratory): <u>[Signature]</u>	Cooler ID	Cooler Temp.	<input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP CheckList					
Logged by (Laboratory): <u>[Signature]</u>	Date: <u>7/19/12</u>	Time: <u>0100</u>	Checked by (Laboratory): <u>[Signature]</u>		<u>2.2°C</u>	<input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV					
Preservative Key: 1-HCl 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH 5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 6-NaHSO <sub>4</sub> 7-Other 8-4°C 9-5035								<input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other			

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.  
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.  
 3. The Chain of Custody is a legal document. All information must be completed accurately.



**ALS Environmental**  
 10450 Stancliff Rd., Suite 210  
 Houston, Texas 77099  
 Tel. +1 281 530 5656  
 Fax. +1 281 530 5887

### Chain of Custody Form

Page 4 of 4

COC ID: **20831**

**ALS Environmental**  
 3352 128th Ave.  
 Holland, MI 49424-9263  
 Tel: +1 616 399 6070  
 Fax: +1 616 399 6185

ALS Project Manager: TSB ALS Work Order #: 1207530

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Van Buren Landfill	A	VOCs											
Work Order		Project Number		B	SVOCs											
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	TAL Metals (per 50w)											
Send Report To	Frank Blehl	Invoice Attn	Accounts Payable	D	PCBs											
Address	2365 Haggerty Road South Suite 100	Address	2930 Ecourse Rd	E	PCDDs / PCDFs											
				F	Pest./ Herb.											
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	G												
Phone	(734) 397-3100	Phone		H												
Fax	(734) 397-3131	Fax		I												
e-Mail Address	fblehl@manniksmithgroup.com	e-Mail Address	mfriedh@manniksmithgroup.com	J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
16	S. R2330004-071612-MF-016	7/16/12	0925	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					
17	S. R2330004-071212-MF-017	7/12/12	1600	S	MeOH	2	X										
	"	"	"	"	-	2		X	X	X		X					
18	S. Trip Blank #1	-	-	-	MeOH	1	X										
19	Trip Blank #2	-	-	-	MeOH	1	X										

Sampler(s) Please Print & Sign <u>Michael Friedh</u>		Shipment Method <u>Pickup</u>		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> Std 10 WK Days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> Other <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour				Results Due Date: <u>7/19/12</u>	
Relinquished by: <u>Michael Friedh</u>	Date: <u>7/18/12</u>	Time: <u>0915</u>	Received by: <u>TSB</u>	Notes: <u>Rec'd 7/19/12 0730</u>					
Relinquished by: <u>TSB</u>	Date: <u>7/18/12</u>	Time: <u>1230</u>	Received by (Laboratory): <u>[Signature]</u>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)			
Logged by (Laboratory): <u>DBS</u>	Date: <u>7/19/12</u>	Time: <u>1100</u>	Checked by (Laboratory): <u>[Signature]</u>		<u>2.2°C</u>	<input checked="" type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP CheckList		
Preservative Key: 1-HCl 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH 5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 6-NaHSO <sub>4</sub> 7-Other 8-4°C 9-5035						<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV		
						<input type="checkbox"/> Level IV SW846/CLP			
						<input type="checkbox"/> Other			

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.  
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.  
 3. The Chain of Custody is a legal document. All information must be completed accurately.

**ALS Environmental**  
 3352 128th Avenue  
 Holland, Michigan 49424  
 Tel. +1 616 399 6070  
 Fax. +1 616 399 6185

**CUSTODY SEAL**

Date: 7/17/12  
 Name: [Signature]  
 Company: [Signature]

**ALS Environmental**  
 3352 128th Avenue  
 Holland, Michigan 49424  
 Tel. +1 616 399 6070  
 Fax. +1 616 399 6185

**CUSTODY SEAL**

Date: 7/17/12  
 Name: [Signature]  
 Company: [Signature]

Seal Broken By: \_\_\_\_\_  
 Date: \_\_\_\_\_

**ALS Environmental**  
 3352 128th Avenue  
 Holland, Michigan 49424  
 Tel. +1 616 399 6070  
 Fax. +1 616 399 6185

**CUSTODY SEAL**

Date: 7/17/12  
 Name: [Signature]  
 Company: [Signature]

Seal Broken By: \_\_\_\_\_  
 Date: \_\_\_\_\_

**ALS Environmental**  
 3352 128th Avenue  
 Holland, Michigan 49424  
 Tel. +1 616 399 6070  
 Fax. +1 616 399 6185

**CUSTODY SEAL**

Date: 7/17/12  
 Name: [Signature]  
 Company: [Signature]

**TY TRANSFER COMPANY (BILL - SHIPPING RECEIPT)** DATE 7/17/12 **2870753**

VOIC AN "X" BELOW

SPECIAL SERVICE	SHIPPER'S CONTACT	SHIPPER'S ADDRESS	SHIPPER'S CITY	SHIPPER'S STATE	SHIPPER'S ZIP CODE
GROUND SERVICE <input checked="" type="checkbox"/>					
AIR SERVICE <input type="checkbox"/>					
AIR & GROUND COMBINED <input type="checkbox"/>					
CANCELLED CHECKS OR CASH LETTERS	DECLARED VALUE \$	ADD'L INSURANCE COST \$	PIECES	DESCRIPTION OF WHAT IS BEING SHIPPED: BOX, BAG, ENVELOPE	LESS CHARGES
OTHER (LIST COMMODITIES)			3	Compliments	241 Total
SPECIAL INSTRUCTIONS					

PREPAID  BILL TO ACCT.  C.O.D.

**RECEIVED, Subject to rates and tariffs in effect on the date hereof**

PICKED UP BY	DATE	TIME
MIB	7-17-12	A.M.
JUTE #:	207	75 P.M.

RECEIVED BY	DATE	TIME
[Signature]	7/17/12	A.M.
ROUTE #:	2870753	P.M.

**TOTAL \$**

Except for "cash letters", the released or declared value of this shipment is specifically declared not to be in excess of \$100.00, unless a greater value is declared in writing on this Bill of Lading for which additional charges will be assessed. Carrier's liability with respect to "cash letter" shipments is limited in its tariffs. Except on "cash letter" shipments, claims, if any, must be filed in writing within thirty (30) days after pickup. Claims involving "cash letter" shipments must be filed in writing within three (3) days after pickup. Claimant shall give oral notice to carrier as soon as becomes aware of a potential claim involving a "cash letter" shipment.

**CARRIER SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES.**

property described above, in apparent good order, except as noted (contents and conditions of packages unknown), marked, consigned and destined as shown below, which said company agrees to carry to its usual place of delivery at said destination if within the territory of its highway operations. It is mutually agreed as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions of the carrier's tariff, which are hereby agreed to by the shipper and accepted for himself and his assigns.

**Sample Receipt Checklist**

Client Name: **MANNIK&SMITH**

Date/Time Received: **19-Jul-12 07:30**

Work Order: **1207530**

Received by: **DS**

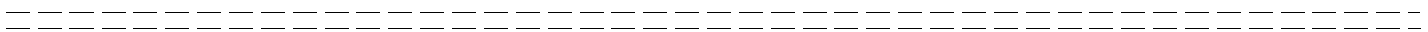
Checklist completed by Diane Shaw 19-Jul-12  
eSignature Date

Reviewed by: Tom Beamish 19-Jul-12  
eSignature Date

Matrices: Soil  
 Carrier name: City Transfer

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="2.2 c"/>		
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text" value="7/19/2012 10:50:31 AM"/>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: yes Date Contacted: 19-Jul-12 Person Contacted: Frank Biehl  
 Contacted By: Tom Beamish Regarding: Moisture - hold time

Comments:

CorrectiveAction:

# Work Order: 1208243

**Project Name:**

**RACER - Van Buren Landfill**

**The Mannik & Smith Group, Inc.**

Frank Biehl

2365 Haggerty Road South

Suite 100

Canton, MI 48188

(734) 397-3100

**11-Sep-2012**



Certificate No: MN331938



11-Sep-2012

Frank Biehl  
The Mannik & Smith Group, Inc.  
2365 Haggerty Road South  
Suite 100  
Canton, MI 48188

Re: **RACER - Van Buren Landfill**

Work Order: **1208243**

Dear Frank,

ALS Environmental received 9 samples on 08-Aug-2012 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 82.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Beamish".

Electronically approved by: Tom Beamish

Tom Beamish  
Senior Project Manager



Certificate No: MN331938

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental ALS Environmental logo icon.

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**WorkOrder:** 1208243

**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
SD	Serial Dilution
TDL	Target Detection Limit

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry as noted	Micrograms per Kilogram Dry Weight
mg/L	Milligrams per Liter

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Work Order:** 1208243

**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1208243-01	W.R2330004.072312.MF.001	Soil		07/23/12 15:00	08/08/12 09:00	<input type="checkbox"/>
1208243-02	W.R2330004.072412.MF.002	Soil		07/24/12 09:00	08/08/12 09:00	<input type="checkbox"/>
1208243-03	W.R2330004.072412.MF.003	Soil		07/24/12 13:00	08/08/12 09:00	<input type="checkbox"/>
1208243-04	W.R2330004.072512.MF.004	Soil		07/24/12 11:00	08/08/12 09:00	<input type="checkbox"/>
1208243-05	W.R2330004.072512.MF.005	Soil		07/25/12 09:30	08/08/12 09:00	<input type="checkbox"/>
1208243-06	W.R2330004.072512.MF.006	Oil		07/25/12 15:00	08/08/12 09:00	<input type="checkbox"/>
1208243-07	W.R2330004.072512.MF.007	Soil		07/25/12 13:00	08/08/12 09:00	<input type="checkbox"/>
1208243-08	W.R2330004.072512.MF.008	Soil		07/25/12 13:00	08/08/12 09:00	<input type="checkbox"/>
1208243-09	Trip Blank #3	Soil		07/25/12	08/08/12 09:00	<input type="checkbox"/>

**ALS Group USA, Corp**

Date: 11-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W.R2330004.072312.MF.001  
**Collection Date:** 07/23/12 03:00 PM

**Work Order:** 1208243  
**Lab ID:** 1208243-01  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SUBCONTRACTED ANALYSES</b>			<b>SUBCONTRACT</b>			Analyst: <b>ALS</b>	
<u>BatchID:</u> R109530							
Subcontracted Analyses	See report		0		as noted	1	09/10/12

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 11-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W.R2330004.072412.MF.002  
**Collection Date:** 07/24/12 09:00 AM

**Work Order:** 1208243  
**Lab ID:** 1208243-02  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SUBCONTRACTED ANALYSES</b>			<b>SUBCONTRACT</b>			Analyst: <b>ALS</b>	
<u>BatchID: R109530</u>							
Subcontracted Analyses	See report		0		as noted	1	09/10/12

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 11-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W.R2330004.072412.MF.003  
**Collection Date:** 07/24/12 01:00 PM

**Work Order:** 1208243  
**Lab ID:** 1208243-03  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SUBCONTRACTED ANALYSES</b>			<b>SUBCONTRACT</b>			Analyst: <b>ALS</b>	
<u>BatchID: R109530</u>							
Subcontracted Analyses	See report		0		as noted	1	09/10/12

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 11-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W.R2330004.072512.MF.004  
**Collection Date:** 07/24/12 11:00 AM

**Work Order:** 1208243  
**Lab ID:** 1208243-04  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SUBCONTRACTED ANALYSES</b>			<b>SUBCONTRACT</b>			Analyst: <b>ALS</b>	
<u>BatchID: R109530</u>							
Subcontracted Analyses	See report		0		as noted	1	09/10/12

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 11-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W.R2330004.072512.MF.005  
**Collection Date:** 07/25/12 09:30 AM

**Work Order:** 1208243  
**Lab ID:** 1208243-05  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SUBCONTRACTED ANALYSES</b>			<b>SUBCONTRACT</b>			Analyst: <b>ALS</b>	
BatchID: <a href="#">R109530</a>							
Subcontracted Analyses	See report		0		as noted	1	09/10/12

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 11-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W.R2330004.072512.MF.006  
**Collection Date:** 07/25/12 03:00 PM

**Work Order:** 1208243  
**Lab ID:** 1208243-06  
**Matrix:** OIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>ORGANIC COMPOUNDS BY GC-FID</b>			<b>SW8015M</b>				Analyst: <b>CW</b>
BatchID: <u>R108306</u>							
Fingerprint	See report		0		mg/L	1	08/08/12 15:43

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**ALS Group USA, Corp**

Date: 11-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W.R2330004.072512.MF.007  
**Collection Date:** 07/25/12 01:00 PM

**Work Order:** 1208243  
**Lab ID:** 1208243-07  
**Matrix:** SOIL

---

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SUBCONTRACTED ANALYSES</b>			<b>SUBCONTRACT</b>			Analyst: <b>ALS</b>	
<u>BatchID:</u> R109530							
Subcontracted Analyses	See report		0		as noted	1	09/10/12

---

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 11-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W.R2330004.072512.MF.008  
**Collection Date:** 07/25/12 01:00 PM

**Work Order:** 1208243  
**Lab ID:** 1208243-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260</b>		Prep: SW5035 / 8/9/12		Analyst: <b>AK</b>
<u>BatchID: 42888</u>							
1,1,1-Trichloroethane	U		2,800	7,400	µg/Kg-dry	100	08/10/12 18:36
1,1,2,2-Tetrachloroethane	U		3,300	7,400	µg/Kg-dry	100	08/10/12 18:36
1,1,2-Trichloroethane	U		2,600	7,400	µg/Kg-dry	100	08/10/12 18:36
1,1,2-Trichlorotrifluoroethane	U		2,700	7,400	µg/Kg-dry	100	08/10/12 18:36
1,1-Dichloroethane	U		2,700	7,400	µg/Kg-dry	100	08/10/12 18:36
1,1-Dichloroethene	U		3,100	7,400	µg/Kg-dry	100	08/10/12 18:36
1,2,4-Trichlorobenzene	U		3,800	7,400	µg/Kg-dry	100	08/10/12 18:36
1,2-Dibromo-3-chloropropane	U		3,600	7,400	µg/Kg-dry	100	08/10/12 18:36
1,2-Dibromoethane	U		2,900	7,400	µg/Kg-dry	100	08/10/12 18:36
1,2-Dichlorobenzene	U		3,000	7,400	µg/Kg-dry	100	08/10/12 18:36
1,2-Dichloroethane	U		3,500	7,400	µg/Kg-dry	100	08/10/12 18:36
1,2-Dichloropropane	U		2,500	7,400	µg/Kg-dry	100	08/10/12 18:36
1,3-Dichlorobenzene	U		3,000	7,400	µg/Kg-dry	100	08/10/12 18:36
1,4-Dichlorobenzene	U		2,800	7,400	µg/Kg-dry	100	08/10/12 18:36
2-Butanone	U		18,000	49,000	µg/Kg-dry	100	08/10/12 18:36
2-Hexanone	U		1,800	7,400	µg/Kg-dry	100	08/10/12 18:36
4-Methyl-2-pentanone	U		2,500	7,400	µg/Kg-dry	100	08/10/12 18:36
Acetone	U		16,000	25,000	µg/Kg-dry	100	08/10/12 18:36
Benzene	U		3,000	7,400	µg/Kg-dry	100	08/10/12 18:36
Bromodichloromethane	U		1,700	7,400	µg/Kg-dry	100	08/10/12 18:36
Bromoform	U		1,500	7,400	µg/Kg-dry	100	08/10/12 18:36
Bromomethane	U		2,800	19,000	µg/Kg-dry	100	08/10/12 18:36
Carbon disulfide	U		3,700	7,400	µg/Kg-dry	100	08/10/12 18:36
Carbon tetrachloride	U		2,100	7,400	µg/Kg-dry	100	08/10/12 18:36
Chlorobenzene	U		3,000	7,400	µg/Kg-dry	100	08/10/12 18:36
Chloroethane	U		16,000	25,000	µg/Kg-dry	100	08/10/12 18:36
Chloroform	U		3,100	7,400	µg/Kg-dry	100	08/10/12 18:36
Chloromethane	U		4,100	25,000	µg/Kg-dry	100	08/10/12 18:36
cis-1,2-Dichloroethene	U		3,000	7,400	µg/Kg-dry	100	08/10/12 18:36
cis-1,3-Dichloropropene	U		2,500	7,400	µg/Kg-dry	100	08/10/12 18:36
<b>Cyclohexane</b>	<b>27,000</b>		<b>3,300</b>	<b>7,400</b>	<b>µg/Kg-dry</b>	100	08/10/12 18:36
Dibromochloromethane	U		1,400	7,400	µg/Kg-dry	100	08/10/12 18:36
Dichlorodifluoromethane	U		3,300	7,400	µg/Kg-dry	100	08/10/12 18:36
<b>Isopropylbenzene</b>	<b>110,000</b>		<b>3,200</b>	<b>7,400</b>	<b>µg/Kg-dry</b>	100	08/10/12 18:36
Methyl acetate	U		9,900	49,000	µg/Kg-dry	100	08/10/12 18:36
Methyl tert-butyl ether	U		3,100	7,400	µg/Kg-dry	100	08/10/12 18:36
Methylcyclohexane	U		3,400	7,400	µg/Kg-dry	100	08/10/12 18:36

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 11-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W.R2330004.072512.MF.008  
**Collection Date:** 07/25/12 01:00 PM

**Work Order:** 1208243  
**Lab ID:** 1208243-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed	
Methylene chloride		U	2,900	7,400	µg/Kg-dry	100	08/10/12 18:36	
Styrene		U	2,800	7,400	µg/Kg-dry	100	08/10/12 18:36	
Tetrachloroethene		U	3,300	7,400	µg/Kg-dry	100	08/10/12 18:36	
<b>Toluene</b>	<b>120,000</b>		<b>2,800</b>	<b>7,400</b>	<b>µg/Kg-dry</b>	100	08/10/12 18:36	
trans-1,2-Dichloroethene		U	2,300	7,400	µg/Kg-dry	100	08/10/12 18:36	
trans-1,3-Dichloropropene		U	2,500	7,400	µg/Kg-dry	100	08/10/12 18:36	
Trichloroethene		U	3,500	7,400	µg/Kg-dry	100	08/10/12 18:36	
Trichlorofluoromethane		U	2,000	7,400	µg/Kg-dry	100	08/10/12 18:36	
Vinyl chloride		U	3,300	7,400	µg/Kg-dry	100	08/10/12 18:36	
Surr: 1,2-Dichloroethane-d4	99.3			70-130	%REC	100	08/10/12 18:36	
Surr: 4-Bromofluorobenzene	98.4			70-130	%REC	100	08/10/12 18:36	
Surr: Dibromofluoromethane	95.2			70-130	%REC	100	08/10/12 18:36	
Surr: Toluene-d8	99.0			70-130	%REC	100	08/10/12 18:36	
<u>BatchID: 42888</u>								
<b>Ethylbenzene</b>	<b>2,900,000</b>		<b>28,000</b>	<b>74,000</b>	<b>µg/Kg-dry</b>	1000	08/15/12 20:48	
<b>Xylenes, Total</b>	<b>12,000,000</b>		<b>88,000</b>	<b>220,000</b>	<b>µg/Kg-dry</b>	1000	08/15/12 20:48	
Surr: 1,2-Dichloroethane-d4	111			70-130	%REC	1000	08/15/12 20:48	
Surr: 4-Bromofluorobenzene	109			70-130	%REC	1000	08/15/12 20:48	
Surr: Dibromofluoromethane	109			70-130	%REC	1000	08/15/12 20:48	
Surr: Toluene-d8	107			70-130	%REC	1000	08/15/12 20:48	
<b>MOISTURE</b>			<b>A2540 G</b>				Analyst: <b>EE</b>	
<u>BatchID: R108330</u>								
<b>Moisture</b>	<b>19</b>	<b>H</b>	<b>0.025</b>	<b>0.050</b>	<b>% of sample</b>	<b>1</b>	<b>08/08/12 18:00</b>	

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 11-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** Trip Blank #3  
**Collection Date:** 07/25/12

**Work Order:** 1208243  
**Lab ID:** 1208243-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260</b>		Prep: SW5035 / 8/9/12		Analyst: <b>AK</b>
<u>BatchID: 42888</u>							
1,1,1-Trichloroethane	U		11	30	µg/Kg	1	08/10/12 17:01
1,1,2,2-Tetrachloroethane	U		13	30	µg/Kg	1	08/10/12 17:01
1,1,2-Trichloroethane	U		11	30	µg/Kg	1	08/10/12 17:01
1,1,2-Trichlorotrifluoroethane	U		11	30	µg/Kg	1	08/10/12 17:01
1,1-Dichloroethane	U		11	30	µg/Kg	1	08/10/12 17:01
1,1-Dichloroethene	U		13	30	µg/Kg	1	08/10/12 17:01
1,2,4-Trichlorobenzene	U		16	30	µg/Kg	1	08/10/12 17:01
1,2-Dibromo-3-chloropropane	U		15	30	µg/Kg	1	08/10/12 17:01
1,2-Dibromoethane	U		12	30	µg/Kg	1	08/10/12 17:01
1,2-Dichlorobenzene	U		12	30	µg/Kg	1	08/10/12 17:01
1,2-Dichloroethane	U		14	30	µg/Kg	1	08/10/12 17:01
1,2-Dichloropropane	U		9.9	30	µg/Kg	1	08/10/12 17:01
1,3-Dichlorobenzene	U		12	30	µg/Kg	1	08/10/12 17:01
1,4-Dichlorobenzene	U		11	30	µg/Kg	1	08/10/12 17:01
2-Butanone	U		74	200	µg/Kg	1	08/10/12 17:01
2-Hexanone	U		7.4	30	µg/Kg	1	08/10/12 17:01
4-Methyl-2-pentanone	U		10	30	µg/Kg	1	08/10/12 17:01
Acetone	U		64	100	µg/Kg	1	08/10/12 17:01
Benzene	U		12	30	µg/Kg	1	08/10/12 17:01
Bromodichloromethane	U		6.7	30	µg/Kg	1	08/10/12 17:01
Bromoform	U		5.9	30	µg/Kg	1	08/10/12 17:01
Bromomethane	U		11	75	µg/Kg	1	08/10/12 17:01
Carbon disulfide	U		15	30	µg/Kg	1	08/10/12 17:01
Carbon tetrachloride	U		8.5	30	µg/Kg	1	08/10/12 17:01
Chlorobenzene	U		12	30	µg/Kg	1	08/10/12 17:01
Chloroethane	U		64	100	µg/Kg	1	08/10/12 17:01
Chloroform	U		12	30	µg/Kg	1	08/10/12 17:01
Chloromethane	U		17	100	µg/Kg	1	08/10/12 17:01
cis-1,2-Dichloroethene	U		12	30	µg/Kg	1	08/10/12 17:01
cis-1,3-Dichloropropene	U		10	30	µg/Kg	1	08/10/12 17:01
Cyclohexane	U		13	30	µg/Kg	1	08/10/12 17:01
Dibromochloromethane	U		5.6	30	µg/Kg	1	08/10/12 17:01
Dichlorodifluoromethane	U		14	30	µg/Kg	1	08/10/12 17:01
Ethylbenzene	U		11	30	µg/Kg	1	08/10/12 17:01
Isopropylbenzene	U		13	30	µg/Kg	1	08/10/12 17:01
Methyl acetate	U		40	200	µg/Kg	1	08/10/12 17:01
Methyl tert-butyl ether	U		13	30	µg/Kg	1	08/10/12 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 11-Sep-12

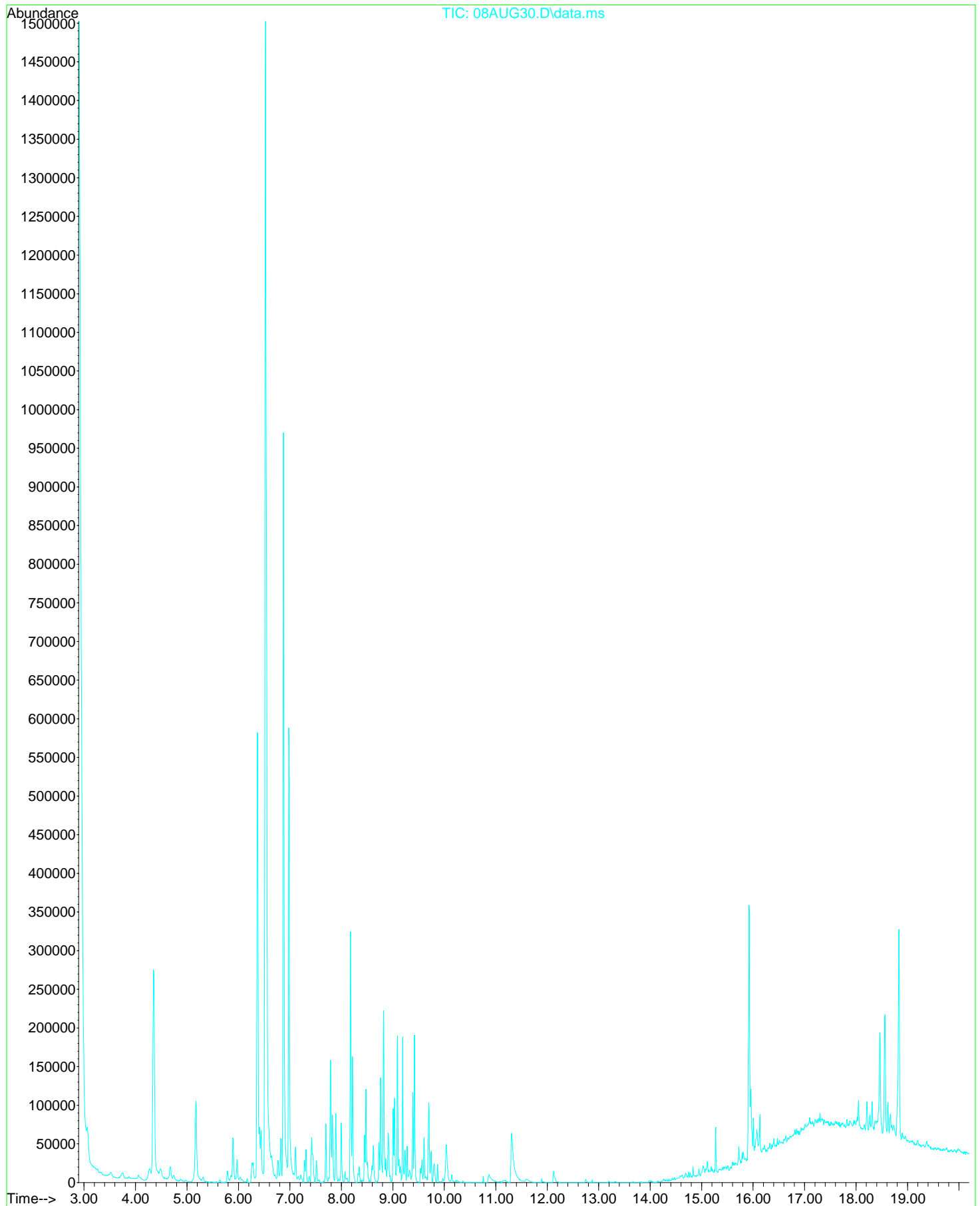
**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** Trip Blank #3  
**Collection Date:** 07/25/12

**Work Order:** 1208243  
**Lab ID:** 1208243-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		14	30	µg/Kg	1	08/10/12 17:01
Methylene chloride	U		12	30	µg/Kg	1	08/10/12 17:01
Styrene	U		11	30	µg/Kg	1	08/10/12 17:01
Tetrachloroethene	U		13	30	µg/Kg	1	08/10/12 17:01
Toluene	U		11	30	µg/Kg	1	08/10/12 17:01
trans-1,2-Dichloroethene	U		9.2	30	µg/Kg	1	08/10/12 17:01
trans-1,3-Dichloropropene	U		10	30	µg/Kg	1	08/10/12 17:01
Trichloroethene	U		14	30	µg/Kg	1	08/10/12 17:01
Trichlorofluoromethane	U		8.3	30	µg/Kg	1	08/10/12 17:01
Vinyl chloride	U		14	30	µg/Kg	1	08/10/12 17:01
Xylenes, Total	U		35	90	µg/Kg	1	08/10/12 17:01
Surr: 1,2-Dichloroethane-d4	98.2			70-130	%REC	1	08/10/12 17:01
Surr: 4-Bromofluorobenzene	95.7			70-130	%REC	1	08/10/12 17:01
Surr: Dibromofluoromethane	94.2			70-130	%REC	1	08/10/12 17:01
Surr: Toluene-d8	95.3			70-130	%REC	1	08/10/12 17:01

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

File :C:\msdchem\1\data\6S080812\08AUG30.D  
Operator : RM  
Acquired : 8 Aug 2012 10:52 pm using AcqMethod 8270C.M  
Instrument : SVMS6  
Sample Name: 1208243-06A FP  
Misc Info :  
Vial Number: 30

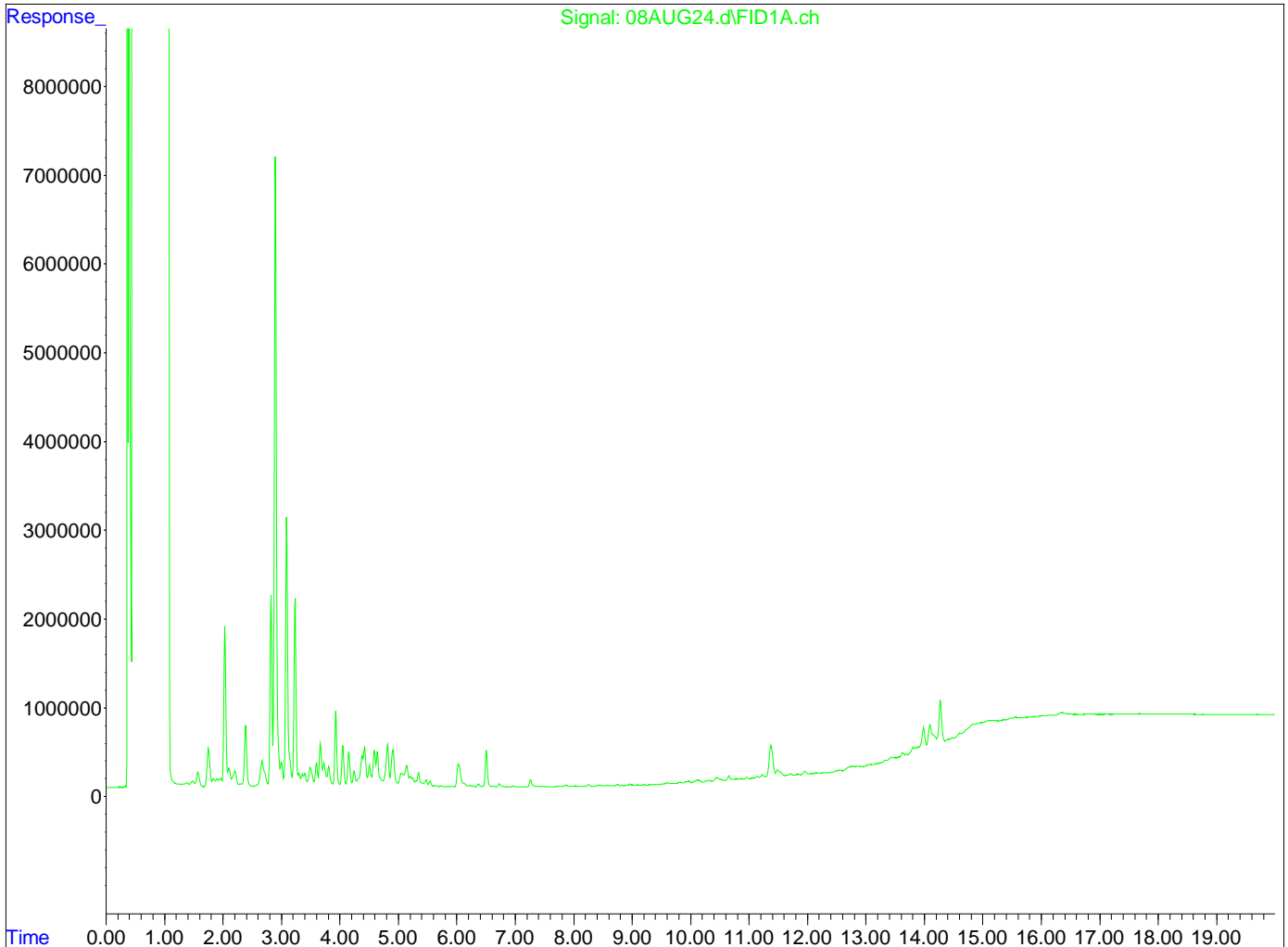


Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\080812DR\  
Data File : 08AUG24.d  
Signal(s) : FID1A.ch  
Acq On : 8 Aug 2012 3:43 pm  
Operator : CDW  
Sample : 1208243-06A  
Misc :  
ALS Vial : 15 Sample Multiplier: 1

Integration File: EVE1.e  
Quant Time: Aug 08 16:08:25 2012  
Quant Method : C:\msdchem\1\methods\1020F072612.M  
Quant Title :  
QLast Update : Fri Jul 27 08:05:15 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal Phase :  
Signal Info :





September 10, 2012

Service Request No: E1201123

Tom Beamish  
ALS Group USA, Corp.  
3352 128th Avenue  
Holland, MI 49424

**Laboratory Results for: 1208243**

Dear Tom:

Enclosed are the results of the sample(s) submitted to our laboratory on August 9, 2012. For your reference, these analyses have been assigned our service request number **E1201123**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2959. You may also contact me via email at [Nicole.Brown@alsglobal.com](mailto:Nicole.Brown@alsglobal.com).

Respectfully submitted,

**Columbia Analytical Services, Inc. dba ALS Environmental**

Nicole Brown  
Project Manager

Page 1 of \_\_\_\_\_

*For a specific list of NELAP-accredited analytes, refer to the certifications section at [www.alsglobal.com](http://www.alsglobal.com).*



ADDRESS 19408 Park Row, Suite 320, Houston, TX 77084  
PHONE +1 713 266 1599 | FAX +1 713 266 0130  
Columbia Analytical Services, Inc.  
Part of the ALS Group A Campbell Brothers Limited Company



Now part of the  **ALS Group**

## *Certificate of Analysis*

19408 Park Row, Suite 320, Houston, TX 77084

Phone (713)266-1599 Fax (713)266-0130

[www.caslab.com](http://www.caslab.com)

*An Employee Owned Company*

**COLUMBIA ANALYTICAL SERVICES, INC**  
**dba ALS Environmental**

**Client:** ALS Group, USA – Holland, MI  
**Project:** 1208243  
**Sample Matrix:** Soil

**Service Request No.:** E1201123  
**Date Received:** 08/09/12

**CASE NARRATIVE**

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

**Sample Receipt**

Six soil samples were received for analysis at Columbia Analytical Services on 08/09/12.

The following discrepancies were noted upon initial sample inspection: no custody seals on cooler. The exceptions are also noted on the cooler receipt and preservation form included in this data package.

The samples were received at 1°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

**Data Validation Notes and Discussion**

**B flags – Method Blanks**

The Method Blank EQ1200475-01 contained low levels of OCDD below the Method Reporting Limit (MRL). The associated compound in the samples is flagged with a 'B' flag.

**MS/MSD**

EQ1200019: One Laboratory Control Spike (LCS) sample was analyzed and reported in addition to an MS/MSD for this extraction batch. The batch quality control criteria were met.

The batch precision (MS/DMS) measurements were determined on another order in the extraction batch. The MS/DMS results are not included in this report.

**C flags – 2378-TCDF Confirmation**

Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225.) The results from both the DB-5 column and the DB-225 column are included in this data package.

The valid result for the 2378-TCDF compound is reported from the confirmation column.

The confirmation results have been included on the Total TEQ summary pages.

### **Y flags – Labeled Standards**

Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

### **E flags**

When OCDD and/or OCDF exceed the upper method calibration limit (MCL), Method 8290 Section 7.9.3 advises the chemist to "report the measured concentration and indicate that the value exceeds the MCL." We use 'E' flag on the Sample Analytical Report results page results to indicate a compound has exceeded the MCL.

### **K flags**

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

### **Detection Limits**

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

### **The TEQ Summary results for each sample have been calculated by CAS/Houston to include:**

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- 2378-TCDF from the DB-225 column, when confirmation required
- Non-detected compounds are not included in the 'Total'

*The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for utilization of less than the complete report.*

*Use of Columbia Analytical Services, Inc. dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur*

*irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.*

**Client:** ALS Group USA, Corp.  
**Project:** 1208243

**Service Request:** E1201123

**SAMPLE CROSS-REFERENCE**

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
E1201123-001	1208243-01A	7/23/12	15:00
E1201123-002	1208243-02A	7/24/12	09:00
E1201123-003	1208243-03A	7/24/12	13:00
E1201123-004	1208243-04A	7/24/12	11:00
E1201123-005	1208243-05A	7/25/12	09:30
E1201123-006	1208243-07A	7/25/12	13:00

## Laboratory Certifications 2012-2013

---

<b>STATE/PROGRAM</b>	<b>AGENCY</b>	<b>CERT#</b>	<b>EXP DATE</b>	<b>CERTIFIED?</b>
<b>DoD ELAP</b>	A2LA	2897.01	11/30/12	Yes
<b>ISO 17025</b>	A2LA	2897.01	11/30/12	Yes
<b>ARIZONA</b>	AZ-DHS	AZ0725	05/27/13	Yes
<b>ARKANSAS</b>	ADEQ	10-035-0	06/16/13	Yes
<b>CALIFORNIA</b>	CA-ELAP	2452	02/28/13	Yes
<b>FLORIDA/NELAP</b>	FL-DOHS	E87611	06/30/13	Yes
<b>HAWAII</b>	HI-DOH	N/A	06/30/13	Yes
<b>ILLINOIS/NELAP</b>	IL-EPA	002611	10/26/12	Yes
<b>LOUISIANA/NELAP</b>	LELAP	03048	06/30/13	Yes
<b>LOUISIANA/NELAP</b>	LDHH	LA100032	12/31/12	Yes
<b>MAINE</b>	ME-DOHS	2010041	06/05/13	Yes
<b>MICHIGAN</b>	MIDEQ	9971	06/30/13	Yes
<b>MINNESOTA</b>	MDH	048-999-427	12/31/12	Yes
<b>NEVADA</b>	NDEP	TX014112010A	09/30/12	Yes (Extension)
<b>NEW JERSEY</b>	NJDEP	TX008	06/30/13	Yes
<b>NEW MEXICO</b>	NMED-DWB	N/A	06/30/13	Yes
<b>NEW YORK/NELAP</b>	NY-DOH	11707	04/1/13	Yes
<b>OKLAHOMA</b>	OKDEQ	2010-022	08/31/13	Yes
<b>OREGON/NELAP</b>	ORELAP	TX200002-006	03/24/13	Yes
<b>PENNSYLVANIA/NELAP</b>	PLAP	002	06/30/13	Yes
<b>TENNESSEE</b>	TNDEC	04016	06/30/13	Yes
<b>TEXAS/NELAP</b>	TCEQ	T104704216-10-1	06/30/13	Yes
<b>UTAH/NELAP</b>	UTELCP	COLU2	06/30/13	Yes
<b>SOIL IMPORT PERMIT</b>	USDA	P330-12-00002	01/13/15	Yes
<b>WASHINGTON/NELAP</b>	WA-Ecology	C819-10	11/14/12	Yes
<b>WEST VIRGINIA</b>	WVDEP	347	06/30/12	Yes

# Abbreviations, Acronyms & Definitions

---

<b>Cal</b>	Calibration
<b>Conc</b>	CONCentration
<b>Dioxin(s)</b>	Polychlorinated dibenzo-p-dioxin(s)
<b>EDL</b>	Estimated Detection Limit
<b>EMPC</b>	Estimated Maximum Possible Concentration
<b>Flags</b>	Data qualifiers
<b>Furan(s)</b>	Polychlorinated dibenzofuran(s)
<b>g</b>	Grams
<b>ICAL</b>	Initial CALibration
<b>ID</b>	IDentifier
<b>Ions</b>	Masses monitored for the analyte during data acquisition
<b>L</b>	Liter (s)
<b>LCS</b>	Laboratory Control Sample
<b>DLCS</b>	Duplicate Laboratory Control Sample
<b>MB</b>	Method Blank
<b>MCL</b>	Method Calibration Limit
<b>MDL</b>	Method Detection Limit
<b>MRL</b>	Method Reporting Limit
<b>mL</b>	Milliliters
<b>MS</b>	Matrix Spiked sample
<b>DMS</b>	Duplicate Matrix Spiked sample
<b>NO</b>	Number of peaks meeting all identification criteria
<b>PCDD(s)</b>	Polychlorinated dibenzo-p-dioxin(s)
<b>PCDF(s)</b>	Polychlorinated dibenzofuran(s)
<b>ppb</b>	Parts per billion
<b>ppm</b>	Parts per million
<b>ppq</b>	Parts per quadrillion
<b>ppt</b>	Parts per trillion
<b>QA</b>	Quality Assurance
<b>QC</b>	Quality Control
<b>Ratio</b>	Ratio of areas from monitored ions for an analyte
<b>% Rec.</b>	Percent Recovery
<b>RPD</b>	Relative Percent Difference
<b>RRF</b>	Relative Response Factor
<b>RT</b>	Retention Time
<b>RRT</b>	Relative Retention Time
<b>SDG</b>	Sample Delivery Group
<b>S/N</b>	Signal-to-Noise ratio
<b>TEF</b>	Toxicity Equivalence Factor
<b>TEQ</b>	Toxicity Equivalence Quotient

# Data Qualifier Flags – Dioxin/Furans

---

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample.
- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.
- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range.
- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL).
- **K** EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.
- **U** Indicates the compound was analyzed and not detected.
- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.
- **ND** Indicates concentration is reported as 'Not Detected.'
- **S** Peak is saturated; data not reportable.
- **P** Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
- **Q** Lock-mass interference by chlorodiphenyl ether compounds.

COLUMBIA ANALYTICAL SERVICES, INC. – Houston  
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID E1201123

DB- 5

DB- 225

SPB- Oct yl

**First Level - Data Processing - to be filled by person generating the forms**

Date:	Anal yst:	Sampl es:
09/05/12	JL	- 001, -003

**Second Level - Data Review - to be filled by person doing peer review**

Date:	Anal yst:	Sampl es:
09/06/12	UK	001, 003

COLUMBIA ANALYTICAL SERVICES, INC. – Houston  
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

E1201123

DB- 5

DB- 225

SPB- Oct yl

**First Level - Data Processing - to be filled by person generating the forms**

Date:	Anal yst :	Sampl es:
08/29/12	JC	-001, -002

**Second Level - Data Review - to be filled by person doing peer review**

Date:	Anal yst	Sampl es:
08/29/12	UM	-001, -002

COLUMBIA ANALYTICAL SERVICES, INC. – Houston  
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

E1201123

DB- 5

DB- 225

SPB- Oct yl

**First Level - Data Processing - to be filled by person generating the forms**

Date:	Anal yst:	Sampl es:
08/31/12	JL	-003, -004

**Second Level - Data Review - to be filled by person doing peer review**

Date:	Anal yst:	Sampl es:
08/31/12	UM	-003, -004

COLUMBIA ANALYTICAL SERVICES, INC. – Houston  
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

E1201123

DB- 5

DB- 225

SPB- Oct yl

**First Level - Data Processing - to be filled by person generating the forms**

Date:	Anal yst:	Sampl es:
09/04/12	JL	-006

**Second Level - Data Review - to be filled by person doing peer review**

Date:	Anal yst:	Sampl es:
09/06/12	LK	-006



Now part of the  **ALS Group**

## *Analytical Results*

19408 Park Row, Suite 320, Houston, TX 77084

Phone (713)266-1599 Fax (713)266-0130

[www.caslab.com](http://www.caslab.com)

*An Employee Owned Company*

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-01A  
**Lab Code:** E1201123-001

**Service Request:** E1201123  
**Date Collected:** 7/23/12 1500  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 78.6

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.582g  
  
**Data File Name:** U230531  
**ICAL Date:** 08/06/12

**Date Analyzed:** 9/4/12 1023  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230528

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	2.17		0.130	0.601	0.82	1.001	1
1,2,3,7,8-PeCDD	2.97	J	0.166	3.01	1.45	1.000	1
1,2,3,4,7,8-HxCDD	1.74	J	0.186	3.01	1.35	1.001	1
1,2,3,6,7,8-HxCDD	11.4		0.225	3.01	1.33	1.000	1
1,2,3,7,8,9-HxCDD	4.94		0.196	3.01	1.17	1.005	1
1,2,3,4,6,7,8-HpCDD	155		0.744	3.01	1.07	1.000	1
OCDD	1200	B	2.15	6.01	0.90	1.000	1
2,3,7,8-TCDF	8.41	C	0.195	0.601	0.82	1.001	1
1,2,3,7,8-PeCDF	1.67	J	0.0939	3.01	1.64	1.000	1
2,3,4,7,8-PeCDF	3.21		0.122	3.01	1.64	1.001	1
1,2,3,4,7,8-HxCDF	3.07		0.346	3.01	1.22	1.000	1
1,2,3,6,7,8-HxCDF	2.39	J	0.330	3.01	1.36	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.372	3.01			1
2,3,4,6,7,8-HxCDF	2.67	J	0.286	3.01	1.11	1.000	1
1,2,3,4,6,7,8-HpCDF	22.5		0.277	3.01	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	1.29	JK	0.347	3.01	1.27	1.000	1
OCDF	64.5		0.657	6.01	0.89	1.004	1
Total Tetra-Dioxins	15.6		0.130	0.601	0.82		1
Total Penta-Dioxins	29.7		0.166	3.01	1.54		1
Total Hexa-Dioxins	109		0.186	3.01	1.27		1
Total Hepta-Dioxins	345		0.744	3.01	1.05		1
Total Tetra-Furans	58.4		0.195	0.601	0.73		1
Total Penta-Furans	64.1		0.122	3.01	1.63		1
Total Hexa-Furans	63.5		0.346	3.01	1.38		1
Total Hepta-Furans	68.3		0.277	3.01	1.06		1

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-01A  
**Lab Code:** E1201123-001

**Service Request:** E1201123  
**Date Collected:** 7/23/12 1500  
**Date Received:** 8/ 9/12  
**Units:** Percent  
**Basis:** Dry  
**Percent Solids:** 78.6

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.582g  
  
**Data File Name:** U230531  
**ICAL Date:** 08/06/12

**Date Analyzed:** 9/4/12 1023  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230528

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1075.703	54		40-135	0.77	1.009
13C-1,2,3,7,8-PeCDD	2000	1084.635	54		40-135	1.59	1.178
13C-1,2,3,6,7,8-HxCDD	2000	1860.489	93		40-135	1.29	0.995
13C-1,2,3,4,6,7,8-HpCDD	2000	1499.407	75		40-135	1.09	1.067
13C-OCDD	4000	1953.680	49		40-135	0.90	1.147
13C-2,3,7,8-TCDF	2000	867.057	43		40-135	0.78	0.979
13C-1,2,3,7,8-PeCDF	2000	1047.608	52		40-135	1.58	1.138
13C-1,2,3,4,7,8-HxCDF	2000	2320.727	116		40-135	0.53	0.974
13C-1,2,3,4,6,7,8-HpCDF	2000	1372.597	69		40-135	0.46	1.043
37Cl-2,3,7,8-TCDD	800	492.802	62		40-135	NA	1.011

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-01A  
**Lab Code:** E1201123-001

**Service Request:** E1201123  
**Date Collected:** 7/23/12 1500  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	2.17	0.130	0.601	1	1	2.17
1,2,3,7,8-PeCDD	2.97	0.166	3.01	1	1	2.97
1,2,3,4,7,8-HxCDD	1.74	0.186	3.01	1	0.1	0.174
1,2,3,6,7,8-HxCDD	11.4	0.225	3.01	1	0.1	1.14
1,2,3,7,8,9-HxCDD	4.94	0.196	3.01	1	0.1	0.494
1,2,3,4,6,7,8-HpCDD	155	0.744	3.01	1	0.01	1.55
OCDD	1200	2.15	6.01	1	0.0003	0.360
2,3,7,8-TCDF	2.77	0.640	0.640	1	0.1	0.277
1,2,3,7,8-PeCDF	1.67	0.0939	3.01	1	0.03	0.0501
2,3,4,7,8-PeCDF	3.21	0.122	3.01	1	0.3	0.963
1,2,3,4,7,8-HxCDF	3.07	0.346	3.01	1	0.1	0.307
1,2,3,6,7,8-HxCDF	2.39	0.330	3.01	1	0.1	0.239
1,2,3,7,8,9-HxCDF	ND	0.372	3.01	1	0.1	
2,3,4,6,7,8-HxCDF	2.67	0.286	3.01	1	0.1	0.267
1,2,3,4,6,7,8-HpCDF	22.5	0.277	3.01	1	0.01	0.225
1,2,3,4,7,8,9-HpCDF	1.29	0.347	3.01	1	0.01	0.0129
OCDF	64.5	0.657	6.01	1	0.0003	0.0194
Total TEQ						11.2

2005 WHO TEFs, ND = 0

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-01A  
**Lab Code:** E1201123-001

**Service Request:** E1201123  
**Date Collected:** 7/23/12 1500  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 78.6

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.582g  
**Data File Name:** P219127  
**ICAL Date:** 09/09/11

**Date Analyzed:** 8/29/12 0137  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-04  
**GC Column:** DB-225  
**Blank File Name:** P219113  
**Cal Ver. File Name:** P219111

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDF	2.77	K	0.640	0.640	0.61	1.002	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDF	2000	891.988	45		40-135	0.81	1.071
37Cl-2,3,7,8-TCDD	800	533.740	67		40-135	NA	0.985

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-02A  
**Lab Code:** E1201123-002

**Service Request:** E1201123  
**Date Collected:** 7/24/12 0900  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 79.1

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.915g  
**Data File Name:** U230424  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/28/12 1018  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230417

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.913		0.111	0.579	0.81	1.001	1
1,2,3,7,8-PeCDD	2.14	J	0.108	2.90	1.43	1.001	1
1,2,3,4,7,8-HxCDD	1.71	J	0.213	2.90	1.24	1.000	1
1,2,3,6,7,8-HxCDD	7.99		0.255	2.90	1.19	1.000	1
1,2,3,7,8,9-HxCDD	5.11		0.223	2.90	1.13	1.008	1
1,2,3,4,6,7,8-HpCDD	123		0.462	2.90	1.05	1.000	1
OCDD	767	B	1.19	5.79	0.90	1.000	1
2,3,7,8-TCDF	16.9	C	0.204	0.579	0.79	1.001	1
1,2,3,7,8-PeCDF	3.68		0.186	2.90	1.63	1.001	1
2,3,4,7,8-PeCDF	5.90		0.211	2.90	1.68	1.001	1
1,2,3,4,7,8-HxCDF	12.4		0.113	2.90	1.23	1.000	1
1,2,3,6,7,8-HxCDF	4.51		0.108	2.90	1.20	1.000	1
1,2,3,7,8,9-HxCDF	0.217	J	0.135	2.90	1.14	1.001	1
2,3,4,6,7,8-HxCDF	5.03		0.120	2.90	1.33	1.000	1
1,2,3,4,6,7,8-HpCDF	24.4		0.441	2.90	1.01	1.000	1
1,2,3,4,7,8,9-HpCDF	2.14	J	0.472	2.90	0.93	1.000	1
OCDF	37.1		0.450	5.79	0.93	1.004	1
Total Tetra-Dioxins	9.19		0.111	0.579	0.85		1
Total Penta-Dioxins	23.7		0.108	2.90	1.49		1
Total Hexa-Dioxins	74.8		0.213	2.90	1.32		1
Total Hepta-Dioxins	248		0.462	2.90	1.04		1
Total Tetra-Furans	87.1		0.204	0.579	0.70		1
Total Penta-Furans	93.2		0.211	2.90	1.57		1
Total Hexa-Furans	66.6		0.113	2.90	1.30		1
Total Hepta-Furans	53.8		0.441	2.90	1.01		1

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-02A  
**Lab Code:** E1201123-002

**Service Request:** E1201123  
**Date Collected:** 7/24/12 0900  
**Date Received:** 8/ 9/12  
**Units:** Percent  
**Basis:** Dry  
**Percent Solids:** 79.1

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.915g  
  
**Data File Name:** U230424  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/28/12 1018  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230417

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1374.576	69		40-135	0.79	1.008
13C-1,2,3,7,8-PeCDD	2000	1515.207	76		40-135	1.58	1.178
13C-1,2,3,6,7,8-HxCDD	2000	1087.418	54		40-135	1.28	0.992
13C-1,2,3,4,6,7,8-HpCDD	2000	1075.117	54		40-135	1.08	1.069
13C-OCDD	4000	1575.150	39	Y	40-135	0.91	1.149
13C-2,3,7,8-TCDF	2000	1076.392	54		40-135	0.81	0.978
13C-1,2,3,7,8-PeCDF	2000	1417.997	71		40-135	1.61	1.138
13C-1,2,3,4,7,8-HxCDF	2000	1238.958	62		40-135	0.53	0.971
13C-1,2,3,4,6,7,8-HpCDF	2000	976.471	49		40-135	0.46	1.045
37Cl-2,3,7,8-TCDD	800	661.222	83		40-135	NA	1.009

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-02A  
**Lab Code:** E1201123-002

**Service Request:** E1201123  
**Date Collected:** 7/24/12 0900  
**Date Received:** 8/ 9/12  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	<b>0.913</b>	0.111	0.579	1	1	0.913
1,2,3,7,8-PeCDD	<b>2.14</b>	0.108	2.90	1	1	2.14
1,2,3,4,7,8-HxCDD	<b>1.71</b>	0.213	2.90	1	0.1	0.171
1,2,3,6,7,8-HxCDD	<b>7.99</b>	0.255	2.90	1	0.1	0.799
1,2,3,7,8,9-HxCDD	<b>5.11</b>	0.223	2.90	1	0.1	0.511
1,2,3,4,6,7,8-HpCDD	<b>123</b>	0.462	2.90	1	0.01	1.23
OCDD	<b>767</b>	1.19	5.79	1	0.0003	0.230
2,3,7,8-TCDF	<b>5.68</b>	1.04	1.04	1	0.1	0.568
1,2,3,7,8-PeCDF	<b>3.68</b>	0.186	2.90	1	0.03	0.110
2,3,4,7,8-PeCDF	<b>5.90</b>	0.211	2.90	1	0.3	1.77
1,2,3,4,7,8-HxCDF	<b>12.4</b>	0.113	2.90	1	0.1	1.24
1,2,3,6,7,8-HxCDF	<b>4.51</b>	0.108	2.90	1	0.1	0.451
1,2,3,7,8,9-HxCDF	<b>0.217</b>	0.135	2.90	1	0.1	0.0217
2,3,4,6,7,8-HxCDF	<b>5.03</b>	0.120	2.90	1	0.1	0.503
1,2,3,4,6,7,8-HpCDF	<b>24.4</b>	0.441	2.90	1	0.01	0.244
1,2,3,4,7,8,9-HpCDF	<b>2.14</b>	0.472	2.90	1	0.01	0.0214
OCDF	<b>37.1</b>	0.450	5.79	1	0.0003	0.0111

Total TEQ

10.9

2005 WHO TEFs, ND = 0

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-02A  
**Lab Code:** E1201123-002

**Service Request:** E1201123  
**Date Collected:** 7/24/12 0900  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 79.1

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.915g  
**Data File Name:** P219128  
**ICAL Date:** 09/09/11

**Date Analyzed:** 8/29/12 0212  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-04  
**GC Column:** DB-225  
**Blank File Name:** P219113  
**Cal Ver. File Name:** P219111

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDF	5.68		1.04	1.04	0.83	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDF	2000	954.479	48		40-135	0.80	1.072
37Cl-2,3,7,8-TCDD	800	675.558	84		40-135	NA	0.985

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-03A  
**Lab Code:** E1201123-003

**Service Request:** E1201123  
**Date Collected:** 7/24/12 1300  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 90.9

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.255g  
**Data File Name:** U230532  
**ICAL Date:** 08/06/12

**Date Analyzed:** 9/4/12 1110  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230528

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	3.06		0.172	0.536	0.86	1.000	1
1,2,3,7,8-PeCDD	3.94		0.264	2.68	1.71	1.001	1
1,2,3,4,7,8-HxCDD	1.85	J	0.215	2.68	1.07	1.000	1
1,2,3,6,7,8-HxCDD	21.0		0.280	2.68	1.30	1.000	1
1,2,3,7,8,9-HxCDD	6.33		0.230	2.68	1.27	1.005	1
1,2,3,4,6,7,8-HpCDD	207		0.675	2.68	1.06	1.000	1
OCDD	1990	B	2.79	5.36	0.88	1.000	1
2,3,7,8-TCDF	9.73	C	0.126	0.536	0.72	1.000	1
1,2,3,7,8-PeCDF	2.49	J	0.137	2.68	1.55	1.001	1
2,3,4,7,8-PeCDF	3.93		0.222	2.68	1.58	1.001	1
1,2,3,4,7,8-HxCDF	4.06		0.179	2.68	1.22	1.000	1
1,2,3,6,7,8-HxCDF	3.62	K	0.177	2.68	1.45	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.219	2.68			1
2,3,4,6,7,8-HxCDF	5.86		0.173	2.68	1.27	1.000	1
1,2,3,4,6,7,8-HpCDF	55.6		0.348	2.68	1.02	1.000	1
1,2,3,4,7,8,9-HpCDF	2.24	J	0.389	2.68	1.05	1.000	1
OCDF	81.4		0.757	5.36	0.89	1.004	1
Total Tetra-Dioxins	12.5		0.172	0.536	0.78		1
Total Penta-Dioxins	36.1		0.264	2.68	1.57		1
Total Hexa-Dioxins	215		0.215	2.68	1.23		1
Total Hepta-Dioxins	471		0.675	2.68	1.05		1
Total Tetra-Furans	49.9		0.126	0.536	0.71		1
Total Penta-Furans	85.7		0.222	2.68	1.56		1
Total Hexa-Furans	123		0.179	2.68	1.36		1
Total Hepta-Furans	180		0.348	2.68	1.02		1

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-03A  
**Lab Code:** E1201123-003

**Service Request:** E1201123  
**Date Collected:** 7/24/12 1300  
**Date Received:** 8/ 9/12  
**Units:** Percent  
**Basis:** Dry  
**Percent Solids:** 90.9

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.255g  
  
**Data File Name:** U230532  
**ICAL Date:** 08/06/12

**Date Analyzed:** 9/4/12 1110  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230528

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1070.076	54		40-135	0.78	1.012
13C-1,2,3,7,8-PeCDD	2000	1063.878	53		40-135	1.58	1.177
13C-1,2,3,6,7,8-HxCDD	2000	1312.944	66		40-135	1.28	0.995
13C-1,2,3,4,6,7,8-HpCDD	2000	1812.270	91		40-135	1.09	1.064
13C-OCDD	4000	2435.968	61		40-135	0.90	1.145
13C-2,3,7,8-TCDF	2000	983.054	49		40-135	0.78	0.980
13C-1,2,3,7,8-PeCDF	2000	1008.396	50		40-135	1.58	1.136
13C-1,2,3,4,7,8-HxCDF	2000	3089.764	154	Y	40-135	0.52	0.976
13C-1,2,3,4,6,7,8-HpCDF	2000	1618.649	81		40-135	0.46	1.041
37Cl-2,3,7,8-TCDD	800	492.216	62		40-135	NA	1.012

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-03A  
**Lab Code:** E1201123-003

**Service Request:** E1201123  
**Date Collected:** 7/24/12 1300  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	<b>3.06</b>	0.172	0.536	1	1	3.06
1,2,3,7,8-PeCDD	<b>3.94</b>	0.264	2.68	1	1	3.94
1,2,3,4,7,8-HxCDD	<b>1.85</b>	0.215	2.68	1	0.1	0.185
1,2,3,6,7,8-HxCDD	<b>21.0</b>	0.280	2.68	1	0.1	2.10
1,2,3,7,8,9-HxCDD	<b>6.33</b>	0.230	2.68	1	0.1	0.633
1,2,3,4,6,7,8-HpCDD	<b>207</b>	0.675	2.68	1	0.01	2.07
OCDD	<b>1990</b>	2.79	5.36	1	0.0003	0.597
2,3,7,8-TCDF	<b>5.42</b>	0.469	0.536	1	0.1	0.542
1,2,3,7,8-PeCDF	<b>2.49</b>	0.137	2.68	1	0.03	0.0747
2,3,4,7,8-PeCDF	<b>3.93</b>	0.222	2.68	1	0.3	1.18
1,2,3,4,7,8-HxCDF	<b>4.06</b>	0.179	2.68	1	0.1	0.406
1,2,3,6,7,8-HxCDF	<b>3.62</b>	0.177	2.68	1	0.1	0.362
1,2,3,7,8,9-HxCDF	ND	0.219	2.68	1	0.1	
2,3,4,6,7,8-HxCDF	<b>5.86</b>	0.173	2.68	1	0.1	0.586
1,2,3,4,6,7,8-HpCDF	<b>55.6</b>	0.348	2.68	1	0.01	0.556
1,2,3,4,7,8,9-HpCDF	<b>2.24</b>	0.389	2.68	1	0.01	0.0224
OCDF	<b>81.4</b>	0.757	5.36	1	0.0003	0.0244

Total TEQ

16.3

2005 WHO TEFs, ND = 0

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-03A  
**Lab Code:** E1201123-003

**Service Request:** E1201123  
**Date Collected:** 7/24/12 1300  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 90.9

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.255g  
**Data File Name:** P219193  
**ICAL Date:** 09/09/11

**Date Analyzed:** 8/31/12 1455  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-04  
**GC Column:** DB-225  
**Blank File Name:** P219182  
**Cal Ver. File Name:** P219181

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDF	5.42		0.469	0.536	0.80	1.001	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDF	2000	1029.703	51		40-135	0.79	1.071
37Cl-2,3,7,8-TCDD	800	509.718	64		40-135	NA	0.986

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-04A  
**Lab Code:** E1201123-004

**Service Request:** E1201123  
**Date Collected:** 7/24/12 1100  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 93.8

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.368g  
**Data File Name:** U230447  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/29/12 0905  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230442

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.312	J	0.0875	0.514	0.66	1.000	1
1,2,3,7,8-PeCDD	0.147	J	0.0617	2.57	1.65	1.000	1
1,2,3,4,7,8-HxCDD	ND	U	0.112	2.57			1
1,2,3,6,7,8-HxCDD	0.376	J	0.137	2.57	1.41	1.000	1
1,2,3,7,8,9-HxCDD	0.518	J	0.118	2.57	1.29	1.008	1
1,2,3,4,6,7,8-HpCDD	4.45		0.245	2.57	1.14	1.000	1
OCDD	23.4	B	0.381	5.14	0.90	1.000	1
2,3,7,8-TCDF	0.934	C	0.0830	0.514	0.75	1.001	1
1,2,3,7,8-PeCDF	0.291	J	0.0652	2.57	1.60	1.001	1
2,3,4,7,8-PeCDF	0.329	J	0.0717	2.57	1.70	1.001	1
1,2,3,4,7,8-HxCDF	0.428	JK	0.0770	2.57	1.46	1.000	1
1,2,3,6,7,8-HxCDF	0.190	JK	0.0729	2.57	1.00	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.0970	2.57			1
2,3,4,6,7,8-HxCDF	0.251	J	0.0807	2.57	1.09	1.000	1
1,2,3,4,6,7,8-HpCDF	0.672	J	0.105	2.57	0.88	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.115	2.57			1
OCDF	0.863	JK	0.216	5.14	0.74	1.004	1
Total Tetra-Dioxins	7.69		0.0875	0.514	0.69		1
Total Penta-Dioxins	7.39		0.0617	2.57	1.68		1
Total Hexa-Dioxins	6.72		0.112	2.57	1.22		1
Total Hepta-Dioxins	8.88		0.245	2.57	1.13		1
Total Tetra-Furans	3.02		0.0830	0.514	0.71		1
Total Penta-Furans	1.90	J	0.0717	2.57	1.35		1
Total Hexa-Furans	1.12	J	0.0770	2.57	1.36		1
Total Hepta-Furans	ND	U	0.105	2.57			1

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-04A  
**Lab Code:** E1201123-004

**Service Request:** E1201123  
**Date Collected:** 7/24/12 1100  
**Date Received:** 8/9/12  
**Units:** Percent  
**Basis:** Dry  
**Percent Solids:** 93.8

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.368g  
  
**Data File Name:** U230447  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/29/12 0905  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230442

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1399.094	70		40-135	0.79	1.009
13C-1,2,3,7,8-PeCDD	2000	1533.713	77		40-135	1.57	1.179
13C-1,2,3,6,7,8-HxCDD	2000	1162.931	58		40-135	1.27	0.992
13C-1,2,3,4,6,7,8-HpCDD	2000	1155.852	58		40-135	1.06	1.069
13C-OCDD	4000	1933.988	48		40-135	0.89	1.149
13C-2,3,7,8-TCDF	2000	1236.818	62		40-135	0.80	0.978
13C-1,2,3,7,8-PeCDF	2000	1438.945	72		40-135	1.59	1.138
13C-1,2,3,4,7,8-HxCDF	2000	1430.661	72		40-135	0.55	0.970
13C-1,2,3,4,6,7,8-HpCDF	2000	1038.386	52		40-135	0.46	1.045
37Cl-2,3,7,8-TCDD	800	643.239	80		40-135	NA	1.009

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-04A  
**Lab Code:** E1201123-004

**Service Request:** E1201123  
**Date Collected:** 7/24/12 1100  
**Date Received:** 8/ 9/12  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	<b>0.312</b>	0.0875	0.514	1	1	0.312
1,2,3,7,8-PeCDD	<b>0.147</b>	0.0617	2.57	1	1	0.147
1,2,3,4,7,8-HxCDD	ND	0.112	2.57	1	0.1	
1,2,3,6,7,8-HxCDD	<b>0.376</b>	0.137	2.57	1	0.1	0.0376
1,2,3,7,8,9-HxCDD	<b>0.518</b>	0.118	2.57	1	0.1	0.0518
1,2,3,4,6,7,8-HpCDD	<b>4.45</b>	0.245	2.57	1	0.01	0.0445
OCDD	<b>23.4</b>	0.381	5.14	1	0.0003	0.00702
2,3,7,8-TCDF	ND	0.267	0.514	1	0.1	
1,2,3,7,8-PeCDF	<b>0.291</b>	0.0652	2.57	1	0.03	0.00873
2,3,4,7,8-PeCDF	<b>0.329</b>	0.0717	2.57	1	0.3	0.0987
1,2,3,4,7,8-HxCDF	<b>0.428</b>	0.0770	2.57	1	0.1	0.0428
1,2,3,6,7,8-HxCDF	<b>0.190</b>	0.0729	2.57	1	0.1	0.0190
1,2,3,7,8,9-HxCDF	ND	0.0970	2.57	1	0.1	
2,3,4,6,7,8-HxCDF	<b>0.251</b>	0.0807	2.57	1	0.1	0.0251
1,2,3,4,6,7,8-HpCDF	<b>0.672</b>	0.105	2.57	1	0.01	0.00672
1,2,3,4,7,8,9-HpCDF	ND	0.115	2.57	1	0.01	
OCDF	<b>0.863</b>	0.216	5.14	1	0.0003	0.000259
Total TEQ						0.801

2005 WHO TEFs, ND = 0

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-04A  
**Lab Code:** E1201123-004

**Service Request:** E1201123  
**Date Collected:** 7/24/12 1100  
**Date Received:** 8/ 9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 93.8

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.368g  
**Data File Name:** P219194  
**ICAL Date:** 09/09/11

**Date Analyzed:** 8/31/12 1529  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-04  
**GC Column:** DB-225  
**Blank File Name:** P219182  
**Cal Ver. File Name:** P219181

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDF	ND	U	0.267	0.514			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDF	2000	1175.295	59		40-135	0.80	1.071
37Cl-2,3,7,8-TCDD	800	650.274	81		40-135	NA	0.986

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-05A  
**Lab Code:** E1201123-005

**Service Request:** E1201123  
**Date Collected:** 7/25/12 0930  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 95.0

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.120g  
**Data File Name:** U230448  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/29/12 0953  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230442

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0831	0.520			1
1,2,3,7,8-PeCDD	ND	U	0.0774	2.60			1
1,2,3,4,7,8-HxCDD	ND	U	0.0692	2.60			1
1,2,3,6,7,8-HxCDD	ND	U	0.0845	2.60			1
1,2,3,7,8,9-HxCDD	ND	U	0.0731	2.60			1
1,2,3,4,6,7,8-HpCDD	<b>0.798</b>	J	0.213	2.60	1.13	1.000	1
OCDD	<b>6.33</b>	B	0.361	5.20	1.02	1.000	1
2,3,7,8-TCDF	ND	U	0.0759	0.520			1
1,2,3,7,8-PeCDF	ND	U	0.0429	2.60			1
2,3,4,7,8-PeCDF	ND	U	0.0444	2.60			1
1,2,3,4,7,8-HxCDF	ND	U	0.0756	2.60			1
1,2,3,6,7,8-HxCDF	ND	U	0.0725	2.60			1
1,2,3,7,8,9-HxCDF	ND	U	0.0994	2.60			1
2,3,4,6,7,8-HxCDF	ND	U	0.0779	2.60			1
1,2,3,4,6,7,8-HpCDF	<b>1.05</b>	J	0.120	2.60	1.15	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.134	2.60			1
OCDF	<b>43.6</b>		0.312	5.20	0.90	1.004	1
Total Tetra-Dioxins	ND	U	0.0831	0.520			1
Total Penta-Dioxins	<b>0.270</b>	J	0.0774	2.60	1.34		1
Total Hexa-Dioxins	ND	U	0.0692	2.60			1
Total Hepta-Dioxins	<b>1.52</b>	J	0.213	2.60	0.98		1
Total Tetra-Furans	ND	U	0.0759	0.520			1
Total Penta-Furans	ND	U	0.0444	2.60			1
Total Hexa-Furans	ND	U	0.0756	2.60			1
Total Hepta-Furans	<b>1.43</b>	J	0.120	2.60	1.15		1

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-05A  
**Lab Code:** E1201123-005

**Service Request:** E1201123  
**Date Collected:** 7/25/12 0930  
**Date Received:** 8/9/12  
**Units:** Percent  
**Basis:** Dry  
**Percent Solids:** 95.0

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.120g  
  
**Data File Name:** U230448  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/29/12 0953  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230442

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1350.789	68		40-135	0.78	1.009
13C-1,2,3,7,8-PeCDD	2000	1597.964	80		40-135	1.59	1.178
13C-1,2,3,6,7,8-HxCDD	2000	1152.581	58		40-135	1.27	0.992
13C-1,2,3,4,6,7,8-HpCDD	2000	1163.336	58		40-135	1.06	1.069
13C-OCDD	4000	1822.032	46		40-135	0.90	1.148
13C-2,3,7,8-TCDF	2000	1229.446	61		40-135	0.80	0.977
13C-1,2,3,7,8-PeCDF	2000	1461.993	73		40-135	1.59	1.138
13C-1,2,3,4,7,8-HxCDF	2000	1374.119	69		40-135	0.53	0.970
13C-1,2,3,4,6,7,8-HpCDF	2000	1047.417	52		40-135	0.45	1.044
37Cl-2,3,7,8-TCDD	800	615.869	77		40-135	NA	1.009

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-05A  
**Lab Code:** E1201123-005

**Service Request:** E1201123  
**Date Collected:** 7/25/12 0930  
**Date Received:** 8/ 9/12  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0831	0.520	1	1	
1,2,3,7,8-PeCDD	ND	0.0774	2.60	1	1	
1,2,3,4,7,8-HxCDD	ND	0.0692	2.60	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.0845	2.60	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0731	2.60	1	0.1	
1,2,3,4,6,7,8-HpCDD	<b>0.798</b>	0.213	2.60	1	0.01	0.00798
OCDD	<b>6.33</b>	0.361	5.20	1	0.0003	0.00190
2,3,7,8-TCDF	ND	0.0759	0.520	1	0.1	
1,2,3,7,8-PeCDF	ND	0.0429	2.60	1	0.03	
2,3,4,7,8-PeCDF	ND	0.0444	2.60	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.0756	2.60	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.0725	2.60	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.0994	2.60	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0779	2.60	1	0.1	
1,2,3,4,6,7,8-HpCDF	<b>1.05</b>	0.120	2.60	1	0.01	0.0105
1,2,3,4,7,8,9-HpCDF	ND	0.134	2.60	1	0.01	
OCDF	<b>43.6</b>	0.312	5.20	1	0.0003	0.0131
Total TEQ						0.0335

2005 WHO TEFs, ND = 0

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-07A  
**Lab Code:** E1201123-006

**Service Request:** E1201123  
**Date Collected:** 7/25/12 1300  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 77.9

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.270g  
**Data File Name:** U230449  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/29/12 1041  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230442

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	2.27		0.148	0.625	0.72	1.001	1
1,2,3,7,8-PeCDD	5.68		0.177	3.12	1.39	1.001	1
1,2,3,4,7,8-HxCDD	4.28		0.483	3.12	1.17	1.001	1
1,2,3,6,7,8-HxCDD	58.5		0.551	3.12	1.26	1.000	1
1,2,3,7,8,9-HxCDD	22.4		0.493	3.12	1.30	1.007	1
1,2,3,4,6,7,8-HpCDD	2040		3.02	3.12	1.05	1.000	1
OCDD	25600	BE	13.2	13.2	0.91	1.000	1
2,3,7,8-TCDF	1050	CE	0.816	0.816	0.80	1.001	1
1,2,3,7,8-PeCDF	40.0		0.591	3.12	1.56	1.001	1
2,3,4,7,8-PeCDF	199		0.682	3.12	1.56	1.001	1
1,2,3,4,7,8-HxCDF	148		0.338	3.12	1.26	1.000	1
1,2,3,6,7,8-HxCDF	35.4		0.338	3.12	1.29	1.000	1
1,2,3,7,8,9-HxCDF	1.01	JK	0.379	3.12	1.53	1.000	1
2,3,4,6,7,8-HxCDF	22.5		0.372	3.12	1.28	1.000	1
1,2,3,4,6,7,8-HpCDF	375		0.620	3.12	1.03	1.000	1
1,2,3,4,7,8,9-HpCDF	23.1		0.687	3.12	0.98	1.000	1
OCDF	1300		0.827	6.25	0.90	1.004	1
Total Tetra-Dioxins	17.6		0.148	0.625	0.73		1
Total Penta-Dioxins	54.9		0.177	3.12	1.40		1
Total Hexa-Dioxins	438		0.483	3.12	1.26		1
Total Hepta-Dioxins	4450		3.02	3.12	1.06		1
Total Tetra-Furans	5520		0.816	0.816	0.82		1
Total Penta-Furans	1530		0.682	3.12	1.58		1
Total Hexa-Furans	634		0.338	3.12	1.26		1
Total Hepta-Furans	1200		0.620	3.12	1.03		1

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-07A  
**Lab Code:** E1201123-006

**Service Request:** E1201123  
**Date Collected:** 7/25/12 1300  
**Date Received:** 8/9/12  
**Units:** Percent  
**Basis:** Dry  
**Percent Solids:** 77.9

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.270g  
  
**Data File Name:** U230449  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/29/12 1041  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230442

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1311.254	66		40-135	0.80	1.009
13C-1,2,3,7,8-PeCDD	2000	1264.680	63		40-135	1.60	1.178
13C-1,2,3,6,7,8-HxCDD	2000	1543.349	77		40-135	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1528.200	76		40-135	1.07	1.069
13C-OCDD	4000	2355.112	59		40-135	0.93	1.150
13C-2,3,7,8-TCDF	2000	1040.929	52		40-135	0.79	0.977
13C-1,2,3,7,8-PeCDF	2000	1232.256	62		40-135	1.57	1.138
13C-1,2,3,4,7,8-HxCDF	2000	1940.305	97		40-135	0.54	0.971
13C-1,2,3,4,6,7,8-HpCDF	2000	1389.420	69		40-135	0.45	1.045
37Cl-2,3,7,8-TCDD	800	591.181	74		40-135	NA	1.009

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-07A  
**Lab Code:** E1201123-006

**Service Request:** E1201123  
**Date Collected:** 7/25/12 1300  
**Date Received:** 8/ 9/12  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	2.27	0.148	0.625	1	1	2.27
1,2,3,7,8-PeCDD	5.68	0.177	3.12	1	1	5.68
1,2,3,4,7,8-HxCDD	4.28	0.483	3.12	1	0.1	0.428
1,2,3,6,7,8-HxCDD	58.5	0.551	3.12	1	0.1	5.85
1,2,3,7,8,9-HxCDD	22.4	0.493	3.12	1	0.1	2.24
1,2,3,4,6,7,8-HpCDD	2040	3.02	3.12	1	0.01	20.4
OCDD	25600	13.2	13.2	1	0.0003	7.68
2,3,7,8-TCDF	181	2.98	2.98	1	0.1	18.1
1,2,3,7,8-PeCDF	40.0	0.591	3.12	1	0.03	1.20
2,3,4,7,8-PeCDF	199	0.682	3.12	1	0.3	59.7
1,2,3,4,7,8-HxCDF	148	0.338	3.12	1	0.1	14.8
1,2,3,6,7,8-HxCDF	35.4	0.338	3.12	1	0.1	3.54
1,2,3,7,8,9-HxCDF	1.01	0.379	3.12	1	0.1	0.101
2,3,4,6,7,8-HxCDF	22.5	0.372	3.12	1	0.1	2.25
1,2,3,4,6,7,8-HpCDF	375	0.620	3.12	1	0.01	3.75
1,2,3,4,7,8,9-HpCDF	23.1	0.687	3.12	1	0.01	0.231
OCDF	1300	0.827	6.25	1	0.0003	0.390

Total TEQ

149

2005 WHO TEFs, ND = 0

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** 1208243-07A  
**Lab Code:** E1201123-006

**Service Request:** E1201123  
**Date Collected:** 7/25/12 1300  
**Date Received:** 8/9/12  
**Units:** ng/Kg  
**Basis:** Dry  
**Percent Solids:** 77.9

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.270g  
**Data File Name:** P219207  
**ICAL Date:** 09/09/11

**Date Analyzed:** 9/1/12 2152  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-04  
**GC Column:** DB-225  
**Blank File Name:** P219198  
**Cal Ver. File Name:** P219197

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDF	181		2.98	2.98	0.80	1.000	1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDF	2000	821.771	41		40-135	0.80	1.074
37Cl-2,3,7,8-TCDD	800	548.887	69		40-135	NA	0.986

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** Method Blank  
**Lab Code:** EQ1200475-01

**Service Request:** E1201123  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.404g  
**Data File Name:** U230432  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/28/12 1745  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230430

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.206	0.481			1
1,2,3,7,8-PeCDD	ND	U	0.146	2.40			1
1,2,3,4,7,8-HxCDD	ND	U	0.201	2.40			1
1,2,3,6,7,8-HxCDD	ND	U	0.237	2.40			1
1,2,3,7,8,9-HxCDD	ND	U	0.210	2.40			1
1,2,3,4,6,7,8-HpCDD	ND	U	0.400	2.40			1
OCDD	<b>2.78</b>	J	1.02	4.81	0.78	1.000	1
2,3,7,8-TCDF	ND	U	0.149	0.481			1
1,2,3,7,8-PeCDF	ND	U	0.101	2.40			1
2,3,4,7,8-PeCDF	ND	U	0.0959	2.40			1
1,2,3,4,7,8-HxCDF	ND	U	0.122	2.40			1
1,2,3,6,7,8-HxCDF	ND	U	0.115	2.40			1
1,2,3,7,8,9-HxCDF	ND	U	0.174	2.40			1
2,3,4,6,7,8-HxCDF	ND	U	0.124	2.40			1
1,2,3,4,6,7,8-HpCDF	ND	U	0.187	2.40			1
1,2,3,4,7,8,9-HpCDF	ND	U	0.226	2.40			1
OCDF	ND	U	0.479	4.81			1
Total Tetra-Dioxins	ND	U	0.206	0.481			1
Total Penta-Dioxins	ND	U	0.146	2.40			1
Total Hexa-Dioxins	ND	U	0.201	2.40			1
Total Hepta-Dioxins	ND	U	0.400	2.40			1
Total Tetra-Furans	ND	U	0.149	0.481			1
Total Penta-Furans	ND	U	0.0959	2.40			1
Total Hexa-Furans	ND	U	0.122	2.40			1
Total Hepta-Furans	ND	U	0.187	2.40			1

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** Method Blank  
**Lab Code:** EQ1200475-01

**Service Request:** E1201123  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** Percent  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.404g  
  
**Data File Name:** U230432  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/28/12 1745  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230430

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1301.426	65		40-135	0.80	1.009
13C-1,2,3,7,8-PeCDD	2000	1416.674	71		40-135	1.57	1.178
13C-1,2,3,6,7,8-HxCDD	2000	1346.776	67		40-135	1.28	0.992
13C-1,2,3,4,6,7,8-HpCDD	2000	1160.007	58		40-135	1.04	1.069
13C-OCDD	4000	1814.576	45		40-135	0.91	1.149
13C-2,3,7,8-TCDF	2000	1270.010	64		40-135	0.79	0.977
13C-1,2,3,7,8-PeCDF	2000	1311.530	66		40-135	1.59	1.138
13C-1,2,3,4,7,8-HxCDF	2000	1328.319	66		40-135	0.54	0.971
13C-1,2,3,4,6,7,8-HpCDF	2000	1083.678	54		40-135	0.44	1.045
37Cl-2,3,7,8-TCDD	800	653.627	82		40-135	NA	1.009



Now part of the  **ALS Group**

## *Accuracy and Precision*

19408 Park Row, Suite 320, Houston, TX 77084

Phone (713)266-1599 Fax (713)266-0130

[www.caslab.com](http://www.caslab.com)

*An Employee Owned Company*

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

QA/QC Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil

**Service Request:** E1201123  
**Date Analyzed:** 8/28/12

**Lab Control Sample Summary**  
**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method

**Units:** ng/Kg  
**Basis:** Dry

**Extraction Lot:** 165337

**Lab Control Sample**  
EQ1200475-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
2,3,7,8-TCDD	18.4	18.6	99	67 - 158
1,2,3,7,8-PeCDD	95.0	93.0	102	70 - 142
1,2,3,4,7,8-HxCDD	86.6	93.0	93	70 - 164
1,2,3,6,7,8-HxCDD	98.7	93.0	106	76 - 134
1,2,3,7,8,9-HxCDD	87.8	93.0	94	64 - 162
1,2,3,4,6,7,8-HpCDD	91.6	93.0	98	70 - 140
OCDD	174	186	94	78 - 144
2,3,7,8-TCDF	19.0	18.6	102	75 - 158
1,2,3,7,8-PeCDF	95.4	93.0	102	80 - 134
2,3,4,7,8-PeCDF	95.3	93.0	102	68 - 160
1,2,3,4,7,8-HxCDF	95.5	93.0	103	72 - 134
1,2,3,6,7,8-HxCDF	92.1	93.0	99	84 - 130
1,2,3,7,8,9-HxCDF	96.1	93.0	103	78 - 130
2,3,4,6,7,8-HxCDF	89.7	93.0	96	70 - 156
1,2,3,4,6,7,8-HpCDF	91.8	93.0	99	82 - 122
1,2,3,4,7,8,9-HpCDF	85.1	93.0	91	78 - 138
OCDF	204	186	110	63 - 170

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** Lab Control Sample  
**Lab Code:** EQ1200475-02

**Service Request:** E1201123  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** ng/Kg  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.749g  
**Data File Name:** U230415  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/28/12 0029  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230404

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	18.4		0.116	0.465	0.78	1.000	1
1,2,3,7,8-PeCDD	95.0		0.0970	2.33	1.59	1.000	1
1,2,3,4,7,8-HxCDD	86.6		0.113	2.33	1.28	1.000	1
1,2,3,6,7,8-HxCDD	98.7		0.128	2.33	1.32	1.000	1
1,2,3,7,8,9-HxCDD	87.8		0.115	2.33	1.28	1.008	1
1,2,3,4,6,7,8-HpCDD	91.6		0.232	2.33	1.05	1.000	1
OCDD	174		0.744	4.65	0.90	1.000	1
2,3,7,8-TCDF	19.0		0.144	0.465	0.78	1.001	1
1,2,3,7,8-PeCDF	95.4		0.0812	2.33	1.56	1.001	1
2,3,4,7,8-PeCDF	95.3		0.0810	2.33	1.59	1.001	1
1,2,3,4,7,8-HxCDF	95.5		0.0852	2.33	1.27	1.000	1
1,2,3,6,7,8-HxCDF	92.1		0.0782	2.33	1.28	1.000	1
1,2,3,7,8,9-HxCDF	96.1		0.123	2.33	1.28	1.000	1
2,3,4,6,7,8-HxCDF	89.7		0.0889	2.33	1.26	1.000	1
1,2,3,4,6,7,8-HpCDF	91.8		0.520	2.33	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	85.1		0.641	2.33	1.06	1.000	1
OCDF	204		0.843	4.65	0.92	1.004	1
Total Tetra-Dioxins	18.4		0.116	0.465	0.78		1
Total Penta-Dioxins	95.0		0.0970	2.33	1.59		1
Total Hexa-Dioxins	273		0.113	2.33	1.28		1
Total Hepta-Dioxins	91.6		0.232	2.33	1.05		1
Total Tetra-Furans	19.9		0.144	0.465	0.69		1
Total Penta-Furans	193		0.0810	2.33	1.60		1
Total Hexa-Furans	373		0.0852	2.33	1.27		1
Total Hepta-Furans	177		0.520	2.33	1.06		1

**COLUMBIA ANALYTICAL SERVICES, INC.**

Now part of the ALS Group

Analytical Report

**Client:** ALS Environmental - US  
**Project:** 1208243  
**Sample Matrix:** Soil  
**Sample Name:** Lab Control Sample  
**Lab Code:** EQ1200475-02

**Service Request:** E1201123  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** Percent  
**Basis:** Dry

**Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS**

**Analytical Method:** 8290  
**Prep Method:** Method  
**Sample Amount:** 10.749g  
**Data File Name:** U230415  
**ICAL Date:** 08/06/12

**Date Analyzed:** 8/28/12 0029  
**Date Extracted:** 8/22/12  
**Instrument Name:** E-HRMS-02  
**GC Column:** DB-5  
**Blank File Name:** U230432  
**Cal Ver. File Name:** U230404

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1388.037	69		40-135	0.80	1.009
13C-1,2,3,7,8-PeCDD	2000	1463.968	73		40-135	1.59	1.179
13C-1,2,3,6,7,8-HxCDD	2000	1422.094	71		40-135	1.31	0.992
13C-1,2,3,4,6,7,8-HpCDD	2000	1354.584	68		40-135	1.07	1.069
13C-OCDD	4000	2253.870	56		40-135	0.91	1.149
13C-2,3,7,8-TCDF	2000	1219.735	61		40-135	0.82	0.977
13C-1,2,3,7,8-PeCDF	2000	1351.895	68		40-135	1.62	1.138
13C-1,2,3,4,7,8-HxCDF	2000	1469.713	73		40-135	0.53	0.970
13C-1,2,3,4,6,7,8-HpCDF	2000	1273.615	64		40-135	0.46	1.045
37Cl-2,3,7,8-TCDD	800	627.848	78		40-135	NA	1.009

# Cooler Receipt Form

Project Chemist

Client/Project

Service Request

Date/Time Received:

Date/Time Logged in:

Technician

Technician

1. Method of delivery:  US Mail  Fed Ex  UPS  DHL  Courier  Client

2. Samples received in:  Cooler  Box  Envelope  Other

3. Were custody seals on coolers?  Yes  No  N/A If yes, how many and where?  
 Were they intact?  Yes  No  N/A  
 Were they signed and dated?  Yes  No  N/A

4. Method of delivery:  Inserts  Baggies  Bubble Wrap  Gel Packs  Wet Ice  Sleeves  Other

5. Foreign or Regulated Soil?  Yes  No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?	Filed
456625099271		Aug 9, 2012	1006	AL	1/1	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

6. Were custody papers properly filled out (ink, signed, dated, etc)?  Yes  No  N/A
7. Did all bottles arrive in good condition (not broken, no signs of leakage)?  Yes  No  N/A
8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)?  Yes  No  N/A
9. Were appropriate bottles/containers and volumes received for the requested tests?  Yes  No  N/A
10. Did sample labels and tags agree with custody documents?  Yes  No  N/A

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Date	Technician
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/>	<input type="checkbox"/>		

Notes, Discrepancies, & Resolutions:

## Sample Acceptance Policy

This policy outlines the criteria samples must meet to be accepted by CAS/ Houston.

### **Cooler Custody Seals (desirable, mandatory if specified in SAP):**

- ✓ Intact on outside of cooler, signed and dated

### **Chain-of-Custody (COC) documentation (mandatory):**

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample
- ✓ The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, CAS/Houston will complete a COC, which must be approved by the client, in writing, prior to proceeding with the analysis.

### **Sample Integrity (mandatory):**

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

### **Temperature Requirement (varies by sample matrix):**

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C.
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder.

## Service Request Summary

**Folder #:** E1201123  
**Client Name:** ALS Environmental - US  
**Project Name:** 1208243  
**Project Number:**  
  
**Report To:** Tom Beamish  
 ALS Group USA, Corp.  
 3352 128th Avenue  
 Holland, MI 49424  
  
**Phone Number:** 616-738-7318  
**Cell Number:**  
**Fax Number:** 616-399-6185  
**E-mail:** tom.beamish@alsenviro.com

**Project Chemist:** Nicole Brown  
**Originating Lab:** HOUSTON  
**Logged By:** MRIVERA  
**Date Received:** 8/ 9/12  
**Internal Due Date:** 8/30/12  
**QAP:** LAB QAP  
**Qualifier Set:** CAS Standard  
**Formset:** CAS Standard  
**Merged?:** N  
**Report to MDL?:** Y  
**P.O. Number:** 20-1208243  
**EDD:** No EDD Specified

18 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

**Location:** SMO, In Lab

**NPDES**

CAS Samp No	Client Samp No.	Matrix	Collected	SVM	
				8290/ PCDD PCDF	CAS SOP/ Total Solids
E1201123-001	1208243-01A	Soil	7/23/12 1500	II	II
E1201123-002	1208243-02A	Soil	7/24/12 0900	II	II
E1201123-003	1208243-03A	Soil	7/24/12 1300	II	II
E1201123-004	1208243-04A	Soil	7/24/12 1100	II	II
E1201123-005	1208243-05A	Soil	7/25/12 0930	II	II
E1201123-006	1208243-07A	Soil	7/25/12 1300	II	II

# Preparation Information Benchsheet

**Prep Run#:** 165337  
**Team:** Semivoa GCMS/SMORE

**Prep WorkFlow:** OrgExtDioxS(30)  
**Prep Method:** Method

**Status:** Prepped  
**Prep Date/Time:** 8/22/12 05:45 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1201058-007	OU2-S-07-00	.01	8290A/PCDD PCDF		Soil	10.513g	brown powder
2	E1201058-008	OU2-S-08-00	.01	8290A/PCDD PCDF		Soil	10.335g	brown powder
3	E1201058-009	OU2-S-09-00	.01	8290A/PCDD PCDF		Soil	10.344g	brown powder
4	E1201058-010	OU2-S-10-00	.01	8290A/PCDD PCDF		Soil	10.184g	brown powder
5	E1201058-011	OU2-S-11-00	.01	8290A/PCDD PCDF		Soil	10.198g	brown powder
6	E1201058-012	OU2-S-12-00	.01	8290A/PCDD PCDF		Soil	10.132g	deep brown moist solid
7	E1201058-013	OU2-S-13-00	.01	8290A/PCDD PCDF		Soil	10.039g	deep brown moist solid
8	E1201058-014	OU2-S-14-00	.01	8290A/PCDD PCDF		Soil	10.346g	brown powder
9	E1201071-001	B-13	.01	8290/PCDD PCDF		Soil	10.280g	black powder
10	E1201123-001	1208243-01A	.03	8290/PCDD PCDF		Soil	10.582g	black solid
11	E1201123-002	1208243-02A	.03	8290/PCDD PCDF		Soil	10.915g	black rocks
12	E1201123-003	1208243-03A	.03	8290/PCDD PCDF		Soil	10.255g	black solid
13	E1201123-004	1208243-04A	.03	8290/PCDD PCDF		Soil	10.368g	brown solid
14	E1201123-005	1208243-05A	.03	8290/PCDD PCDF		Soil	10.120g	brown soil
15	E1201123-006	1208243-07A	.03	8290/PCDD PCDF		Soil	10.270g	black solid
16	EQ1200475-01	MB		8290A/PCDD PCDF		Solid	10.404g	
17	EQ1200475-02	LCS		8290A/PCDD PCDF		Solid	10.749g	
18	EQ1200475-03	OU2-S-08-00 MS	.01	8290A/PCDD PCDF		Solid	10.217g	
19	EQ1200475-04	OU2-S-08-00 DMS	.01	8290A/PCDD PCDF		Solid	10.208g	
20	K1207641-008	Composite	.01	8290/PCDD PCDF		Paperboard	10.114g	brown and white paper
21	K1207701-011	Composite	.03	8290/PCDD PCDF		Paperboard	5.073g	brown paper
22	K1207807-034	M-1	.01	8290A/PCDD PCDF		Soil	10.111g	brown solid

# Preparation Information Benchsheet

**Prep Run#:** 165337  
**Team:** Semivoa GCMS/SMORE

**Prep WorkFlow:** OrgExtDioxS(30)  
**Prep Method:** Method

**Status:** Prepped  
**Prep Date/Time:** 8/22/12 05:45 AM

## Spiking Solutions

Name: 1613B Matrix Working Standard		Inventory ID 47785		Logbook Ref: D13-46-5 (47785)				Expires On: 08/04/2013			
EQ1200475-01	100.00µL	EQ1200475-01	100.00µL	EQ1200475-02	100.00µL	EQ1200475-02	100.00µL	EQ1200475-03	100.00µL	EQ1200475-04	100.00µL

Name: 8290/1613B Cleanup Working Standard		Inventory ID 48289		Logbook Ref: D13-49-5 (48289)				Expires On: 08/17/2013			
E1201058-007	100.00µL	E1201058-008	100.00µL	E1201058-009	100.00µL	E1201058-010	100.00µL	E1201058-011	100.00µL	E1201058-012	100.00µL
E1201058-013	100.00µL	E1201058-014	100.00µL	E1201071-001	100.00µL	E1201123-001	100.00µL	E1201123-002	100.00µL	E1201123-003	100.00µL
E1201123-004	100.00µL	E1201123-005	100.00µL	E1201123-006	100.00µL	EQ1200475-01	100.00µL	EQ1200475-01	100.00µL	EQ1200475-02	100.00µL
EQ1200475-02	100.00µL	EQ1200475-03	100.00µL	EQ1200475-04	100.00µL	K1207641-008	100.00µL	K1207701-011	100.00µL	K1207807-034	100.00µL

Name: 1613B Labeled Working Standard		Inventory ID 48348		Logbook Ref: D13-52-1(48348)				Expires On: 08/22/2013			
E1201058-007	1,000.00µL	E1201058-008	1,000.00µL	E1201058-009	1,000.00µL	E1201058-010	1,000.00µL	E1201058-011	1,000.00µL	E1201058-012	1,000.00µL
E1201058-013	1,000.00µL	E1201058-014	1,000.00µL	E1201071-001	1,000.00µL	E1201123-001	1,000.00µL	E1201123-002	1,000.00µL	E1201123-003	1,000.00µL
E1201123-004	1,000.00µL	E1201123-005	1,000.00µL	E1201123-006	1,000.00µL	EQ1200475-01	1,000.00µL	EQ1200475-01	1,000.00µL	EQ1200475-02	1,000.00µL
EQ1200475-02	1,000.00µL	EQ1200475-03	1,000.00µL	EQ1200475-04	1,000.00µL	K1207641-008	1,000.00µL	K1207701-011	1,000.00µL	K1207807-034	1,000.00µL

## Preparation Materials

Carbon, High Purity	C2-78-5 (3291002) (48048)	Ethyl Acetate 99.9% Minimum EtOAc	C2-79-2 (52060) (48043)	Glass Wool	C2-78-2 (K93168686) (46898)
Sulfuric Acid Reagent Grade H2SO4	C2-77-3 (51299) (46170)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	c2-81-2 (48473)	Sodium Chloride Reagent Grade NaCl	C2-65-5 (38670)
Sodium Hydroxide Reagent Grade NaOH	C2-63-6 (37033)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	C2-78-1 (06010505) (46897)	Tridecane (n-Tridecane)	C2-77-1 (MKBJ3173V) (46168)
Hexane (n-Hexane) 98.5% Minimum	C2-79-5 (48044)	Silica Gel Reagent Grade	C2-80-6 (48144)	Toluene 99.9% Minimum	C2-79-3 (52045) (48041)

## Preparation Steps

Step: Extraction	Step: Acid Clean	Step: Silica Gel Clean	Step: Final Volume
Started: 8/22/12 17:45	Started: 8/24/12 09:50	Started: 8/24/12 13:40	Started: 8/26/12 06:55
Finished: 8/23/12 10:00	Finished: 8/24/12 10:50	Finished: 8/24/12 16:00	Finished: 8/26/12 08:10
By: CDIAZ	By: CDIAZ	By: CDIAZ	By: CDIAZ
Comments	Comments	Comments	Comments

Comments: \_\_\_\_\_

# Preparation Information Benchsheet

**Prep Run#:** 165337  
**Team:** Semivoa GCMS/SMORE

**Prep WorkFlow:** OrgExtDioxS(30)  
**Prep Method:** Method

**Status:** Prepped  
**Prep Date/Time:** 8/22/12 05:45 AM

Reviewed By: rp Date: 8/29/12

## Chain of Custody

Relinquished By: _____	Date: _____	<u>Extracts Examined</u>
Received By: _____	Date: _____	Yes No

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1208243  
**Project:** RACER - Van Buren Landfill

**QC BATCH REPORT**

Batch ID: **42888** Instrument ID **VMS8** Method: **SW8260**

MBLK		Sample ID: <b>MBLK-42888-42888</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>08/09/12 01:17 PM</b>			
Client ID:		Run ID: <b>VMS8_120809A</b>			SeqNo: <b>2049333</b>		Prep Date: <b>08/09/12</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1,2-Trichlorotrifluoroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2,4-Trichlorobenzene	U	30								
1,2-Dibromo-3-chloropropane	U	30								
1,2-Dibromoethane	U	30								
1,2-Dichlorobenzene	U	30								
1,2-Dichloroethane	U	30								
1,2-Dichloropropane	U	30								
1,3-Dichlorobenzene	U	30								
1,4-Dichlorobenzene	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	U	100								
Benzene	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	75								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Cyclohexane	U	30								
Dibromochloromethane	U	30								
Dichlorodifluoromethane	U	30								
Ethylbenzene	U	30								
Isopropylbenzene	U	30								
Methyl acetate	214	200								
Methyl tert-butyl ether	U	30								
Methylcyclohexane	U	30								
Methylene chloride	U	30								
Styrene	U	30								
Tetrachloroethene	U	30								

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1208243

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>42888</b>	Instrument ID <b>VMS8</b>	Method: <b>SW8260</b>					
Toluene	U	30					
trans-1,2-Dichloroethene	U	30					
trans-1,3-Dichloropropene	U	30					
Trichloroethene	U	30					
Trichlorofluoromethane	U	30					
Vinyl chloride	U	30					
Xylenes, Total	U	90					
<i>Surr: 1,2-Dichloroethane-d4</i>	980	0	1000	0	98	70-130	0
<i>Surr: 4-Bromofluorobenzene</i>	981	0	1000	0	98.1	70-130	0
<i>Surr: Dibromofluoromethane</i>	951.5	0	1000	0	95.2	70-130	0
<i>Surr: Toluene-d8</i>	973.5	0	1000	0	97.4	70-130	0

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1208243  
**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **42888**      Instrument ID **VMS8**      Method: **SW8260**

**MBLK**      Sample ID: **MBLK-42888-42888**      Units: **µg/Kg**      Analysis Date: **08/10/12 12:45 PM**  
 Client ID:      Run ID: **VMS8\_120810A**      SeqNo: **2050154**      Prep Date: **08/09/12**      DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1,2-Trichlorotrifluoroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2,4-Trichlorobenzene	U	30								
1,2-Dibromo-3-chloropropane	U	30								
1,2-Dibromoethane	U	30								
1,2-Dichlorobenzene	U	30								
1,2-Dichloroethane	U	30								
1,2-Dichloropropane	U	30								
1,3-Dichlorobenzene	U	30								
1,4-Dichlorobenzene	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	U	100								
Benzene	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	75								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Cyclohexane	U	30								
Dibromochloromethane	U	30								
Dichlorodifluoromethane	U	30								
Ethylbenzene	U	30								
Isopropylbenzene	U	30								
Methyl acetate	271	200								
Methyl tert-butyl ether	U	30								
Methylcyclohexane	U	30								
Methylene chloride	U	30								
Styrene	U	30								
Tetrachloroethene	U	30								
Toluene	U	30								

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1208243

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>42888</b>	Instrument ID <b>VMS8</b>	Method: <b>SW8260</b>						
trans-1,2-Dichloroethene	U	30						
trans-1,3-Dichloropropene	U	30						
Trichloroethene	U	30						
Trichlorofluoromethane	U	30						
Vinyl chloride	U	30						
Xylenes, Total	U	90						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1005</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>994.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99.4</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>978.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.8</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>978</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.8</i>	<i>70-130</i>	<i>0</i>	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1208243  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42888 Instrument ID VMS8 Method: SW8260

LCS		Sample ID: LCS-42888-42888				Units: µg/Kg		Analysis Date: 08/09/12 12:05 PM		
Client ID:		Run ID: VMS8_120809A			SeqNo: 2049330		Prep Date: 08/09/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1002	30	1000	0	100	70-135		0		
1,1,2,2-Tetrachloroethane	997.5	30	1000	0	99.8	55-130		0		
1,1,2-Trichloroethane	926.5	30	1000	0	92.6	60-125		0		
1,1-Dichloroethane	1022	30	1000	0	102	75-125		0		
1,1-Dichloroethene	1068	30	1000	0	107	65-135		0		
1,2,4-Trichlorobenzene	1142	30	1000	0	114	65-130		0		
1,2-Dibromo-3-chloropropane	940.5	30	1000	0	94	40-135		0		
1,2-Dibromoethane	1058	30	1000	0	106	70-125		0		
1,2-Dichlorobenzene	1028	30	1000	0	103	75-120		0		
1,2-Dichloroethane	1048	30	1000	0	105	70-135		0		
1,2-Dichloropropane	1063	30	1000	0	106	70-120		0		
1,3-Dichlorobenzene	1036	30	1000	0	104	70-125		0		
1,4-Dichlorobenzene	1057	30	1000	0	106	70-125		0		
2-Butanone	1183	200	1000	0	118	30-160		0		
2-Hexanone	979	30	1000	0	97.9	45-145		0		
4-Methyl-2-pentanone	1305	30	1000	0	130	45-145		0		
Acetone	955	100	1000	0	95.5	20-160		0		
Benzene	1018	30	1000	0	102	75-125		0		
Bromodichloromethane	1024	30	1000	0	102	70-130		0		
Bromoform	961	30	1000	0	96.1	55-135		0		
Bromomethane	905	75	1000	0	90.5	30-160		0		
Carbon disulfide	1138	30	1000	0	114	45-160		0		
Carbon tetrachloride	1008	30	1000	0	101	65-135		0		
Chlorobenzene	1090	30	1000	0	109	75-125		0		
Chloroethane	1072	100	1000	0	107	40-155		0		
Chloroform	1016	30	1000	0	102	70-125		0		
Chloromethane	881.5	100	1000	0	88.2	50-130		0		
cis-1,2-Dichloroethene	1050	30	1000	0	105	65-125		0		
cis-1,3-Dichloropropene	1050	30	1000	0	105	70-125		0		
Dibromochloromethane	971	30	1000	0	97.1	65-135		0		
Dichlorodifluoromethane	895.5	30	1000	0	89.6	35-135		0		
Ethylbenzene	1090	30	1000	0	109	75-125		0		
Isopropylbenzene	1109	30	1000	0	111	75-130		0		
Methyl tert-butyl ether	1040	30	1000	0	104	75-125		0		
Methylene chloride	1085	30	1000	0	108	55-145		0		
Styrene	1072	30	1000	0	107	75-125		0		
Tetrachloroethene	1077	30	1000	0	108	64-140		0		
Toluene	1080	30	1000	0	108	70-125		0		
trans-1,2-Dichloroethene	1049	30	1000	0	105	65-135		0		
trans-1,3-Dichloropropene	1038	30	1000	0	104	65-125		0		
Trichloroethene	1052	30	1000	0	105	75-125		0		
Trichlorofluoromethane	944	30	1000	0	94.4	25-185		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1208243  
**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: <b>42888</b>	Instrument ID <b>VMS8</b>	Method: <b>SW8260</b>						
Vinyl chloride	945.5	30	1000	0	94.6	60-125	0	
Xylenes, Total	3297	90	3000	0	110	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1016</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>102</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>985</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.5</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>996</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99.6</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>984.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.4</i>	<i>70-130</i>	<i>0</i>	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1208243  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42888 Instrument ID VMS8 Method: SW8260

LCS		Sample ID: LCS-42888-42888				Units: µg/Kg		Analysis Date: 08/10/12 11:33 AM		
Client ID:		Run ID: VMS8_120810A			SeqNo: 2050153		Prep Date: 08/09/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1053	30	1000	0	105	70-135	0			
1,1,2,2-Tetrachloroethane	965.5	30	1000	0	96.6	55-130	0			
1,1,2-Trichloroethane	925	30	1000	0	92.5	60-125	0			
1,1-Dichloroethane	1078	30	1000	0	108	75-125	0			
1,1-Dichloroethene	1104	30	1000	0	110	65-135	0			
1,2,4-Trichlorobenzene	1182	30	1000	0	118	65-130	0			
1,2-Dibromo-3-chloropropane	916	30	1000	0	91.6	40-135	0			
1,2-Dibromoethane	1068	30	1000	0	107	70-125	0			
1,2-Dichlorobenzene	1068	30	1000	0	107	75-120	0			
1,2-Dichloroethane	1060	30	1000	0	106	70-135	0			
1,2-Dichloropropane	1102	30	1000	0	110	70-120	0			
1,3-Dichlorobenzene	1070	30	1000	0	107	70-125	0			
1,4-Dichlorobenzene	1085	30	1000	0	108	70-125	0			
2-Butanone	1138	200	1000	0	114	30-160	0			
2-Hexanone	942	30	1000	0	94.2	45-145	0			
4-Methyl-2-pentanone	1276	30	1000	0	128	45-145	0			
Acetone	760	100	1000	0	76	20-160	0			
Benzene	1074	30	1000	0	107	75-125	0			
Bromodichloromethane	1073	30	1000	0	107	70-130	0			
Bromoform	910	30	1000	0	91	55-135	0			
Bromomethane	1070	75	1000	0	107	30-160	0			
Carbon disulfide	1199	30	1000	0	120	45-160	0			
Carbon tetrachloride	1033	30	1000	0	103	65-135	0			
Chlorobenzene	1114	30	1000	0	111	75-125	0			
Chloroethane	1204	100	1000	0	120	40-155	0			
Chloroform	1049	30	1000	0	105	70-125	0			
Chloromethane	957.5	100	1000	0	95.8	50-130	0			
cis-1,2-Dichloroethene	1110	30	1000	0	111	65-125	0			
cis-1,3-Dichloropropene	1092	30	1000	0	109	70-125	0			
Dibromochloromethane	981.5	30	1000	0	98.2	65-135	0			
Dichlorodifluoromethane	978	30	1000	0	97.8	35-135	0			
Ethylbenzene	1132	30	1000	0	113	75-125	0			
Isopropylbenzene	1114	30	1000	0	111	75-130	0			
Methyl tert-butyl ether	1043	30	1000	0	104	75-125	0			
Methylene chloride	1081	30	1000	0	108	55-145	0			
Styrene	1100	30	1000	0	110	75-125	0			
Tetrachloroethene	1142	30	1000	0	114	64-140	0			
Toluene	1120	30	1000	0	112	70-125	0			
trans-1,2-Dichloroethene	1102	30	1000	0	110	65-135	0			
trans-1,3-Dichloropropene	1068	30	1000	0	107	65-125	0			
Trichloroethene	1077	30	1000	0	108	75-125	0			
Trichlorofluoromethane	999	30	1000	0	99.9	25-185	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1208243  
**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: <b>42888</b>	Instrument ID <b>VMS8</b>	Method: <b>SW8260</b>						
Vinyl chloride	1012	30	1000	0	101	60-125	0	
Xylenes, Total	3397	90	3000	0	113	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	1021	0	1000	0	102	70-130	0	
<i>Surr: 4-Bromofluorobenzene</i>	1022	0	1000	0	102	70-130	0	
<i>Surr: Dibromofluoromethane</i>	1004	0	1000	0	100	70-130	0	
<i>Surr: Toluene-d8</i>	994	0	1000	0	99.4	70-130	0	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1208243  
**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **42888**      Instrument ID **VMS8**      Method: **SW8260**

MS		Sample ID: <b>1208234-02A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>08/09/12 08:04 PM</b>		
Client ID:		Run ID: <b>VMS8_120809A</b>			SeqNo: <b>2049344</b>		Prep Date: <b>08/09/12</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	948	30	1000	0	94.8	70-135		0		
1,1,2,2-Tetrachloroethane	931	30	1000	0	93.1	55-130		0		
1,1,2-Trichloroethane	904.5	30	1000	0	90.4	60-125		0		
1,1-Dichloroethane	943.5	30	1000	0	94.4	75-125		0		
1,1-Dichloroethene	975.5	30	1000	0	97.6	65-135		0		
1,2,4-Trichlorobenzene	954.5	30	1000	0	95.4	65-130		0		
1,2-Dibromo-3-chloropropane	827	30	1000	0	82.7	40-135		0		
1,2-Dibromoethane	1010	30	1000	0	101	70-125		0		
1,2-Dichlorobenzene	974	30	1000	0	97.4	75-120		0		
1,2-Dichloroethane	995.5	30	1000	0	99.6	70-135		0		
1,2-Dichloropropane	1002	30	1000	0	100	70-120		0		
1,3-Dichlorobenzene	960.5	30	1000	0	96	70-125		0		
1,4-Dichlorobenzene	987	30	1000	0	98.7	70-125		0		
2-Butanone	999	200	1000	0	99.9	30-160		0		
2-Hexanone	957.5	30	1000	0	95.8	45-145		0		
4-Methyl-2-pentanone	1288	30	1000	0	129	45-145		0		
Acetone	917.5	100	1000	0	91.8	20-160		0		
Benzene	976.5	30	1000	0	97.6	75-125		0		
Bromodichloromethane	945.5	30	1000	0	94.6	70-130		0		
Bromoform	830.5	30	1000	0	83	55-135		0		
Bromomethane	958	75	1000	0	95.8	30-160		0		
Carbon disulfide	962.5	30	1000	0	96.2	45-160		0		
Carbon tetrachloride	921	30	1000	0	92.1	65-135		0		
Chlorobenzene	1044	30	1000	0	104	75-125		0		
Chloroethane	946.5	100	1000	0	94.6	40-155		0		
Chloroform	953	30	1000	0	95.3	70-125		0		
Chloromethane	813.5	100	1000	0	81.4	50-130		0		
cis-1,2-Dichloroethene	983	30	1000	0	98.3	65-125		0		
cis-1,3-Dichloropropene	999.5	30	1000	0	100	70-125		0		
Dibromochloromethane	878	30	1000	0	87.8	65-135		0		
Dichlorodifluoromethane	784	30	1000	0	78.4	35-135		0		
Ethylbenzene	1077	30	1000	25.5	105	75-125		0		
Isopropylbenzene	1064	30	1000	0	106	75-130		0		
Methyl tert-butyl ether	978.5	30	1000	0	97.8	75-125		0		
Methylene chloride	1056	30	1000	0	106	55-145		0		
Styrene	1026	30	1000	0	103	75-125		0		
Tetrachloroethene	1042	30	1000	0	104	64-140		0		
Toluene	1066	30	1000	46.5	102	70-125		0		
trans-1,2-Dichloroethene	972	30	1000	0	97.2	65-135		0		
trans-1,3-Dichloropropene	982	30	1000	0	98.2	65-125		0		
Trichloroethene	1011	30	1000	0	101	75-125		0		
Trichlorofluoromethane	735	30	1000	0	73.5	25-185		0		

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1208243

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>42888</b>	Instrument ID <b>VMS8</b>	Method: <b>SW8260</b>						
Vinyl chloride	853	30	1000	0	85.3	60-125	0	
Xylenes, Total	3310	90	3000	120	106	75-125	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1008</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>978.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.8</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>971.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.2</i>	<i>70-130</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>982</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.2</i>	<i>70-130</i>	<i>0</i>	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1208243  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 42888 Instrument ID VMS8 Method: SW8260

MSD		Sample ID: 1208234-02A MSD				Units: µg/Kg		Analysis Date: 08/09/12 08:28 PM		
Client ID:		Run ID: VMS8_120809A			SeqNo: 2049345		Prep Date: 08/09/12		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	910	30	1000	0	91	70-135	948	4.09	30	
1,1,2,2-Tetrachloroethane	984.5	30	1000	0	98.4	55-130	931	5.59	30	
1,1,2-Trichloroethane	928.5	30	1000	0	92.8	60-125	904.5	2.62	30	
1,1-Dichloroethane	944	30	1000	0	94.4	75-125	943.5	0.053	30	
1,1-Dichloroethene	963.5	30	1000	0	96.4	65-135	975.5	1.24	30	
1,2,4-Trichlorobenzene	994	30	1000	0	99.4	65-130	954.5	4.05	30	
1,2-Dibromo-3-chloropropane	913	30	1000	0	91.3	40-135	827	9.89	30	
1,2-Dibromoethane	1038	30	1000	0	104	70-125	1010	2.73	30	
1,2-Dichlorobenzene	1002	30	1000	0	100	75-120	974	2.78	30	
1,2-Dichloroethane	1011	30	1000	0	101	70-135	995.5	1.54	30	
1,2-Dichloropropane	995	30	1000	0	99.5	70-120	1002	0.651	30	
1,3-Dichlorobenzene	999	30	1000	0	99.9	70-125	960.5	3.93	30	
1,4-Dichlorobenzene	991	30	1000	0	99.1	70-125	987	0.404	30	
2-Butanone	1045	200	1000	0	104	30-160	999	4.5	30	
2-Hexanone	1034	30	1000	0	103	45-145	957.5	7.63	30	
4-Methyl-2-pentanone	1360	30	1000	0	136	45-145	1288	5.44	30	
Acetone	1031	100	1000	0	103	20-160	917.5	11.6	30	
Benzene	949.5	30	1000	0	95	75-125	976.5	2.8	30	
Bromodichloromethane	934.5	30	1000	0	93.4	70-130	945.5	1.17	30	
Bromoform	822.5	30	1000	0	82.2	55-135	830.5	0.968	30	
Bromomethane	797	75	1000	0	79.7	30-160	958	18.3	30	
Carbon disulfide	928	30	1000	0	92.8	45-160	962.5	3.65	30	
Carbon tetrachloride	874	30	1000	0	87.4	65-135	921	5.24	30	
Chlorobenzene	1040	30	1000	0	104	75-125	1044	0.336	30	
Chloroethane	809	100	1000	0	80.9	40-155	946.5	15.7	30	
Chloroform	944	30	1000	0	94.4	70-125	953	0.949	30	
Chloromethane	796	100	1000	0	79.6	50-130	813.5	2.17	30	
cis-1,2-Dichloroethene	973.5	30	1000	0	97.4	65-125	983	0.971	30	
cis-1,3-Dichloropropene	983	30	1000	0	98.3	70-125	999.5	1.66	30	
Dibromochloromethane	888.5	30	1000	0	88.8	65-135	878	1.19	30	
Dichlorodifluoromethane	751.5	30	1000	0	75.2	35-135	784	4.23	30	
Ethylbenzene	1066	30	1000	25.5	104	75-125	1077	1.07	30	
Isopropylbenzene	1068	30	1000	0	107	75-130	1064	0.328	30	
Methyl tert-butyl ether	993	30	1000	0	99.3	75-125	978.5	1.47	30	
Methylene chloride	1052	30	1000	0	105	55-145	1056	0.332	30	
Styrene	1025	30	1000	0	102	75-125	1026	0.0975	30	
Tetrachloroethene	1049	30	1000	0	105	64-140	1042	0.718	30	
Toluene	1058	30	1000	46.5	101	70-125	1066	0.8	30	
trans-1,2-Dichloroethene	961	30	1000	0	96.1	65-135	972	1.14	30	
trans-1,3-Dichloropropene	975	30	1000	0	97.5	65-125	982	0.715	30	
Trichloroethene	965.5	30	1000	0	96.6	75-125	1011	4.6	30	
Trichlorofluoromethane	690	30	1000	0	69	25-185	735	6.32	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1208243

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>42888</b>	Instrument ID <b>VMS8</b>	Method: <b>SW8260</b>								
Vinyl chloride	836	30	1000	0	83.6	60-125	853	2.01	30	
Xylenes, Total	3276	90	3000	120	105	75-125	3310	1.05	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1004</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>1008</i>	<i>0.497</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1001</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>100</i>	<i>70-130</i>	<i>978.5</i>	<i>2.27</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>960.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96</i>	<i>70-130</i>	<i>971.5</i>	<i>1.14</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>977.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.8</i>	<i>70-130</i>	<i>982</i>	<i>0.459</i>	<i>30</i>	

---

**The following samples were analyzed in this batch:** | 1208243-08A | 1208243-09A |

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.





All samples are waste samples

# Chain of Custody Form

Page 1 of 1

COC ID: 03651

- Cincinnati, OH +1 513 733 5336
- Everett, WA +1 425 356 2600
- Fort Collins, CO +1 970 490 1511

- Holland, MI +1 616 399 6070
- Houston, TX +1 281 530 5656
- Middletown, PA +1 717 944 5541

- Salt Lake City, UT +1 801 266 7700
- Spring City, PA +1 610 948 4903
- York, PA +1 717 505 5280

## Environmental

ALS Project Manager: TBS

ALS Work Order #: 1208243

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	Van Buren Landfill	A	VOCs										
Work Order		Project Number		B	PCODS/PCDFs										
Company Name	The Mannik & Smith Group, Inc.	Bill To Company	RACER Trust	C	Fingerprint Analysis										
Send Report To	Frank Blehl	Invoice Attn	Accounts Payable	D											
Address	2365 Haggerty Road South	Address	2930 Ecorse Rd	E											
	Suite 100				F										
City/State/Zip	Canton, MI 48188	City/State/Zip	Ypsilanti, MI 48198	G											
Phone	(734) 397-3100	Phone		H											
Fax	(734) 397-3131	Fax		I											
e-Mail Address	m.friedh@manniksmithgroup.com	e-Mail Address	fbich@manniksmithgroup.com	J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	W-R2330004-072312-MF.001	7/23/12	1500	W	N	2		X									
2	W-R2330004-072412-MF.002	7/24/12	0900	W		1		X									
3	W-R2330004-072412-MF.003	7/24/12	0300	W		1		X									
4	W-R2330004-072512-MF.004	7/24/12	1100	W		1		X									
5	W-R2330004-072512-MF.005	7/25/12	0930	W		1		X									
6	W-R2330004-072512-MF.006	7/25/12	1500	W		1		X									
7	W-R2330004-072512-MF.007	7/25/12	1300	W		2		X									PCODS/PCDFs
8	W-R2330004-072512-MF.008	7/25/12	1300	W	Y(meth)	2	X	X									
9	Trip Blank #3				meth	1	X										
10																	

Sampler(s) Please Print & Sign Michael Friedh		Shipment Method pickup		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> 1 STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date: 8/8/12 0900		
Relinquished by: Michael Friedh		Date: 7/25/12	Time: 19:00	Received by: Lacked Refridgerator		Notes: REL: [Signature] 8/7/12 1600				
Relinquished by: [Signature]		Date: 8/7/12	Time: 1340	Received by (Laboratory): [Signature]		Cooler ID	Cooler Temp 3.8°C	QC Package: (Check One Box Below)		
Logged by (Laboratory): KR		Date: 8/8/12	Time: 0015	Checked by (Laboratory): TBS		<input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist <input type="checkbox"/> Level III Std QC/Raw Date <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other				



**ALS Environmental**

3352 128th Avenue  
Holland, Michigan 49424  
Tel. +1 616 399 6070  
Fax. +1 616 399 6185

**CUSTODY SEAL**

Date: 8/11/07 Time: 1:00 PM  
Name: [Signature]  
Company: \_\_\_\_\_

Seal Broken By:

Date: [Signature]

Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **08-Aug-12 09:00**

Work Order: **1208243**

Received by: **KRW**

Checklist completed by Keith Wrenga 08-Aug-12  
eSignature Date

Reviewed by: Tom Beamish 08-Aug-12  
eSignature Date

Matrices: Soil  
Carrier name: City Transfer

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="3.8 C"/> <input type="text"/>		
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text" value="8/8/2012 12:18:52 PM"/>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes: The samples were received past hold time for Moisture analysis.

Client Contacted: yes Date Contacted: 08-Aug-12 Person Contacted: Frank Biehl

Contacted By: Tom Beamish Regarding: Moisture - hold time

Comments:

CorrectiveAction:

# Work Order: 1209140

**Project Name:**

**RACER - Van Buren Landfill**

**The Mannik & Smith Group, Inc.**

Frank Biehl

2365 Haggerty Road South

Suite 100

Canton, MI 48188

(734) 397-3100

**20-Sep-2012**



Certificate No: MN331938



20-Sep-2012

Frank Biehl  
The Mannik & Smith Group, Inc.  
2365 Haggerty Road South  
Suite 100  
Canton, MI 48188

Re: **RACER - Van Buren Landfill**

Work Order: **1209140**

Dear Frank,

ALS Environmental received 6 samples on 07-Sep-2012 12:25 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 73.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Beamish".

Electronically approved by: Bill Carey

Tom Beamish  
Senior Project Manager



Certificate No: MN331938

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Work Order:** 1209140

**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1209140-01	W-R2330004-090512-MJF-01	Water		9/5/2012 13:25	9/7/2012 12:25	<input type="checkbox"/>
1209140-02	W-R2330004-090512-MJF-02	Water		9/5/2012 16:10	9/7/2012 12:25	<input type="checkbox"/>
1209140-03	W-R2330004-090512-MJF-03	Water		9/5/2012 16:30	9/7/2012 12:25	<input type="checkbox"/>
1209140-04	W-R2330004-090512-MJF-04	Water		9/5/2012 18:30	9/7/2012 12:25	<input type="checkbox"/>
1209140-05	W-R2330004-090512-MJF-05	Water		9/5/2012 19:00	9/7/2012 12:25	<input type="checkbox"/>
1209140-06	Trip Blank	Water		9/5/2012	9/7/2012 12:25	<input type="checkbox"/>

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**WorkOrder:** 1209140

**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
SD	Serial Dilution
TDL	Target Detection Limit

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

---

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Work Order:** 1209140

---

**Case Narrative**

Batch 43369, Method SVO\_8270\_W, Sample SLCSW1-43369: The LCS and/or LCSD recovery was below the lower control limit. The sample results may be biased low for this analyte: Hexachlorocyclopentadiene.

Batch 43394, Method PEST\_8081\_W, Sample 1209140-01B MS: "S" flags for multiple compounds (out of range- low) due to matrix interference. RPD's and LCS recoveries were in range.

Batch 43394, Method PEST\_8081\_W, Sample 1209140-01B MSD: "S" flags for multiple compounds (out of range- low) due to matrix interference. RPD's and LCS recoveries were in range.

Batch R109441A, Method VOC\_8260\_W, Sample 1209118-04A MS & MSD: Parent sample is unrelated to this WokOrder.

Batch R109459A, Method VOC\_8260\_W, Sample 1209125-01A MS: Acetone flagged due to carryover in parent sample; not required in any project.

Batch R109459A, Method VOC\_8260\_W, Sample 1209125-01A MSD: Acetone flagged due to carryover in parent sample; not required in any project.

Batch R109559A, Method VOC\_8260\_W, Sample VLCSW1-120910: Acetone, 2-Butanone failed to meet 30% calibration point criteria. Analytes below PQL should be considered as estimates.

Batch R109574A, Method VOC\_8260\_W, Sample 1209209-01D MS: The MS and/or MSD recovery was below the lower control limit. The sample results may be biased low for this analyte: Chloromethane

Batch R109574A, Method VOC\_8260\_W, Sample VLCSW1-120911: The LCS and/or LCSD recovery was outside of the lower control limit but within the Sporadic Marginal Exceedence limit for an analyte that is not a project-specific analyte of concern. No qualification is necessary for this analyte: Chloromethane

Batch R109615A, Method VOC\_8260\_W, Sample 1209249-19B MS: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect. No qualification is required for this analyte: 4-Methyl-2-Pentanone

Batch R109615A, Method VOC\_8260\_W, Sample 1209249-19B MSD: The MS and/or MSD

---

---

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Work Order:** 1209140

**Case Narrative**

---

recovery was above the upper control limit. The corresponding result in the parent sample was non-detect. No qualification is required for this analyte: 4-Methyl-2-Pentanone

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-01  
**Collection Date:** 9/5/2012 01:25 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-01  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 9/11/12	Analyst: <b>JD</b>	
<u>BatchID: 43393</u>							
2,4,5-T	U		0.36	1.0	µg/L	1	9/15/2012 01:44
2,4,5-TP (Silvex)	U		0.68	2.0	µg/L	1	9/15/2012 01:44
2,4-D	U		0.83	2.0	µg/L	1	9/15/2012 01:44
Surr: DCAA	81.6			30-150	%REC	1	9/15/2012 01:44
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3510 / 9/11/12	Analyst: <b>JD</b>	
<u>BatchID: 43394</u>							
4,4'-DDD	U		0.0028	0.020	µg/L	1	9/14/2012 18:07
4,4'-DDE	U		0.0025	0.020	µg/L	1	9/14/2012 18:07
4,4'-DDT	U		0.0028	0.020	µg/L	1	9/14/2012 18:07
Aldrin	U		0.0054	0.010	µg/L	1	9/14/2012 18:07
alpha-BHC	U		0.0028	0.010	µg/L	1	9/14/2012 18:07
alpha-Chlordane	U		0.0038	0.020	µg/L	1	9/14/2012 18:07
beta-BHC	U		0.0066	0.010	µg/L	1	9/14/2012 18:07
Chlordane, Technical	U		0.022	0.50	µg/L	1	9/14/2012 18:07
delta-BHC	U		0.0026	0.010	µg/L	1	9/14/2012 18:07
Dieldrin	U		0.0022	0.020	µg/L	1	9/14/2012 18:07
Endosulfan I	U		0.0024	0.020	µg/L	1	9/14/2012 18:07
Endosulfan II	U		0.0028	0.020	µg/L	1	9/14/2012 18:07
Endosulfan sulfate	U		0.0022	0.020	µg/L	1	9/14/2012 18:07
Endrin	U		0.0022	0.020	µg/L	1	9/14/2012 18:07
Endrin aldehyde	U		0.0028	0.020	µg/L	1	9/14/2012 18:07
Endrin ketone	U		0.0022	0.020	µg/L	1	9/14/2012 18:07
gamma-BHC (Lindane)	U		0.0030	0.010	µg/L	1	9/14/2012 18:07
gamma-Chlordane	U		0.0030	0.020	µg/L	1	9/14/2012 18:07
Heptachlor	U		0.0083	0.010	µg/L	1	9/14/2012 18:07
Heptachlor epoxide	U		0.0030	0.010	µg/L	1	9/14/2012 18:07
Hexachlorobenzene	U		0.0060	0.010	µg/L	1	9/14/2012 18:07
Methoxychlor	U		0.0030	0.040	µg/L	1	9/14/2012 18:07
Toxaphene	U		0.042	2.0	µg/L	1	9/14/2012 18:07
Surr: Decachlorobiphenyl	70.0			30-145	%REC	1	9/14/2012 18:07
Surr: Tetrachloro-m-xylene	59.0			25-140	%REC	1	9/14/2012 18:07
<b>MERCURY BY CVAA</b>			<b>SW7470</b>		Prep: SW7470 / 9/17/12	Analyst: <b>LR</b>	
<u>BatchID: 43535</u>							
Mercury	U		0.0000080	0.00020	mg/L	1	9/19/2012 14:13
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep: SW3005A / 9/17/12	Analyst: <b>CES</b>	
<u>BatchID: 43532</u>							

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-01  
**Collection Date:** 9/5/2012 01:25 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-01  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	0.0060	J	0.0017	0.050	mg/L	1	9/18/2012 00:33
Antimony	0.00029	J	0.000039	0.0020	mg/L	1	9/18/2012 00:33
Arsenic	0.014		0.00072	0.0050	mg/L	1	9/18/2012 00:33
Barium	0.90		0.00027	0.10	mg/L	1	9/18/2012 00:33
Beryllium	U		0.000048	0.0010	mg/L	1	9/18/2012 00:33
Cadmium	U		0.000034	0.0010	mg/L	1	9/18/2012 00:33
Chromium	0.0011	J	0.000042	0.010	mg/L	1	9/18/2012 00:33
Cobalt	0.0042	J	0.000039	0.020	mg/L	1	9/18/2012 00:33
Copper	0.00039	J	0.00012	0.0040	mg/L	1	9/18/2012 00:33
Iron	9.3		0.0028	0.20	mg/L	1	9/18/2012 00:33
Lead	0.00012	J	0.000027	0.0030	mg/L	1	9/18/2012 00:33
Manganese	0.086		0.00011	0.050	mg/L	1	9/18/2012 00:33
Nickel	0.015	J	0.00017	0.020	mg/L	1	9/18/2012 00:33
Selenium	0.00091	J	0.00041	0.0050	mg/L	1	9/18/2012 00:33
Silver	U		0.000025	0.00020	mg/L	1	9/18/2012 00:33
Thallium	U		0.000029	0.0020	mg/L	1	9/18/2012 00:33
Vanadium	0.00060	J	0.00030	0.0040	mg/L	1	9/18/2012 00:33
Zinc	0.0037	J	0.00059	0.050	mg/L	1	9/18/2012 00:33

## SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 9/10/12

Analyst: HL

BatchID: 43369

1,1'-Biphenyl	U		0.095	10	µg/L	1	9/12/2012 12:26
2,4,5-Trichlorophenol	U		0.12	5.0	µg/L	1	9/12/2012 12:26
2,4,6-Trichlorophenol	U		0.11	4.0	µg/L	1	9/12/2012 12:26
2,4-Dichlorophenol	U		0.22	10	µg/L	1	9/12/2012 12:26
2,4-Dimethylphenol	U		0.24	5.0	µg/L	1	9/12/2012 12:26
2,4-Dinitrophenol	U		0.76	25	µg/L	1	9/12/2012 12:26
2,4-Dinitrotoluene	U		0.78	5.0	µg/L	1	9/12/2012 12:26
2,6-Dinitrotoluene	U		0.82	5.0	µg/L	1	9/12/2012 12:26
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	9/12/2012 12:26
2-Chlorophenol	U		0.73	10	µg/L	1	9/12/2012 12:26
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	9/12/2012 12:26
2-Methylphenol	U		0.60	10	µg/L	1	9/12/2012 12:26
2-Nitroaniline	U		0.11	25	µg/L	1	9/12/2012 12:26
2-Nitrophenol	U		0.19	5.0	µg/L	1	9/12/2012 12:26
3,3'-Dichlorobenzidine	U		0.54	1.0	µg/L	1	9/12/2012 12:26
3-Nitroaniline	U		2.5	25	µg/L	1	9/12/2012 12:26
4,6-Dinitro-2-methylphenol	U		0.34	20	µg/L	1	9/12/2012 12:26
4-Bromophenyl phenyl ether	U		0.11	5.0	µg/L	1	9/12/2012 12:26
4-Chloro-3-methylphenol	U		0.65	5.0	µg/L	1	9/12/2012 12:26

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-01  
**Collection Date:** 9/5/2012 01:25 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-01  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>4-Chloroaniline</b>	<b>4.2</b>	<b>J</b>	<b>1.1</b>	<b>10</b>	<b>µg/L</b>	1	9/12/2012 12:26
4-Chlorophenyl phenyl ether	U		0.11	5.0	µg/L	1	9/12/2012 12:26
4-Methylphenol	U		0.55	10	µg/L	1	9/12/2012 12:26
4-Nitroaniline	U		1.5	25	µg/L	1	9/12/2012 12:26
4-Nitrophenol	U		1.6	25	µg/L	1	9/12/2012 12:26
Acenaphthene	U		0.11	5.0	µg/L	1	9/12/2012 12:26
Acenaphthylene	U		0.12	5.0	µg/L	1	9/12/2012 12:26
Acetophenone	U		0.090	5.0	µg/L	1	9/12/2012 12:26
Anthracene	U		0.72	5.0	µg/L	1	9/12/2012 12:26
Atrazine	U		3.2	5.0	µg/L	1	9/12/2012 12:26
Benzaldehyde	U		0.46	10	µg/L	1	9/12/2012 12:26
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	9/12/2012 12:26
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	9/12/2012 12:26
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	9/12/2012 12:26
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	9/12/2012 12:26
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	9/12/2012 12:26
Bis(2-chloroethoxy)methane	U		0.13	5.0	µg/L	1	9/12/2012 12:26
Bis(2-chloroethyl)ether	U		0.11	1.0	µg/L	1	9/12/2012 12:26
Bis(2-chloroisopropyl)ether	U		0.12	5.0	µg/L	1	9/12/2012 12:26
Bis(2-ethylhexyl)phthalate	U		0.12	5.0	µg/L	1	9/12/2012 12:26
Butyl benzyl phthalate	U		0.11	5.0	µg/L	1	9/12/2012 12:26
Caprolactam	U		4.7	10	µg/L	1	9/12/2012 12:26
<b>Carbazole</b>	<b>0.85</b>	<b>J</b>	<b>0.84</b>	<b>10</b>	<b>µg/L</b>	1	9/12/2012 12:26
Chrysene	U		0.71	1.0	µg/L	1	9/12/2012 12:26
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	9/12/2012 12:26
Dibenzofuran	U		0.11	4.0	µg/L	1	9/12/2012 12:26
Diethyl phthalate	U		0.69	5.0	µg/L	1	9/12/2012 12:26
Dimethyl phthalate	U		0.14	5.0	µg/L	1	9/12/2012 12:26
Di-n-butyl phthalate	U		0.71	5.0	µg/L	1	9/12/2012 12:26
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	9/12/2012 12:26
Fluoranthene	U		0.77	1.0	µg/L	1	9/12/2012 12:26
Fluorene	U		0.10	5.0	µg/L	1	9/12/2012 12:26
Hexachlorobenzene	U		0.10	0.50	µg/L	1	9/12/2012 12:26
Hexachlorobutadiene	U		0.12	0.50	µg/L	1	9/12/2012 12:26
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	9/12/2012 12:26
Hexachloroethane	U		0.13	5.0	µg/L	1	9/12/2012 12:26
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	9/12/2012 12:26
Isophorone	U		0.12	5.0	µg/L	1	9/12/2012 12:26
Naphthalene	U		0.12	5.0	µg/L	1	9/12/2012 12:26
Nitrobenzene	U		0.10	3.0	µg/L	1	9/12/2012 12:26

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-01  
**Collection Date:** 9/5/2012 01:25 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-01  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		0.13	5.0	µg/L	1	9/12/2012 12:26
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	9/12/2012 12:26
Pentachlorophenol	U		0.11	1.0	µg/L	1	9/12/2012 12:26
Phenanthrene	U		0.86	2.0	µg/L	1	9/12/2012 12:26
Phenol	U		0.094	5.0	µg/L	1	9/12/2012 12:26
Pyrene	U		0.65	5.0	µg/L	1	9/12/2012 12:26
Surr: 2,4,6-Tribromophenol	88.4			32-115	%REC	1	9/12/2012 12:26
Surr: 2-Fluorobiphenyl	64.2			32-100	%REC	1	9/12/2012 12:26
Surr: 2-Fluorophenol	39.5			22-59	%REC	1	9/12/2012 12:26
Surr: 4-Terphenyl-d14	86.4			23-112	%REC	1	9/12/2012 12:26
Surr: Nitrobenzene-d5	67.9			31-93	%REC	1	9/12/2012 12:26
Surr: Phenol-d6	22.8			13-36	%REC	1	9/12/2012 12:26

## VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: BG

BatchID: R109441

1,1,1-Trichloroethane	U		0.14	1.0	µg/L	1	9/7/2012 20:11
1,1,2,2-Tetrachloroethane	U		0.13	1.0	µg/L	1	9/7/2012 20:11
1,1,2-Trichloroethane	U		0.084	1.0	µg/L	1	9/7/2012 20:11
1,1,2-Trichlorotrifluoroethane	U		0.18	1.0	µg/L	1	9/7/2012 20:11
1,1-Dichloroethane	U		0.11	1.0	µg/L	1	9/7/2012 20:11
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 20:11
1,2,4-Trichlorobenzene	U		0.16	5.0	µg/L	1	9/7/2012 20:11
1,2-Dibromo-3-chloropropane	U		0.31	1.0	µg/L	1	9/7/2012 20:11
1,2-Dibromoethane	U		0.16	1.0	µg/L	1	9/7/2012 20:11
1,2-Dichlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:11
1,2-Dichloroethane	U		0.15	1.0	µg/L	1	9/7/2012 20:11
1,2-Dichloropropane	U		0.13	1.0	µg/L	1	9/7/2012 20:11
1,3-Dichlorobenzene	U		0.16	1.0	µg/L	1	9/7/2012 20:11
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	9/7/2012 20:11
2-Butanone	U		0.22	25	µg/L	1	9/7/2012 20:11
2-Hexanone	U		0.12	50	µg/L	1	9/7/2012 20:11
4-Methyl-2-pentanone	U		0.096	50	µg/L	1	9/7/2012 20:11
Acetone	U		0.33	50	µg/L	1	9/7/2012 20:11
<b>Benzene</b>	<b>0.66</b>	<b>J</b>	<b>0.18</b>	<b>1.0</b>	<b>µg/L</b>	1	9/7/2012 20:11
Bromodichloromethane	U		0.12	1.0	µg/L	1	9/7/2012 20:11
Bromoform	U		0.15	1.0	µg/L	1	9/7/2012 20:11
Bromomethane	U		0.21	5.0	µg/L	1	9/7/2012 20:11
Carbon disulfide	U		0.17	5.0	µg/L	1	9/7/2012 20:11
Carbon tetrachloride	U		0.12	1.0	µg/L	1	9/7/2012 20:11
Chlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:11

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-01  
**Collection Date:** 9/5/2012 01:25 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-01  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroethane	U		0.46	5.0	µg/L	1	9/7/2012 20:11
Chloroform	U		0.15	1.0	µg/L	1	9/7/2012 20:11
Chloromethane	U		0.16	5.0	µg/L	1	9/7/2012 20:11
cis-1,2-Dichloroethene	U		0.11	1.0	µg/L	1	9/7/2012 20:11
cis-1,3-Dichloropropene	U		0.081	1.0	µg/L	1	9/7/2012 20:11
Cyclohexane	U		0.22	1.0	µg/L	1	9/7/2012 20:11
Dibromochloromethane	U		0.13	5.0	µg/L	1	9/7/2012 20:11
Dichlorodifluoromethane	U		0.20	5.0	µg/L	1	9/7/2012 20:11
Ethylbenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:11
Isopropylbenzene	U		0.14	5.0	µg/L	1	9/7/2012 20:11
Methyl acetate	U		0.19	10	µg/L	1	9/7/2012 20:11
Methyl tert-butyl ether	U		0.070	5.0	µg/L	1	9/7/2012 20:11
Methylcyclohexane	U		0.99	1.0	µg/L	1	9/7/2012 20:11
Methylene chloride	U		0.19	5.0	µg/L	1	9/7/2012 20:11
Styrene	U		0.11	1.0	µg/L	1	9/7/2012 20:11
Tetrachloroethene	U		0.15	1.0	µg/L	1	9/7/2012 20:11
Toluene	U		0.12	1.0	µg/L	1	9/7/2012 20:11
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 20:11
trans-1,3-Dichloropropene	U		0.15	1.0	µg/L	1	9/7/2012 20:11
Trichloroethene	U		0.14	1.0	µg/L	1	9/7/2012 20:11
Trichlorofluoromethane	U		0.18	1.0	µg/L	1	9/7/2012 20:11
Vinyl chloride	U		0.17	1.0	µg/L	1	9/7/2012 20:11
Xylenes, Total	U		0.29	3.0	µg/L	1	9/7/2012 20:11
Surr: 1,2-Dichloroethane-d4	94.9			70-120	%REC	1	9/7/2012 20:11
Surr: 4-Bromofluorobenzene	92.8			75-120	%REC	1	9/7/2012 20:11
Surr: Dibromofluoromethane	89.6			85-115	%REC	1	9/7/2012 20:11
Surr: Toluene-d8	93.1			85-120	%REC	1	9/7/2012 20:11

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-02  
**Collection Date:** 9/5/2012 04:10 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-02  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>	Prep: SW8151M / 9/11/12		Analyst: <b>JD</b>	
<u>BatchID: 43393</u>							
2,4,5-T	U		0.36	1.0	µg/L	1	9/15/2012 01:53
2,4,5-TP (Silvex)	U		0.68	2.0	µg/L	1	9/15/2012 01:53
2,4-D	U		0.83	2.0	µg/L	1	9/15/2012 01:53
Surr: DCAA	80.2			30-150	%REC	1	9/15/2012 01:53
<b>PESTICIDES</b>			<b>SW8081</b>	Prep: SW3510 / 9/11/12		Analyst: <b>JD</b>	
<u>BatchID: 43394</u>							
4,4'-DDD	U		0.0028	0.020	µg/L	1	9/14/2012 18:49
4,4'-DDE	U		0.0025	0.020	µg/L	1	9/14/2012 18:49
4,4'-DDT	U		0.0028	0.020	µg/L	1	9/14/2012 18:49
Aldrin	U		0.0054	0.010	µg/L	1	9/14/2012 18:49
alpha-BHC	U		0.0028	0.010	µg/L	1	9/14/2012 18:49
alpha-Chlordane	U		0.0038	0.020	µg/L	1	9/14/2012 18:49
beta-BHC	U		0.0066	0.010	µg/L	1	9/14/2012 18:49
Chlordane, Technical	U		0.022	0.50	µg/L	1	9/14/2012 18:49
delta-BHC	U		0.0026	0.010	µg/L	1	9/14/2012 18:49
Dieldrin	U		0.0022	0.020	µg/L	1	9/14/2012 18:49
Endosulfan I	U		0.0024	0.020	µg/L	1	9/14/2012 18:49
Endosulfan II	U		0.0028	0.020	µg/L	1	9/14/2012 18:49
Endosulfan sulfate	U		0.0022	0.020	µg/L	1	9/14/2012 18:49
Endrin	U		0.0022	0.020	µg/L	1	9/14/2012 18:49
Endrin aldehyde	U		0.0028	0.020	µg/L	1	9/14/2012 18:49
Endrin ketone	U		0.0022	0.020	µg/L	1	9/14/2012 18:49
gamma-BHC (Lindane)	U		0.0030	0.010	µg/L	1	9/14/2012 18:49
gamma-Chlordane	U		0.0030	0.020	µg/L	1	9/14/2012 18:49
Heptachlor	U		0.0083	0.010	µg/L	1	9/14/2012 18:49
Heptachlor epoxide	U		0.0030	0.010	µg/L	1	9/14/2012 18:49
Hexachlorobenzene	U		0.0060	0.010	µg/L	1	9/14/2012 18:49
Methoxychlor	U		0.0030	0.040	µg/L	1	9/14/2012 18:49
Toxaphene	U		0.042	2.0	µg/L	1	9/14/2012 18:49
Surr: Decachlorobiphenyl	65.0			30-145	%REC	1	9/14/2012 18:49
Surr: Tetrachloro-m-xylene	48.0			25-140	%REC	1	9/14/2012 18:49
<b>MERCURY BY CVAA</b>			<b>SW7470</b>	Prep: SW7470 / 9/17/12		Analyst: <b>LR</b>	
<u>BatchID: 43535</u>							
Mercury	U		0.0000080	0.00020	mg/L	1	9/19/2012 14:15
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>	Prep: SW3005A / 9/17/12		Analyst: <b>CES</b>	
<u>BatchID: 43532</u>							

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-02  
**Collection Date:** 9/5/2012 04:10 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-02  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	0.0076	J	0.0017	0.050	mg/L	1	9/18/2012 00:39
Antimony	0.000097	J	0.000039	0.0020	mg/L	1	9/18/2012 00:39
Arsenic	0.0014	J	0.00072	0.0050	mg/L	1	9/18/2012 00:39
Barium	0.47		0.00027	0.10	mg/L	1	9/18/2012 00:39
Beryllium	U		0.000048	0.0010	mg/L	1	9/18/2012 00:39
Cadmium	U		0.000034	0.0010	mg/L	1	9/18/2012 00:39
Chromium	0.0011	J	0.000042	0.010	mg/L	1	9/18/2012 00:39
Cobalt	0.0012	J	0.000039	0.020	mg/L	1	9/18/2012 00:39
Copper	U		0.00012	0.0040	mg/L	1	9/18/2012 00:39
Iron	14		0.0028	0.20	mg/L	1	9/18/2012 00:39
Lead	U		0.000027	0.0030	mg/L	1	9/18/2012 00:39
Manganese	0.056		0.00011	0.050	mg/L	1	9/18/2012 00:39
Nickel	0.0024	J	0.00017	0.020	mg/L	1	9/18/2012 00:39
Selenium	0.00046	J	0.00041	0.0050	mg/L	1	9/18/2012 00:39
Silver	U		0.000025	0.00020	mg/L	1	9/18/2012 00:39
Thallium	U		0.000029	0.0020	mg/L	1	9/18/2012 00:39
Vanadium	0.00075	J	0.00030	0.0040	mg/L	1	9/18/2012 00:39
Zinc	0.0019	J	0.00059	0.050	mg/L	1	9/18/2012 00:39

## SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 9/10/12

Analyst: HL

BatchID: 43369

1,1'-Biphenyl	U		0.095	10	µg/L	1	9/12/2012 12:54
2,4,5-Trichlorophenol	U		0.12	5.0	µg/L	1	9/12/2012 12:54
2,4,6-Trichlorophenol	U		0.11	4.0	µg/L	1	9/12/2012 12:54
2,4-Dichlorophenol	U		0.22	10	µg/L	1	9/12/2012 12:54
2,4-Dimethylphenol	U		0.24	5.0	µg/L	1	9/12/2012 12:54
2,4-Dinitrophenol	U		0.76	25	µg/L	1	9/12/2012 12:54
2,4-Dinitrotoluene	U		0.78	5.0	µg/L	1	9/12/2012 12:54
2,6-Dinitrotoluene	U		0.82	5.0	µg/L	1	9/12/2012 12:54
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	9/12/2012 12:54
2-Chlorophenol	U		0.73	10	µg/L	1	9/12/2012 12:54
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	9/12/2012 12:54
2-Methylphenol	U		0.60	10	µg/L	1	9/12/2012 12:54
2-Nitroaniline	U		0.11	25	µg/L	1	9/12/2012 12:54
2-Nitrophenol	U		0.19	5.0	µg/L	1	9/12/2012 12:54
3,3'-Dichlorobenzidine	U		0.54	1.0	µg/L	1	9/12/2012 12:54
3-Nitroaniline	U		2.5	25	µg/L	1	9/12/2012 12:54
4,6-Dinitro-2-methylphenol	U		0.34	20	µg/L	1	9/12/2012 12:54
4-Bromophenyl phenyl ether	U		0.11	5.0	µg/L	1	9/12/2012 12:54
4-Chloro-3-methylphenol	U		0.65	5.0	µg/L	1	9/12/2012 12:54

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-02  
**Collection Date:** 9/5/2012 04:10 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-02  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloroaniline	U		1.1	10	µg/L	1	9/12/2012 12:54
4-Chlorophenyl phenyl ether	U		0.11	5.0	µg/L	1	9/12/2012 12:54
4-Methylphenol	U		0.55	10	µg/L	1	9/12/2012 12:54
4-Nitroaniline	U		1.5	25	µg/L	1	9/12/2012 12:54
4-Nitrophenol	U		1.6	25	µg/L	1	9/12/2012 12:54
Acenaphthene	U		0.11	5.0	µg/L	1	9/12/2012 12:54
Acenaphthylene	U		0.12	5.0	µg/L	1	9/12/2012 12:54
Acetophenone	U		0.090	5.0	µg/L	1	9/12/2012 12:54
Anthracene	U		0.72	5.0	µg/L	1	9/12/2012 12:54
Atrazine	U		3.2	5.0	µg/L	1	9/12/2012 12:54
Benzaldehyde	U		0.46	10	µg/L	1	9/12/2012 12:54
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	9/12/2012 12:54
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	9/12/2012 12:54
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	9/12/2012 12:54
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	9/12/2012 12:54
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	9/12/2012 12:54
Bis(2-chloroethoxy)methane	U		0.13	5.0	µg/L	1	9/12/2012 12:54
Bis(2-chloroethyl)ether	U		0.11	1.0	µg/L	1	9/12/2012 12:54
Bis(2-chloroisopropyl)ether	U		0.12	5.0	µg/L	1	9/12/2012 12:54
Bis(2-ethylhexyl)phthalate	U		0.12	5.0	µg/L	1	9/12/2012 12:54
Butyl benzyl phthalate	U		0.11	5.0	µg/L	1	9/12/2012 12:54
Caprolactam	U		4.7	10	µg/L	1	9/12/2012 12:54
Carbazole	U		0.84	10	µg/L	1	9/12/2012 12:54
Chrysene	U		0.71	1.0	µg/L	1	9/12/2012 12:54
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	9/12/2012 12:54
Dibenzofuran	U		0.11	4.0	µg/L	1	9/12/2012 12:54
Diethyl phthalate	U		0.69	5.0	µg/L	1	9/12/2012 12:54
Dimethyl phthalate	U		0.14	5.0	µg/L	1	9/12/2012 12:54
Di-n-butyl phthalate	U		0.71	5.0	µg/L	1	9/12/2012 12:54
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	9/12/2012 12:54
Fluoranthene	U		0.77	1.0	µg/L	1	9/12/2012 12:54
Fluorene	U		0.10	5.0	µg/L	1	9/12/2012 12:54
Hexachlorobenzene	U		0.10	0.50	µg/L	1	9/12/2012 12:54
Hexachlorobutadiene	U		0.12	0.50	µg/L	1	9/12/2012 12:54
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	9/12/2012 12:54
Hexachloroethane	U		0.13	5.0	µg/L	1	9/12/2012 12:54
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	9/12/2012 12:54
Isophorone	U		0.12	5.0	µg/L	1	9/12/2012 12:54
Naphthalene	U		0.12	5.0	µg/L	1	9/12/2012 12:54
Nitrobenzene	U		0.10	3.0	µg/L	1	9/12/2012 12:54

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-02  
**Collection Date:** 9/5/2012 04:10 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-02  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		0.13	5.0	µg/L	1	9/12/2012 12:54
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	9/12/2012 12:54
Pentachlorophenol	U		0.11	1.0	µg/L	1	9/12/2012 12:54
Phenanthrene	U		0.86	2.0	µg/L	1	9/12/2012 12:54
Phenol	U		0.094	5.0	µg/L	1	9/12/2012 12:54
Pyrene	U		0.65	5.0	µg/L	1	9/12/2012 12:54
Surr: 2,4,6-Tribromophenol	83.6			32-115	%REC	1	9/12/2012 12:54
Surr: 2-Fluorobiphenyl	62.5			32-100	%REC	1	9/12/2012 12:54
Surr: 2-Fluorophenol	35.9			22-59	%REC	1	9/12/2012 12:54
Surr: 4-Terphenyl-d14	84.6			23-112	%REC	1	9/12/2012 12:54
Surr: Nitrobenzene-d5	64.6			31-93	%REC	1	9/12/2012 12:54
Surr: Phenol-d6	20.2			13-36	%REC	1	9/12/2012 12:54

## VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: BG

BatchID: R109441

1,1,1-Trichloroethane	U		0.14	1.0	µg/L	1	9/7/2012 20:35
1,1,2,2-Tetrachloroethane	U		0.13	1.0	µg/L	1	9/7/2012 20:35
1,1,2-Trichloroethane	U		0.084	1.0	µg/L	1	9/7/2012 20:35
1,1,2-Trichlorotrifluoroethane	U		0.18	1.0	µg/L	1	9/7/2012 20:35
1,1-Dichloroethane	U		0.11	1.0	µg/L	1	9/7/2012 20:35
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 20:35
1,2,4-Trichlorobenzene	U		0.16	5.0	µg/L	1	9/7/2012 20:35
1,2-Dibromo-3-chloropropane	U		0.31	1.0	µg/L	1	9/7/2012 20:35
1,2-Dibromoethane	U		0.16	1.0	µg/L	1	9/7/2012 20:35
1,2-Dichlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:35
1,2-Dichloroethane	U		0.15	1.0	µg/L	1	9/7/2012 20:35
1,2-Dichloropropane	U		0.13	1.0	µg/L	1	9/7/2012 20:35
1,3-Dichlorobenzene	U		0.16	1.0	µg/L	1	9/7/2012 20:35
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	9/7/2012 20:35
2-Butanone	U		0.22	25	µg/L	1	9/7/2012 20:35
2-Hexanone	U		0.12	50	µg/L	1	9/7/2012 20:35
4-Methyl-2-pentanone	U		0.096	50	µg/L	1	9/7/2012 20:35
<b>Acetone</b>	<b>12</b>	<b>J</b>	<b>0.33</b>	<b>50</b>	<b>µg/L</b>	1	9/7/2012 20:35
<b>Benzene</b>	<b>0.39</b>	<b>J</b>	<b>0.18</b>	<b>1.0</b>	<b>µg/L</b>	1	9/7/2012 20:35
Bromodichloromethane	U		0.12	1.0	µg/L	1	9/7/2012 20:35
Bromoform	U		0.15	1.0	µg/L	1	9/7/2012 20:35
Bromomethane	U		0.21	5.0	µg/L	1	9/7/2012 20:35
Carbon disulfide	U		0.17	5.0	µg/L	1	9/7/2012 20:35
Carbon tetrachloride	U		0.12	1.0	µg/L	1	9/7/2012 20:35
Chlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:35

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-02  
**Collection Date:** 9/5/2012 04:10 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-02  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroethane	U		0.46	5.0	µg/L	1	9/7/2012 20:35
Chloroform	U		0.15	1.0	µg/L	1	9/7/2012 20:35
Chloromethane	U		0.16	5.0	µg/L	1	9/7/2012 20:35
cis-1,2-Dichloroethene	U		0.11	1.0	µg/L	1	9/7/2012 20:35
cis-1,3-Dichloropropene	U		0.081	1.0	µg/L	1	9/7/2012 20:35
Cyclohexane	U		0.22	1.0	µg/L	1	9/7/2012 20:35
Dibromochloromethane	U		0.13	5.0	µg/L	1	9/7/2012 20:35
Dichlorodifluoromethane	U		0.20	5.0	µg/L	1	9/7/2012 20:35
Ethylbenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:35
Isopropylbenzene	U		0.14	5.0	µg/L	1	9/7/2012 20:35
Methyl acetate	U		0.19	10	µg/L	1	9/7/2012 20:35
Methyl tert-butyl ether	U		0.070	5.0	µg/L	1	9/7/2012 20:35
Methylcyclohexane	U		0.99	1.0	µg/L	1	9/7/2012 20:35
Methylene chloride	U		0.19	5.0	µg/L	1	9/7/2012 20:35
Styrene	U		0.11	1.0	µg/L	1	9/7/2012 20:35
Tetrachloroethene	U		0.15	1.0	µg/L	1	9/7/2012 20:35
Toluene	U		0.12	1.0	µg/L	1	9/7/2012 20:35
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 20:35
trans-1,3-Dichloropropene	U		0.15	1.0	µg/L	1	9/7/2012 20:35
Trichloroethene	U		0.14	1.0	µg/L	1	9/7/2012 20:35
Trichlorofluoromethane	U		0.18	1.0	µg/L	1	9/7/2012 20:35
Vinyl chloride	U		0.17	1.0	µg/L	1	9/7/2012 20:35
Xylenes, Total	U		0.29	3.0	µg/L	1	9/7/2012 20:35
Surr: 1,2-Dichloroethane-d4	94.8			70-120	%REC	1	9/7/2012 20:35
Surr: 4-Bromofluorobenzene	97.3			75-120	%REC	1	9/7/2012 20:35
Surr: Dibromofluoromethane	90.8			85-115	%REC	1	9/7/2012 20:35
Surr: Toluene-d8	92.4			85-120	%REC	1	9/7/2012 20:35

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-03  
**Collection Date:** 9/5/2012 04:30 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-03  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 9/11/12		Analyst: <b>JD</b>
<u>BatchID: 43393</u>							
2,4,5-T	U		0.36	1.0	µg/L	1	9/15/2012 02:02
2,4,5-TP (Silvex)	U		0.68	2.0	µg/L	1	9/15/2012 02:02
2,4-D	U		0.83	2.0	µg/L	1	9/15/2012 02:02
Surr: DCAA	76.2			30-150	%REC	1	9/15/2012 02:02
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3510 / 9/11/12		Analyst: <b>JD</b>
<u>BatchID: 43394</u>							
4,4'-DDD	U		0.0028	0.020	µg/L	1	9/14/2012 19:04
4,4'-DDE	U		0.0025	0.020	µg/L	1	9/14/2012 19:04
4,4'-DDT	U		0.0028	0.020	µg/L	1	9/14/2012 19:04
Aldrin	U		0.0054	0.010	µg/L	1	9/14/2012 19:04
alpha-BHC	U		0.0028	0.010	µg/L	1	9/14/2012 19:04
alpha-Chlordane	U		0.0038	0.020	µg/L	1	9/14/2012 19:04
beta-BHC	U		0.0066	0.010	µg/L	1	9/14/2012 19:04
Chlordane, Technical	U		0.022	0.50	µg/L	1	9/14/2012 19:04
delta-BHC	U		0.0026	0.010	µg/L	1	9/14/2012 19:04
Dieldrin	U		0.0022	0.020	µg/L	1	9/14/2012 19:04
Endosulfan I	U		0.0024	0.020	µg/L	1	9/14/2012 19:04
Endosulfan II	U		0.0028	0.020	µg/L	1	9/14/2012 19:04
Endosulfan sulfate	U		0.0022	0.020	µg/L	1	9/14/2012 19:04
Endrin	U		0.0022	0.020	µg/L	1	9/14/2012 19:04
Endrin aldehyde	U		0.0028	0.020	µg/L	1	9/14/2012 19:04
Endrin ketone	U		0.0022	0.020	µg/L	1	9/14/2012 19:04
gamma-BHC (Lindane)	U		0.0030	0.010	µg/L	1	9/14/2012 19:04
gamma-Chlordane	U		0.0030	0.020	µg/L	1	9/14/2012 19:04
Heptachlor	U		0.0083	0.010	µg/L	1	9/14/2012 19:04
Heptachlor epoxide	U		0.0030	0.010	µg/L	1	9/14/2012 19:04
Hexachlorobenzene	U		0.0060	0.010	µg/L	1	9/14/2012 19:04
Methoxychlor	U		0.0030	0.040	µg/L	1	9/14/2012 19:04
Toxaphene	U		0.042	2.0	µg/L	1	9/14/2012 19:04
Surr: Decachlorobiphenyl	60.0			30-145	%REC	1	9/14/2012 19:04
Surr: Tetrachloro-m-xylene	45.0			25-140	%REC	1	9/14/2012 19:04
<b>MERCURY BY CVAA</b>			<b>SW7470</b>		Prep: SW7470 / 9/18/12		Analyst: <b>LR</b>
<u>BatchID: 43554</u>							
Mercury	U		0.0000080	0.00020	mg/L	1	9/18/2012 13:19
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep: SW3005A / 9/17/12		Analyst: <b>CES</b>
<u>BatchID: 43532</u>							

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-03  
**Collection Date:** 9/5/2012 04:30 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-03  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	0.011	J	0.0017	0.050	mg/L	1	9/18/2012 00:44
Antimony	0.00014	J	0.000039	0.0020	mg/L	1	9/18/2012 00:44
Arsenic	0.0012	J	0.00072	0.0050	mg/L	1	9/18/2012 00:44
Barium	0.48		0.00027	0.10	mg/L	1	9/18/2012 00:44
Beryllium	U		0.000048	0.0010	mg/L	1	9/18/2012 00:44
Cadmium	U		0.000034	0.0010	mg/L	1	9/18/2012 00:44
Chromium	0.00085	J	0.000042	0.010	mg/L	1	9/18/2012 00:44
Cobalt	0.0013	J	0.000039	0.020	mg/L	1	9/18/2012 00:44
Copper	0.00026	J	0.00012	0.0040	mg/L	1	9/18/2012 00:44
Iron	15		0.0028	0.20	mg/L	1	9/18/2012 00:44
Lead	0.000034	J	0.000027	0.0030	mg/L	1	9/18/2012 00:44
Manganese	0.055		0.00011	0.050	mg/L	1	9/18/2012 00:44
Nickel	0.0024	J	0.00017	0.020	mg/L	1	9/18/2012 00:44
Selenium	U		0.00041	0.0050	mg/L	1	9/18/2012 00:44
Silver	U		0.000025	0.00020	mg/L	1	9/18/2012 00:44
Thallium	U		0.000029	0.0020	mg/L	1	9/18/2012 00:44
Vanadium	0.00073	J	0.00030	0.0040	mg/L	1	9/18/2012 00:44
Zinc	0.0024	J	0.00059	0.050	mg/L	1	9/18/2012 00:44

## SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 9/10/12

Analyst: HL

BatchID: 43369

1,1'-Biphenyl	U		0.095	10	µg/L	1	9/12/2012 13:21
2,4,5-Trichlorophenol	U		0.12	5.0	µg/L	1	9/12/2012 13:21
2,4,6-Trichlorophenol	U		0.11	4.0	µg/L	1	9/12/2012 13:21
2,4-Dichlorophenol	U		0.22	10	µg/L	1	9/12/2012 13:21
2,4-Dimethylphenol	U		0.24	5.0	µg/L	1	9/12/2012 13:21
2,4-Dinitrophenol	U		0.76	25	µg/L	1	9/12/2012 13:21
2,4-Dinitrotoluene	U		0.78	5.0	µg/L	1	9/12/2012 13:21
2,6-Dinitrotoluene	U		0.82	5.0	µg/L	1	9/12/2012 13:21
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	9/12/2012 13:21
2-Chlorophenol	U		0.73	10	µg/L	1	9/12/2012 13:21
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	9/12/2012 13:21
2-Methylphenol	U		0.60	10	µg/L	1	9/12/2012 13:21
2-Nitroaniline	U		0.11	25	µg/L	1	9/12/2012 13:21
2-Nitrophenol	U		0.19	5.0	µg/L	1	9/12/2012 13:21
3,3'-Dichlorobenzidine	U		0.54	1.0	µg/L	1	9/12/2012 13:21
3-Nitroaniline	U		2.5	25	µg/L	1	9/12/2012 13:21
4,6-Dinitro-2-methylphenol	U		0.34	20	µg/L	1	9/12/2012 13:21
4-Bromophenyl phenyl ether	U		0.11	5.0	µg/L	1	9/12/2012 13:21
4-Chloro-3-methylphenol	U		0.65	5.0	µg/L	1	9/12/2012 13:21

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-03  
**Collection Date:** 9/5/2012 04:30 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-03  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloroaniline	U		1.1	10	µg/L	1	9/12/2012 13:21
4-Chlorophenyl phenyl ether	U		0.11	5.0	µg/L	1	9/12/2012 13:21
4-Methylphenol	U		0.55	10	µg/L	1	9/12/2012 13:21
4-Nitroaniline	U		1.5	25	µg/L	1	9/12/2012 13:21
4-Nitrophenol	U		1.6	25	µg/L	1	9/12/2012 13:21
Acenaphthene	U		0.11	5.0	µg/L	1	9/12/2012 13:21
Acenaphthylene	U		0.12	5.0	µg/L	1	9/12/2012 13:21
Acetophenone	U		0.090	5.0	µg/L	1	9/12/2012 13:21
Anthracene	U		0.72	5.0	µg/L	1	9/12/2012 13:21
Atrazine	U		3.2	5.0	µg/L	1	9/12/2012 13:21
Benzaldehyde	U		0.46	10	µg/L	1	9/12/2012 13:21
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	9/12/2012 13:21
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	9/12/2012 13:21
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	9/12/2012 13:21
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	9/12/2012 13:21
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	9/12/2012 13:21
Bis(2-chloroethoxy)methane	U		0.13	5.0	µg/L	1	9/12/2012 13:21
Bis(2-chloroethyl)ether	U		0.11	1.0	µg/L	1	9/12/2012 13:21
Bis(2-chloroisopropyl)ether	U		0.12	5.0	µg/L	1	9/12/2012 13:21
Bis(2-ethylhexyl)phthalate	U		0.12	5.0	µg/L	1	9/12/2012 13:21
Butyl benzyl phthalate	U		0.11	5.0	µg/L	1	9/12/2012 13:21
Caprolactam	U		4.7	10	µg/L	1	9/12/2012 13:21
Carbazole	U		0.84	10	µg/L	1	9/12/2012 13:21
Chrysene	U		0.71	1.0	µg/L	1	9/12/2012 13:21
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	9/12/2012 13:21
Dibenzofuran	U		0.11	4.0	µg/L	1	9/12/2012 13:21
Diethyl phthalate	U		0.69	5.0	µg/L	1	9/12/2012 13:21
Dimethyl phthalate	U		0.14	5.0	µg/L	1	9/12/2012 13:21
Di-n-butyl phthalate	U		0.71	5.0	µg/L	1	9/12/2012 13:21
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	9/12/2012 13:21
Fluoranthene	U		0.77	1.0	µg/L	1	9/12/2012 13:21
Fluorene	U		0.10	5.0	µg/L	1	9/12/2012 13:21
Hexachlorobenzene	U		0.10	0.50	µg/L	1	9/12/2012 13:21
Hexachlorobutadiene	U		0.12	0.50	µg/L	1	9/12/2012 13:21
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	9/12/2012 13:21
Hexachloroethane	U		0.13	5.0	µg/L	1	9/12/2012 13:21
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	9/12/2012 13:21
Isophorone	U		0.12	5.0	µg/L	1	9/12/2012 13:21
Naphthalene	U		0.12	5.0	µg/L	1	9/12/2012 13:21
Nitrobenzene	U		0.10	3.0	µg/L	1	9/12/2012 13:21

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-03  
**Collection Date:** 9/5/2012 04:30 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-03  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		0.13	5.0	µg/L	1	9/12/2012 13:21
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	9/12/2012 13:21
Pentachlorophenol	U		0.11	1.0	µg/L	1	9/12/2012 13:21
Phenanthrene	U		0.86	2.0	µg/L	1	9/12/2012 13:21
Phenol	U		0.094	5.0	µg/L	1	9/12/2012 13:21
Pyrene	U		0.65	5.0	µg/L	1	9/12/2012 13:21
Surr: 2,4,6-Tribromophenol	84.8			32-115	%REC	1	9/12/2012 13:21
Surr: 2-Fluorobiphenyl	66.0			32-100	%REC	1	9/12/2012 13:21
Surr: 2-Fluorophenol	40.5			22-59	%REC	1	9/12/2012 13:21
Surr: 4-Terphenyl-d14	81.9			23-112	%REC	1	9/12/2012 13:21
Surr: Nitrobenzene-d5	68.0			31-93	%REC	1	9/12/2012 13:21
Surr: Phenol-d6	23.3			13-36	%REC	1	9/12/2012 13:21

## VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: BG

BatchID: R109441

1,1,1-Trichloroethane	U		0.14	1.0	µg/L	1	9/7/2012 20:59
1,1,2,2-Tetrachloroethane	U		0.13	1.0	µg/L	1	9/7/2012 20:59
1,1,2-Trichloroethane	U		0.084	1.0	µg/L	1	9/7/2012 20:59
1,1,2-Trichlorotrifluoroethane	U		0.18	1.0	µg/L	1	9/7/2012 20:59
1,1-Dichloroethane	U		0.11	1.0	µg/L	1	9/7/2012 20:59
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 20:59
1,2,4-Trichlorobenzene	U		0.16	5.0	µg/L	1	9/7/2012 20:59
1,2-Dibromo-3-chloropropane	U		0.31	1.0	µg/L	1	9/7/2012 20:59
1,2-Dibromoethane	U		0.16	1.0	µg/L	1	9/7/2012 20:59
1,2-Dichlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:59
1,2-Dichloroethane	U		0.15	1.0	µg/L	1	9/7/2012 20:59
1,2-Dichloropropane	U		0.13	1.0	µg/L	1	9/7/2012 20:59
1,3-Dichlorobenzene	U		0.16	1.0	µg/L	1	9/7/2012 20:59
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	9/7/2012 20:59
2-Butanone	U		0.22	25	µg/L	1	9/7/2012 20:59
2-Hexanone	U		0.12	50	µg/L	1	9/7/2012 20:59
4-Methyl-2-pentanone	U		0.096	50	µg/L	1	9/7/2012 20:59
<b>Acetone</b>	<b>8.5</b>	<b>J</b>	<b>0.33</b>	<b>50</b>	<b>µg/L</b>	1	9/7/2012 20:59
<b>Benzene</b>	<b>0.43</b>	<b>J</b>	<b>0.18</b>	<b>1.0</b>	<b>µg/L</b>	1	9/7/2012 20:59
Bromodichloromethane	U		0.12	1.0	µg/L	1	9/7/2012 20:59
Bromoform	U		0.15	1.0	µg/L	1	9/7/2012 20:59
Bromomethane	U		0.21	5.0	µg/L	1	9/7/2012 20:59
Carbon disulfide	U		0.17	5.0	µg/L	1	9/7/2012 20:59
Carbon tetrachloride	U		0.12	1.0	µg/L	1	9/7/2012 20:59
Chlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:59

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-03  
**Collection Date:** 9/5/2012 04:30 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-03  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroethane	U		0.46	5.0	µg/L	1	9/7/2012 20:59
Chloroform	U		0.15	1.0	µg/L	1	9/7/2012 20:59
Chloromethane	U		0.16	5.0	µg/L	1	9/7/2012 20:59
cis-1,2-Dichloroethene	U		0.11	1.0	µg/L	1	9/7/2012 20:59
cis-1,3-Dichloropropene	U		0.081	1.0	µg/L	1	9/7/2012 20:59
Cyclohexane	U		0.22	1.0	µg/L	1	9/7/2012 20:59
Dibromochloromethane	U		0.13	5.0	µg/L	1	9/7/2012 20:59
Dichlorodifluoromethane	U		0.20	5.0	µg/L	1	9/7/2012 20:59
Ethylbenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:59
Isopropylbenzene	U		0.14	5.0	µg/L	1	9/7/2012 20:59
Methyl acetate	U		0.19	10	µg/L	1	9/7/2012 20:59
Methyl tert-butyl ether	U		0.070	5.0	µg/L	1	9/7/2012 20:59
Methylcyclohexane	U		0.99	1.0	µg/L	1	9/7/2012 20:59
Methylene chloride	U		0.19	5.0	µg/L	1	9/7/2012 20:59
Styrene	U		0.11	1.0	µg/L	1	9/7/2012 20:59
Tetrachloroethene	U		0.15	1.0	µg/L	1	9/7/2012 20:59
Toluene	U		0.12	1.0	µg/L	1	9/7/2012 20:59
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 20:59
trans-1,3-Dichloropropene	U		0.15	1.0	µg/L	1	9/7/2012 20:59
Trichloroethene	U		0.14	1.0	µg/L	1	9/7/2012 20:59
Trichlorofluoromethane	U		0.18	1.0	µg/L	1	9/7/2012 20:59
Vinyl chloride	U		0.17	1.0	µg/L	1	9/7/2012 20:59
Xylenes, Total	U		0.29	3.0	µg/L	1	9/7/2012 20:59
Surr: 1,2-Dichloroethane-d4	104			70-120	%REC	1	9/7/2012 20:59
Surr: 4-Bromofluorobenzene	91.4			75-120	%REC	1	9/7/2012 20:59
Surr: Dibromofluoromethane	94.7			85-115	%REC	1	9/7/2012 20:59
Surr: Toluene-d8	95.4			85-120	%REC	1	9/7/2012 20:59

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-04  
**Collection Date:** 9/5/2012 06:30 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-04  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 9/11/12		Analyst: <b>JD</b>
<u>BatchID: 43393</u>							
2,4,5-T	U		0.36	1.0	µg/L	1	9/15/2012 02:10
2,4,5-TP (Silvex)	U		0.68	2.0	µg/L	1	9/15/2012 02:10
2,4-D	U		0.83	2.0	µg/L	1	9/15/2012 02:10
Surr: DCAA	78.6			30-150	%REC	1	9/15/2012 02:10
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3510 / 9/11/12		Analyst: <b>JD</b>
<u>BatchID: 43394</u>							
4,4'-DDD	U		0.0028	0.020	µg/L	1	9/14/2012 19:18
4,4'-DDE	U		0.0025	0.020	µg/L	1	9/14/2012 19:18
4,4'-DDT	U		0.0028	0.020	µg/L	1	9/14/2012 19:18
Aldrin	U		0.0054	0.010	µg/L	1	9/14/2012 19:18
alpha-BHC	U		0.0028	0.010	µg/L	1	9/14/2012 19:18
alpha-Chlordane	U		0.0038	0.020	µg/L	1	9/14/2012 19:18
beta-BHC	U		0.0066	0.010	µg/L	1	9/14/2012 19:18
Chlordane, Technical	U		0.022	0.50	µg/L	1	9/14/2012 19:18
delta-BHC	U		0.0026	0.010	µg/L	1	9/14/2012 19:18
Dieldrin	U		0.0022	0.020	µg/L	1	9/14/2012 19:18
Endosulfan I	U		0.0024	0.020	µg/L	1	9/14/2012 19:18
Endosulfan II	U		0.0028	0.020	µg/L	1	9/14/2012 19:18
Endosulfan sulfate	U		0.0022	0.020	µg/L	1	9/14/2012 19:18
Endrin	U		0.0022	0.020	µg/L	1	9/14/2012 19:18
Endrin aldehyde	U		0.0028	0.020	µg/L	1	9/14/2012 19:18
Endrin ketone	U		0.0022	0.020	µg/L	1	9/14/2012 19:18
gamma-BHC (Lindane)	U		0.0030	0.010	µg/L	1	9/14/2012 19:18
gamma-Chlordane	U		0.0030	0.020	µg/L	1	9/14/2012 19:18
Heptachlor	U		0.0083	0.010	µg/L	1	9/14/2012 19:18
Heptachlor epoxide	U		0.0030	0.010	µg/L	1	9/14/2012 19:18
Hexachlorobenzene	U		0.0060	0.010	µg/L	1	9/14/2012 19:18
Methoxychlor	U		0.0030	0.040	µg/L	1	9/14/2012 19:18
Toxaphene	U		0.042	2.0	µg/L	1	9/14/2012 19:18
Surr: Decachlorobiphenyl	61.0			30-145	%REC	1	9/14/2012 19:18
Surr: Tetrachloro-m-xylene	48.0			25-140	%REC	1	9/14/2012 19:18
<b>MERCURY BY CVAA</b>			<b>SW7470</b>		Prep: SW7470 / 9/18/12		Analyst: <b>LR</b>
<u>BatchID: 43554</u>							
Mercury	U		0.0000080	0.00020	mg/L	1	9/18/2012 13:21
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep: SW3005A / 9/17/12		Analyst: <b>CES</b>
<u>BatchID: 43532</u>							

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-04  
**Collection Date:** 9/5/2012 06:30 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-04  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Aluminum	0.017	J	0.0017	0.050	mg/L	1	9/18/2012 01:28
Antimony	0.00016	J	0.000039	0.0020	mg/L	1	9/18/2012 01:28
Arsenic	0.0094		0.00072	0.0050	mg/L	1	9/18/2012 01:28
Barium	0.58		0.00027	0.10	mg/L	1	9/18/2012 01:28
Beryllium	U		0.000048	0.0010	mg/L	1	9/18/2012 01:28
Cadmium	U		0.000034	0.0010	mg/L	1	9/18/2012 01:28
Chromium	0.0010	J	0.000042	0.010	mg/L	1	9/18/2012 01:28
Cobalt	0.0024	J	0.000039	0.020	mg/L	1	9/18/2012 01:28
Copper	0.00031	J	0.00012	0.0040	mg/L	1	9/18/2012 01:28
Iron	26		0.0028	0.20	mg/L	1	9/18/2012 01:28
Lead	0.000057	J	0.000027	0.0030	mg/L	1	9/18/2012 01:28
Manganese	0.50		0.00011	0.050	mg/L	1	9/18/2012 01:28
Nickel	0.0038	J	0.00017	0.020	mg/L	1	9/18/2012 01:28
Selenium	0.00051	J	0.00041	0.0050	mg/L	1	9/18/2012 01:28
Silver	U		0.000025	0.00020	mg/L	1	9/18/2012 01:28
Thallium	U		0.000029	0.0020	mg/L	1	9/18/2012 01:28
Vanadium	0.0012	J	0.00030	0.0040	mg/L	1	9/18/2012 01:28
Zinc	0.0015	J	0.00059	0.050	mg/L	1	9/18/2012 01:28

## SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 9/10/12

Analyst: HL

BatchID: 43369

1,1'-Biphenyl	U		0.095	10	µg/L	1	9/12/2012 13:49
2,4,5-Trichlorophenol	U		0.12	5.0	µg/L	1	9/12/2012 13:49
2,4,6-Trichlorophenol	U		0.11	4.0	µg/L	1	9/12/2012 13:49
2,4-Dichlorophenol	U		0.22	10	µg/L	1	9/12/2012 13:49
2,4-Dimethylphenol	U		0.24	5.0	µg/L	1	9/12/2012 13:49
2,4-Dinitrophenol	U		0.76	25	µg/L	1	9/12/2012 13:49
2,4-Dinitrotoluene	U		0.78	5.0	µg/L	1	9/12/2012 13:49
2,6-Dinitrotoluene	U		0.82	5.0	µg/L	1	9/12/2012 13:49
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	9/12/2012 13:49
2-Chlorophenol	U		0.73	10	µg/L	1	9/12/2012 13:49
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	9/12/2012 13:49
2-Methylphenol	U		0.60	10	µg/L	1	9/12/2012 13:49
2-Nitroaniline	U		0.11	25	µg/L	1	9/12/2012 13:49
2-Nitrophenol	U		0.19	5.0	µg/L	1	9/12/2012 13:49
3,3'-Dichlorobenzidine	U		0.54	1.0	µg/L	1	9/12/2012 13:49
3-Nitroaniline	U		2.5	25	µg/L	1	9/12/2012 13:49
4,6-Dinitro-2-methylphenol	U		0.34	20	µg/L	1	9/12/2012 13:49
4-Bromophenyl phenyl ether	U		0.11	5.0	µg/L	1	9/12/2012 13:49
4-Chloro-3-methylphenol	U		0.65	5.0	µg/L	1	9/12/2012 13:49

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-04  
**Collection Date:** 9/5/2012 06:30 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-04  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloroaniline	U		1.1	10	µg/L	1	9/12/2012 13:49
4-Chlorophenyl phenyl ether	U		0.11	5.0	µg/L	1	9/12/2012 13:49
4-Methylphenol	U		0.55	10	µg/L	1	9/12/2012 13:49
4-Nitroaniline	U		1.5	25	µg/L	1	9/12/2012 13:49
4-Nitrophenol	U		1.6	25	µg/L	1	9/12/2012 13:49
Acenaphthene	U		0.11	5.0	µg/L	1	9/12/2012 13:49
Acenaphthylene	U		0.12	5.0	µg/L	1	9/12/2012 13:49
Acetophenone	U		0.090	5.0	µg/L	1	9/12/2012 13:49
Anthracene	U		0.72	5.0	µg/L	1	9/12/2012 13:49
Atrazine	U		3.2	5.0	µg/L	1	9/12/2012 13:49
Benzaldehyde	U		0.46	10	µg/L	1	9/12/2012 13:49
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	9/12/2012 13:49
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	9/12/2012 13:49
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	9/12/2012 13:49
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	9/12/2012 13:49
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	9/12/2012 13:49
Bis(2-chloroethoxy)methane	U		0.13	5.0	µg/L	1	9/12/2012 13:49
Bis(2-chloroethyl)ether	U		0.11	1.0	µg/L	1	9/12/2012 13:49
Bis(2-chloroisopropyl)ether	U		0.12	5.0	µg/L	1	9/12/2012 13:49
Bis(2-ethylhexyl)phthalate	U		0.12	5.0	µg/L	1	9/12/2012 13:49
Butyl benzyl phthalate	U		0.11	5.0	µg/L	1	9/12/2012 13:49
Caprolactam	U		4.7	10	µg/L	1	9/12/2012 13:49
Carbazole	U		0.84	10	µg/L	1	9/12/2012 13:49
Chrysene	U		0.71	1.0	µg/L	1	9/12/2012 13:49
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	9/12/2012 13:49
Dibenzofuran	U		0.11	4.0	µg/L	1	9/12/2012 13:49
Diethyl phthalate	U		0.69	5.0	µg/L	1	9/12/2012 13:49
Dimethyl phthalate	U		0.14	5.0	µg/L	1	9/12/2012 13:49
Di-n-butyl phthalate	U		0.71	5.0	µg/L	1	9/12/2012 13:49
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	9/12/2012 13:49
Fluoranthene	U		0.77	1.0	µg/L	1	9/12/2012 13:49
Fluorene	U		0.10	5.0	µg/L	1	9/12/2012 13:49
Hexachlorobenzene	U		0.10	0.50	µg/L	1	9/12/2012 13:49
Hexachlorobutadiene	U		0.12	0.50	µg/L	1	9/12/2012 13:49
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	9/12/2012 13:49
Hexachloroethane	U		0.13	5.0	µg/L	1	9/12/2012 13:49
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	9/12/2012 13:49
Isophorone	U		0.12	5.0	µg/L	1	9/12/2012 13:49
Naphthalene	U		0.12	5.0	µg/L	1	9/12/2012 13:49
Nitrobenzene	U		0.10	3.0	µg/L	1	9/12/2012 13:49

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-04  
**Collection Date:** 9/5/2012 06:30 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-04  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		0.13	5.0	µg/L	1	9/12/2012 13:49
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	9/12/2012 13:49
Pentachlorophenol	U		0.11	1.0	µg/L	1	9/12/2012 13:49
Phenanthrene	U		0.86	2.0	µg/L	1	9/12/2012 13:49
Phenol	U		0.094	5.0	µg/L	1	9/12/2012 13:49
Pyrene	U		0.65	5.0	µg/L	1	9/12/2012 13:49
Surr: 2,4,6-Tribromophenol	81.2			32-115	%REC	1	9/12/2012 13:49
Surr: 2-Fluorobiphenyl	65.5			32-100	%REC	1	9/12/2012 13:49
Surr: 2-Fluorophenol	35.7			22-59	%REC	1	9/12/2012 13:49
Surr: 4-Terphenyl-d14	66.5			23-112	%REC	1	9/12/2012 13:49
Surr: Nitrobenzene-d5	65.5			31-93	%REC	1	9/12/2012 13:49
Surr: Phenol-d6	21.1			13-36	%REC	1	9/12/2012 13:49

## VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: AK

BatchID: R109459

1,1,1-Trichloroethane	U		0.14	1.0	µg/L	1	9/7/2012 19:38
1,1,2,2-Tetrachloroethane	U		0.13	1.0	µg/L	1	9/7/2012 19:38
1,1,2-Trichloroethane	U		0.084	1.0	µg/L	1	9/7/2012 19:38
1,1,2-Trichlorotrifluoroethane	U		0.18	1.0	µg/L	1	9/7/2012 19:38
1,1-Dichloroethane	U		0.11	1.0	µg/L	1	9/7/2012 19:38
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 19:38
1,2,4-Trichlorobenzene	U		0.16	5.0	µg/L	1	9/7/2012 19:38
1,2-Dibromo-3-chloropropane	U		0.31	1.0	µg/L	1	9/7/2012 19:38
1,2-Dibromoethane	U		0.16	1.0	µg/L	1	9/7/2012 19:38
1,2-Dichlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 19:38
1,2-Dichloroethane	U		0.15	1.0	µg/L	1	9/7/2012 19:38
1,2-Dichloropropane	U		0.13	1.0	µg/L	1	9/7/2012 19:38
1,3-Dichlorobenzene	U		0.16	1.0	µg/L	1	9/7/2012 19:38
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	9/7/2012 19:38
2-Butanone	U		0.22	25	µg/L	1	9/7/2012 19:38
2-Hexanone	U		0.12	50	µg/L	1	9/7/2012 19:38
4-Methyl-2-pentanone	U		0.096	50	µg/L	1	9/7/2012 19:38
<b>Acetone</b>	<b>11</b>	<b>J</b>	<b>0.33</b>	<b>50</b>	<b>µg/L</b>	1	9/7/2012 19:38
<b>Benzene</b>	<b>4.9</b>		<b>0.18</b>	<b>1.0</b>	<b>µg/L</b>	1	9/7/2012 19:38
Bromodichloromethane	U		0.12	1.0	µg/L	1	9/7/2012 19:38
Bromoform	U		0.15	1.0	µg/L	1	9/7/2012 19:38
Bromomethane	U		0.21	5.0	µg/L	1	9/7/2012 19:38
Carbon disulfide	U		0.17	5.0	µg/L	1	9/7/2012 19:38
Carbon tetrachloride	U		0.12	1.0	µg/L	1	9/7/2012 19:38
Chlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 19:38

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-04  
**Collection Date:** 9/5/2012 06:30 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-04  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroethane	U		0.46	5.0	µg/L	1	9/7/2012 19:38
Chloroform	U		0.15	1.0	µg/L	1	9/7/2012 19:38
Chloromethane	U		0.16	5.0	µg/L	1	9/7/2012 19:38
cis-1,2-Dichloroethene	U		0.11	1.0	µg/L	1	9/7/2012 19:38
cis-1,3-Dichloropropene	U		0.081	1.0	µg/L	1	9/7/2012 19:38
Cyclohexane	U		0.22	1.0	µg/L	1	9/7/2012 19:38
Dibromochloromethane	U		0.13	5.0	µg/L	1	9/7/2012 19:38
Dichlorodifluoromethane	U		0.20	5.0	µg/L	1	9/7/2012 19:38
Ethylbenzene	U		0.13	1.0	µg/L	1	9/7/2012 19:38
Isopropylbenzene	U		0.14	5.0	µg/L	1	9/7/2012 19:38
Methyl acetate	U		0.19	10	µg/L	1	9/7/2012 19:38
Methyl tert-butyl ether	U		0.070	5.0	µg/L	1	9/7/2012 19:38
Methylcyclohexane	U		0.99	1.0	µg/L	1	9/7/2012 19:38
Methylene chloride	U		0.19	5.0	µg/L	1	9/7/2012 19:38
Styrene	U		0.11	1.0	µg/L	1	9/7/2012 19:38
Tetrachloroethene	U		0.15	1.0	µg/L	1	9/7/2012 19:38
Toluene	U		0.12	1.0	µg/L	1	9/7/2012 19:38
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 19:38
trans-1,3-Dichloropropene	U		0.15	1.0	µg/L	1	9/7/2012 19:38
Trichloroethene	U		0.14	1.0	µg/L	1	9/7/2012 19:38
Trichlorofluoromethane	U		0.18	1.0	µg/L	1	9/7/2012 19:38
Vinyl chloride	U		0.17	1.0	µg/L	1	9/7/2012 19:38
Xylenes, Total	U		0.29	3.0	µg/L	1	9/7/2012 19:38
Surr: 1,2-Dichloroethane-d4	105			70-120	%REC	1	9/7/2012 19:38
Surr: 4-Bromofluorobenzene	99.7			75-120	%REC	1	9/7/2012 19:38
Surr: Dibromofluoromethane	102			85-115	%REC	1	9/7/2012 19:38
Surr: Toluene-d8	102			85-120	%REC	1	9/7/2012 19:38

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-05  
**Collection Date:** 9/5/2012 07:00 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-05  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>HERBICIDES</b>			<b>SW8151</b>		Prep: SW8151M / 9/11/12		Analyst: <b>JD</b>
<u>BatchID: 43393</u>							
2,4,5-T	U		0.36	1.0	µg/L	1	9/15/2012 02:19
2,4,5-TP (Silvex)	U		0.68	2.0	µg/L	1	9/15/2012 02:19
2,4-D	U		0.83	2.0	µg/L	1	9/15/2012 02:19
Surr: DCAA	78.6			30-150	%REC	1	9/15/2012 02:19
<b>PESTICIDES</b>			<b>SW8081</b>		Prep: SW3510 / 9/11/12		Analyst: <b>JD</b>
<u>BatchID: 43394</u>							
4,4'-DDD	U		0.0028	0.020	µg/L	1	9/14/2012 19:32
4,4'-DDE	U		0.0025	0.020	µg/L	1	9/14/2012 19:32
4,4'-DDT	U		0.0028	0.020	µg/L	1	9/14/2012 19:32
Aldrin	U		0.0054	0.010	µg/L	1	9/14/2012 19:32
alpha-BHC	U		0.0028	0.010	µg/L	1	9/14/2012 19:32
alpha-Chlordane	U		0.0038	0.020	µg/L	1	9/14/2012 19:32
beta-BHC	U		0.0066	0.010	µg/L	1	9/14/2012 19:32
Chlordane, Technical	U		0.022	0.50	µg/L	1	9/14/2012 19:32
delta-BHC	U		0.0026	0.010	µg/L	1	9/14/2012 19:32
Dieldrin	U		0.0022	0.020	µg/L	1	9/14/2012 19:32
Endosulfan I	U		0.0024	0.020	µg/L	1	9/14/2012 19:32
Endosulfan II	U		0.0028	0.020	µg/L	1	9/14/2012 19:32
Endosulfan sulfate	U		0.0022	0.020	µg/L	1	9/14/2012 19:32
Endrin	U		0.0022	0.020	µg/L	1	9/14/2012 19:32
Endrin aldehyde	U		0.0028	0.020	µg/L	1	9/14/2012 19:32
Endrin ketone	U		0.0022	0.020	µg/L	1	9/14/2012 19:32
gamma-BHC (Lindane)	U		0.0030	0.010	µg/L	1	9/14/2012 19:32
gamma-Chlordane	U		0.0030	0.020	µg/L	1	9/14/2012 19:32
Heptachlor	U		0.0083	0.010	µg/L	1	9/14/2012 19:32
Heptachlor epoxide	U		0.0030	0.010	µg/L	1	9/14/2012 19:32
Hexachlorobenzene	U		0.0060	0.010	µg/L	1	9/14/2012 19:32
Methoxychlor	U		0.0030	0.040	µg/L	1	9/14/2012 19:32
Toxaphene	U		0.042	2.0	µg/L	1	9/14/2012 19:32
Surr: Decachlorobiphenyl	70.0			30-145	%REC	1	9/14/2012 19:32
Surr: Tetrachloro-m-xylene	65.0			25-140	%REC	1	9/14/2012 19:32
<b>MERCURY BY CVAA</b>			<b>SW7470</b>		Prep: SW7470 / 9/18/12		Analyst: <b>LR</b>
<u>BatchID: 43554</u>							
Mercury	U		0.0000080	0.00020	mg/L	1	9/18/2012 13:23
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep: SW3005A / 9/17/12		Analyst: <b>CES</b>
<u>BatchID: 43532</u>							

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-05  
**Collection Date:** 9/5/2012 07:00 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-05  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Aluminum</b>	<b>0.0029</b>	J	<b>0.0017</b>	<b>0.050</b>	<b>mg/L</b>	1	9/18/2012 01:34
Antimony	U		0.000039	0.0020	mg/L	1	9/18/2012 01:34
Arsenic	U		0.00072	0.0050	mg/L	1	9/18/2012 01:34
<b>Barium</b>	<b>0.00059</b>	J	<b>0.00027</b>	<b>0.10</b>	<b>mg/L</b>	1	9/18/2012 01:34
Beryllium	U		0.000048	0.0010	mg/L	1	9/18/2012 01:34
Cadmium	U		0.000034	0.0010	mg/L	1	9/18/2012 01:34
<b>Chromium</b>	<b>0.00014</b>	J	<b>0.000042</b>	<b>0.010</b>	<b>mg/L</b>	1	9/18/2012 01:34
<b>Cobalt</b>	<b>0.00026</b>	J	<b>0.000039</b>	<b>0.020</b>	<b>mg/L</b>	1	9/18/2012 01:34
<b>Copper</b>	<b>0.00070</b>	J	<b>0.00012</b>	<b>0.0040</b>	<b>mg/L</b>	1	9/18/2012 01:34
<b>Iron</b>	<b>0.024</b>	J	<b>0.0028</b>	<b>0.20</b>	<b>mg/L</b>	1	9/18/2012 01:34
<b>Lead</b>	<b>0.00027</b>	J	<b>0.000027</b>	<b>0.0030</b>	<b>mg/L</b>	1	9/18/2012 01:34
<b>Manganese</b>	<b>0.0015</b>	J	<b>0.00011</b>	<b>0.050</b>	<b>mg/L</b>	1	9/18/2012 01:34
<b>Nickel</b>	<b>0.00042</b>	J	<b>0.00017</b>	<b>0.020</b>	<b>mg/L</b>	1	9/18/2012 01:34
<b>Selenium</b>	<b>0.00048</b>	J	<b>0.00041</b>	<b>0.0050</b>	<b>mg/L</b>	1	9/18/2012 01:34
Silver	U		0.000025	0.00020	mg/L	1	9/18/2012 01:34
Thallium	U		0.000029	0.0020	mg/L	1	9/18/2012 01:34
Vanadium	U		0.00030	0.0040	mg/L	1	9/18/2012 01:34
<b>Zinc</b>	<b>0.015</b>	J	<b>0.00059</b>	<b>0.050</b>	<b>mg/L</b>	1	9/18/2012 01:34

## SEMI-VOLATILE ORGANIC COMPOUNDS

SW8270

Prep: SW3510 / 9/10/12

Analyst: HL

BatchID: 43369

1,1'-Biphenyl	U		0.095	10	µg/L	1	9/12/2012 14:17
2,4,5-Trichlorophenol	U		0.12	5.0	µg/L	1	9/12/2012 14:17
2,4,6-Trichlorophenol	U		0.11	4.0	µg/L	1	9/12/2012 14:17
2,4-Dichlorophenol	U		0.22	10	µg/L	1	9/12/2012 14:17
2,4-Dimethylphenol	U		0.24	5.0	µg/L	1	9/12/2012 14:17
2,4-Dinitrophenol	U		0.76	25	µg/L	1	9/12/2012 14:17
2,4-Dinitrotoluene	U		0.78	5.0	µg/L	1	9/12/2012 14:17
2,6-Dinitrotoluene	U		0.82	5.0	µg/L	1	9/12/2012 14:17
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	9/12/2012 14:17
2-Chlorophenol	U		0.73	10	µg/L	1	9/12/2012 14:17
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	9/12/2012 14:17
2-Methylphenol	U		0.60	10	µg/L	1	9/12/2012 14:17
2-Nitroaniline	U		0.11	25	µg/L	1	9/12/2012 14:17
2-Nitrophenol	U		0.19	5.0	µg/L	1	9/12/2012 14:17
3,3'-Dichlorobenzidine	U		0.54	1.0	µg/L	1	9/12/2012 14:17
3-Nitroaniline	U		2.5	25	µg/L	1	9/12/2012 14:17
4,6-Dinitro-2-methylphenol	U		0.34	20	µg/L	1	9/12/2012 14:17
4-Bromophenyl phenyl ether	U		0.11	5.0	µg/L	1	9/12/2012 14:17
4-Chloro-3-methylphenol	U		0.65	5.0	µg/L	1	9/12/2012 14:17

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-05  
**Collection Date:** 9/5/2012 07:00 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-05  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloroaniline	U		1.1	10	µg/L	1	9/12/2012 14:17
4-Chlorophenyl phenyl ether	U		0.11	5.0	µg/L	1	9/12/2012 14:17
4-Methylphenol	U		0.55	10	µg/L	1	9/12/2012 14:17
4-Nitroaniline	U		1.5	25	µg/L	1	9/12/2012 14:17
4-Nitrophenol	U		1.6	25	µg/L	1	9/12/2012 14:17
Acenaphthene	U		0.11	5.0	µg/L	1	9/12/2012 14:17
Acenaphthylene	U		0.12	5.0	µg/L	1	9/12/2012 14:17
Acetophenone	U		0.090	5.0	µg/L	1	9/12/2012 14:17
Anthracene	U		0.72	5.0	µg/L	1	9/12/2012 14:17
Atrazine	U		3.2	5.0	µg/L	1	9/12/2012 14:17
Benzaldehyde	U		0.46	10	µg/L	1	9/12/2012 14:17
Benzo(a)anthracene	U		0.57	1.0	µg/L	1	9/12/2012 14:17
Benzo(a)pyrene	U		0.10	1.0	µg/L	1	9/12/2012 14:17
Benzo(b)fluoranthene	U		0.74	1.0	µg/L	1	9/12/2012 14:17
Benzo(g,h,i)perylene	U		0.70	1.0	µg/L	1	9/12/2012 14:17
Benzo(k)fluoranthene	U		0.17	1.0	µg/L	1	9/12/2012 14:17
Bis(2-chloroethoxy)methane	U		0.13	5.0	µg/L	1	9/12/2012 14:17
Bis(2-chloroethyl)ether	U		0.11	1.0	µg/L	1	9/12/2012 14:17
Bis(2-chloroisopropyl)ether	U		0.12	5.0	µg/L	1	9/12/2012 14:17
Bis(2-ethylhexyl)phthalate	U		0.12	5.0	µg/L	1	9/12/2012 14:17
Butyl benzyl phthalate	U		0.11	5.0	µg/L	1	9/12/2012 14:17
Caprolactam	U		4.7	10	µg/L	1	9/12/2012 14:17
Carbazole	U		0.84	10	µg/L	1	9/12/2012 14:17
Chrysene	U		0.71	1.0	µg/L	1	9/12/2012 14:17
Dibenzo(a,h)anthracene	U		0.67	2.0	µg/L	1	9/12/2012 14:17
Dibenzofuran	U		0.11	4.0	µg/L	1	9/12/2012 14:17
Diethyl phthalate	U		0.69	5.0	µg/L	1	9/12/2012 14:17
Dimethyl phthalate	U		0.14	5.0	µg/L	1	9/12/2012 14:17
Di-n-butyl phthalate	U		0.71	5.0	µg/L	1	9/12/2012 14:17
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	9/12/2012 14:17
Fluoranthene	U		0.77	1.0	µg/L	1	9/12/2012 14:17
Fluorene	U		0.10	5.0	µg/L	1	9/12/2012 14:17
Hexachlorobenzene	U		0.10	0.50	µg/L	1	9/12/2012 14:17
Hexachlorobutadiene	U		0.12	0.50	µg/L	1	9/12/2012 14:17
Hexachlorocyclopentadiene	U		0.18	5.0	µg/L	1	9/12/2012 14:17
Hexachloroethane	U		0.13	5.0	µg/L	1	9/12/2012 14:17
Indeno(1,2,3-cd)pyrene	U		0.69	2.0	µg/L	1	9/12/2012 14:17
Isophorone	U		0.12	5.0	µg/L	1	9/12/2012 14:17
Naphthalene	U		0.12	5.0	µg/L	1	9/12/2012 14:17
Nitrobenzene	U		0.10	3.0	µg/L	1	9/12/2012 14:17

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-05  
**Collection Date:** 9/5/2012 07:00 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-05  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		0.13	5.0	µg/L	1	9/12/2012 14:17
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	9/12/2012 14:17
Pentachlorophenol	U		0.11	1.0	µg/L	1	9/12/2012 14:17
Phenanthrene	U		0.86	2.0	µg/L	1	9/12/2012 14:17
Phenol	U		0.094	5.0	µg/L	1	9/12/2012 14:17
Pyrene	U		0.65	5.0	µg/L	1	9/12/2012 14:17
Surr: 2,4,6-Tribromophenol	65.7			32-115	%REC	1	9/12/2012 14:17
Surr: 2-Fluorobiphenyl	62.3			32-100	%REC	1	9/12/2012 14:17
Surr: 2-Fluorophenol	36.4			22-59	%REC	1	9/12/2012 14:17
Surr: 4-Terphenyl-d14	92.8			23-112	%REC	1	9/12/2012 14:17
Surr: Nitrobenzene-d5	62.3			31-93	%REC	1	9/12/2012 14:17
Surr: Phenol-d6	20.3			13-36	%REC	1	9/12/2012 14:17

## VOLATILE ORGANIC COMPOUNDS

SW8260

Analyst: AK

BatchID: R109459

1,1,1-Trichloroethane	U		0.14	1.0	µg/L	1	9/7/2012 20:02
1,1,2,2-Tetrachloroethane	U		0.13	1.0	µg/L	1	9/7/2012 20:02
1,1,2-Trichloroethane	U		0.084	1.0	µg/L	1	9/7/2012 20:02
1,1,2-Trichlorotrifluoroethane	U		0.18	1.0	µg/L	1	9/7/2012 20:02
1,1-Dichloroethane	U		0.11	1.0	µg/L	1	9/7/2012 20:02
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 20:02
1,2,4-Trichlorobenzene	U		0.16	5.0	µg/L	1	9/7/2012 20:02
1,2-Dibromo-3-chloropropane	U		0.31	1.0	µg/L	1	9/7/2012 20:02
1,2-Dibromoethane	U		0.16	1.0	µg/L	1	9/7/2012 20:02
1,2-Dichlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:02
1,2-Dichloroethane	U		0.15	1.0	µg/L	1	9/7/2012 20:02
1,2-Dichloropropane	U		0.13	1.0	µg/L	1	9/7/2012 20:02
1,3-Dichlorobenzene	U		0.16	1.0	µg/L	1	9/7/2012 20:02
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	9/7/2012 20:02
2-Butanone	U		0.22	25	µg/L	1	9/7/2012 20:02
2-Hexanone	U		0.12	50	µg/L	1	9/7/2012 20:02
4-Methyl-2-pentanone	U		0.096	50	µg/L	1	9/7/2012 20:02
Benzene	U		0.18	1.0	µg/L	1	9/7/2012 20:02
Bromodichloromethane	U		0.12	1.0	µg/L	1	9/7/2012 20:02
Bromoform	U		0.15	1.0	µg/L	1	9/7/2012 20:02
Bromomethane	U		0.21	5.0	µg/L	1	9/7/2012 20:02
Carbon disulfide	U		0.17	5.0	µg/L	1	9/7/2012 20:02
Carbon tetrachloride	U		0.12	1.0	µg/L	1	9/7/2012 20:02
Chlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:02
Chloroethane	U		0.46	5.0	µg/L	1	9/7/2012 20:02

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** W-R2330004-090512-MJF-05  
**Collection Date:** 9/5/2012 07:00 PM

**Work Order:** 1209140  
**Lab ID:** 1209140-05  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroform	U		0.15	1.0	µg/L	1	9/7/2012 20:02
Chloromethane	U		0.16	5.0	µg/L	1	9/7/2012 20:02
cis-1,2-Dichloroethene	U		0.11	1.0	µg/L	1	9/7/2012 20:02
cis-1,3-Dichloropropene	U		0.081	1.0	µg/L	1	9/7/2012 20:02
Cyclohexane	U		0.22	1.0	µg/L	1	9/7/2012 20:02
Dibromochloromethane	U		0.13	5.0	µg/L	1	9/7/2012 20:02
Dichlorodifluoromethane	U		0.20	5.0	µg/L	1	9/7/2012 20:02
Ethylbenzene	U		0.13	1.0	µg/L	1	9/7/2012 20:02
Isopropylbenzene	U		0.14	5.0	µg/L	1	9/7/2012 20:02
Methyl acetate	U		0.19	10	µg/L	1	9/7/2012 20:02
Methyl tert-butyl ether	U		0.070	5.0	µg/L	1	9/7/2012 20:02
Methylcyclohexane	U		0.99	1.0	µg/L	1	9/7/2012 20:02
Methylene chloride	U		0.19	5.0	µg/L	1	9/7/2012 20:02
Styrene	U		0.11	1.0	µg/L	1	9/7/2012 20:02
Tetrachloroethene	U		0.15	1.0	µg/L	1	9/7/2012 20:02
Toluene	U		0.12	1.0	µg/L	1	9/7/2012 20:02
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 20:02
trans-1,3-Dichloropropene	U		0.15	1.0	µg/L	1	9/7/2012 20:02
Trichloroethene	U		0.14	1.0	µg/L	1	9/7/2012 20:02
Trichlorofluoromethane	U		0.18	1.0	µg/L	1	9/7/2012 20:02
Vinyl chloride	U		0.17	1.0	µg/L	1	9/7/2012 20:02
Xylenes, Total	U		0.29	3.0	µg/L	1	9/7/2012 20:02
Surr: 1,2-Dichloroethane-d4	104			70-120	%REC	1	9/7/2012 20:02
Surr: 4-Bromofluorobenzene	97.2			75-120	%REC	1	9/7/2012 20:02
Surr: Dibromofluoromethane	101			85-115	%REC	1	9/7/2012 20:02
Surr: Toluene-d8	99.6			85-120	%REC	1	9/7/2012 20:02
BatchID: R109615							
<b>Acetone</b>	<b>120</b>		<b>0.66</b>	<b>100</b>	<b>µg/L</b>	<b>2</b>	<b>9/12/2012 16:08</b>
Surr: 1,2-Dichloroethane-d4	96.2			70-120	%REC	2	9/12/2012 16:08
Surr: 4-Bromofluorobenzene	92.3			75-120	%REC	2	9/12/2012 16:08
Surr: Dibromofluoromethane	92.9			85-115	%REC	2	9/12/2012 16:08
Surr: Toluene-d8	91.8			85-120	%REC	2	9/12/2012 16:08

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** Trip Blank  
**Collection Date:** 9/5/2012

**Work Order:** 1209140  
**Lab ID:** 1209140-06  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260</b>			Analyst: <b>BG</b>	
<u>BatchID: R109441</u>							
1,1,1-Trichloroethane	U		0.14	1.0	µg/L	1	9/7/2012 16:56
1,1,2,2-Tetrachloroethane	U		0.13	1.0	µg/L	1	9/7/2012 16:56
1,1,2-Trichloroethane	U		0.084	1.0	µg/L	1	9/7/2012 16:56
1,1,2-Trichlorotrifluoroethane	U		0.18	1.0	µg/L	1	9/7/2012 16:56
1,1-Dichloroethane	U		0.11	1.0	µg/L	1	9/7/2012 16:56
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 16:56
1,2,4-Trichlorobenzene	U		0.16	5.0	µg/L	1	9/7/2012 16:56
1,2-Dibromo-3-chloropropane	U		0.31	1.0	µg/L	1	9/7/2012 16:56
1,2-Dibromoethane	U		0.16	1.0	µg/L	1	9/7/2012 16:56
1,2-Dichlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 16:56
1,2-Dichloroethane	U		0.15	1.0	µg/L	1	9/7/2012 16:56
1,2-Dichloropropane	U		0.13	1.0	µg/L	1	9/7/2012 16:56
1,3-Dichlorobenzene	U		0.16	1.0	µg/L	1	9/7/2012 16:56
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	9/7/2012 16:56
2-Butanone	U		0.22	25	µg/L	1	9/7/2012 16:56
2-Hexanone	U		0.12	50	µg/L	1	9/7/2012 16:56
4-Methyl-2-pentanone	U		0.096	50	µg/L	1	9/7/2012 16:56
Acetone	U		0.33	50	µg/L	1	9/7/2012 16:56
Benzene	U		0.18	1.0	µg/L	1	9/7/2012 16:56
Bromodichloromethane	U		0.12	1.0	µg/L	1	9/7/2012 16:56
Bromoform	U		0.15	1.0	µg/L	1	9/7/2012 16:56
Bromomethane	U		0.21	5.0	µg/L	1	9/7/2012 16:56
Carbon disulfide	U		0.17	5.0	µg/L	1	9/7/2012 16:56
Carbon tetrachloride	U		0.12	1.0	µg/L	1	9/7/2012 16:56
Chlorobenzene	U		0.13	1.0	µg/L	1	9/7/2012 16:56
Chloroethane	U		0.46	5.0	µg/L	1	9/7/2012 16:56
Chloroform	U		0.15	1.0	µg/L	1	9/7/2012 16:56
Chloromethane	U		0.16	5.0	µg/L	1	9/7/2012 16:56
cis-1,2-Dichloroethene	U		0.11	1.0	µg/L	1	9/7/2012 16:56
cis-1,3-Dichloropropene	U		0.081	1.0	µg/L	1	9/7/2012 16:56
Cyclohexane	U		0.22	1.0	µg/L	1	9/7/2012 16:56
Dibromochloromethane	U		0.13	5.0	µg/L	1	9/7/2012 16:56
Dichlorodifluoromethane	U		0.20	5.0	µg/L	1	9/7/2012 16:56
Ethylbenzene	U		0.13	1.0	µg/L	1	9/7/2012 16:56
Isopropylbenzene	U		0.14	5.0	µg/L	1	9/7/2012 16:56
Methyl acetate	U		0.19	10	µg/L	1	9/7/2012 16:56
Methyl tert-butyl ether	U		0.070	5.0	µg/L	1	9/7/2012 16:56

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

# ALS Group USA, Corp

Date: 20-Sep-12

**Client:** The Mannik & Smith Group, Inc.  
**Project:** RACER - Van Buren Landfill  
**Sample ID:** Trip Blank  
**Collection Date:** 9/5/2012

**Work Order:** 1209140  
**Lab ID:** 1209140-06  
**Matrix:** WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.99	1.0	µg/L	1	9/7/2012 16:56
<b>Methylene chloride</b>	<b>1.7</b>	<b>J</b>	<b>0.19</b>	<b>5.0</b>	<b>µg/L</b>	1	9/7/2012 16:56
Styrene	U		0.11	1.0	µg/L	1	9/7/2012 16:56
Tetrachloroethene	U		0.15	1.0	µg/L	1	9/7/2012 16:56
Toluene	U		0.12	1.0	µg/L	1	9/7/2012 16:56
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	9/7/2012 16:56
trans-1,3-Dichloropropene	U		0.15	1.0	µg/L	1	9/7/2012 16:56
Trichloroethene	U		0.14	1.0	µg/L	1	9/7/2012 16:56
Trichlorofluoromethane	U		0.18	1.0	µg/L	1	9/7/2012 16:56
Vinyl chloride	U		0.17	1.0	µg/L	1	9/7/2012 16:56
Xylenes, Total	U		0.29	3.0	µg/L	1	9/7/2012 16:56
<i>Surr: 1,2-Dichloroethane-d4</i>	104			70-120	%REC	1	9/7/2012 16:56
<i>Surr: 4-Bromofluorobenzene</i>	93.6			75-120	%REC	1	9/7/2012 16:56
<i>Surr: Dibromofluoromethane</i>	94.3			85-115	%REC	1	9/7/2012 16:56
<i>Surr: Toluene-d8</i>	95.7			85-120	%REC	1	9/7/2012 16:56

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1209140  
**Project:** RACER - Van Buren Landfill

**QC BATCH REPORT**

Batch ID: **43393** Instrument ID **GC7** Method: **SW8151**

MBLK		Sample ID: <b>HBLKW1-43393-43393</b>				Units: <b>µg/L</b>		Analysis Date: <b>9/15/2012 12:35 AM</b>			
Client ID:		Run ID: <b>GC7_120914A</b>				SeqNo: <b>2080837</b>		Prep Date: <b>9/11/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-T	U	1.0									
2,4,5-TP (Silvex)	U	2.0									
2,4-D	U	2.0									
Surr: DCAA	37.8	0	50	0	75.6	30-150	0				

LCS		Sample ID: <b>HLCSW1-43393-43393</b>				Units: <b>µg/L</b>		Analysis Date: <b>9/15/2012 12:43 AM</b>			
Client ID:		Run ID: <b>GC7_120914A</b>				SeqNo: <b>2080838</b>		Prep Date: <b>9/11/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-T	50	1.0	50	0	100	50-150	0				
2,4,5-TP (Silvex)	43.7	2.0	50	0	87.4	50-150	0				
2,4-D	45.5	2.0	50	0	91	50-150	0				
Surr: DCAA	38.6	0	50	0	77.2	30-150	0				

MS		Sample ID: <b>1208894-33C MS</b>				Units: <b>µg/L</b>		Analysis Date: <b>9/15/2012 01:27 AM</b>			
Client ID:		Run ID: <b>GC7_120914A</b>				SeqNo: <b>2080830</b>		Prep Date: <b>9/11/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-T	47.9	1.0	50	0	95.8	50-150	0				
2,4,5-TP (Silvex)	41.7	2.0	50	0	83.4	50-150	0				
2,4-D	47.7	2.0	50	0	95.4	50-150	0				
Surr: DCAA	40.4	0	50	0	80.8	30-150	0				

MSD		Sample ID: <b>1208894-33C MSD</b>				Units: <b>µg/L</b>		Analysis Date: <b>9/15/2012 01:36 AM</b>			
Client ID:		Run ID: <b>GC7_120914A</b>				SeqNo: <b>2080831</b>		Prep Date: <b>9/11/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
2,4,5-T	49.1	1.0	50	0	98.2	50-150	47.9	2.47	30		
2,4,5-TP (Silvex)	43.1	2.0	50	0	86.2	50-150	41.7	3.3	30		
2,4-D	48.1	2.0	50	0	96.2	50-150	47.7	0.835	30		
Surr: DCAA	42	0	50	0	84	30-150	40.4	3.88	30		

The following samples were analyzed in this batch:

1209140-01B	1209140-02B	1209140-03B
1209140-04B	1209140-05B	

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43394 Instrument ID GC7 Method: SW8081

MBLK	Sample ID: PBLKW1-43394-43394	Units: µg/L				Analysis Date: 9/14/2012 05:38 PM				
Client ID:	Run ID: GC7_120914B	SeqNo: 2082772	Prep Date: 9/11/2012	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	U	0.020								
4,4'-DDE	U	0.020								
4,4'-DDT	U	0.020								
Aldrin	U	0.010								
alpha-BHC	U	0.010								
alpha-Chlordane	U	0.020								
beta-BHC	U	0.010								
Chlordane, Technical	U	0.50								
delta-BHC	U	0.010								
Dieldrin	U	0.020								
Endosulfan I	U	0.020								
Endosulfan II	U	0.020								
Endosulfan sulfate	U	0.020								
Endrin	U	0.020								
Endrin aldehyde	U	0.020								
Endrin ketone	U	0.020								
gamma-BHC (Lindane)	U	0.010								
gamma-Chlordane	U	0.020								
Heptachlor	U	0.010								
Heptachlor epoxide	U	0.010								
Hexachlorobenzene	U	0.010								
Methoxychlor	U	0.040								
Toxaphene	U	2.0								
Surr: Decachlorobiphenyl	0.074	0	0.1	0	74	30-135	0			
Surr: Tetrachloro-m-xylene	0.06	0	0.1	0	60	25-140	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43394 Instrument ID GC7 Method: SW8081

LCS		Sample ID: PLCSW1-43394-43394				Units: µg/L		Analysis Date: 9/14/2012 05:52 PM		
Client ID:		Run ID: GC7_120914B			SeqNo: 2082773		Prep Date: 9/11/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	0.072	0.020	0.1	0	72	25-150	0			
4,4'-DDE	0.07	0.020	0.1	0	70	35-140	0			
4,4'-DDT	0.081	0.020	0.1	0	81	45-140	0			
Aldrin	0.055	0.010	0.1	0	55	25-140	0			
alpha-BHC	0.064	0.010	0.1	0	64	60-130	0			
alpha-Chlordane	0.065	0.020	0.1	0	65	50-150	0			
beta-BHC	0.069	0.010	0.1	0	69	65-125	0			
delta-BHC	0.075	0.010	0.1	0	75	45-135	0			
Dieldrin	0.065	0.020	0.1	0	65	60-130	0			
Endosulfan I	0.066	0.020	0.1	0	66	50-110	0			
Endosulfan II	0.07	0.020	0.1	0	70	30-130	0			
Endosulfan sulfate	0.073	0.020	0.1	0	73	55-135	0			
Endrin	0.078	0.020	0.1	0	78	55-135	0			
Endrin aldehyde	0.066	0.020	0.1	0	66	55-135	0			
Endrin ketone	0.07	0.020	0.1	0	70	50-150	0			
gamma-BHC (Lindane)	0.065	0.010	0.1	0	65	25-135	0			
gamma-Chlordane	0.065	0.020	0.1	0	65	50-150	0			
Heptachlor	0.065	0.010	0.1	0	65	40-130	0			
Heptachlor epoxide	0.066	0.010	0.1	0	66	60-130	0			
Methoxychlor	0.086	0.040	0.1	0	86	55-150	0			
Surr: Decachlorobiphenyl	0.072	0	0.1	0	72	30-135	0			
Surr: Tetrachloro-m-xylene	0.057	0	0.1	0	57	25-140	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43394 Instrument ID GC7 Method: SW8081

MS		Sample ID: 1209140-01B MS				Units: µg/L		Analysis Date: 9/14/2012 06:21 PM		
Client ID: W-R2330004-090512-MJF-01		Run ID: GC7_120914B				SeqNo: 2082775		Prep Date: 9/11/2012		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	0.059	0.020	0.1	0	59	25-150	0			
4,4'-DDE	0.058	0.020	0.1	0	58	35-140	0			
4,4'-DDT	0.073	0.020	0.1	0	73	45-140	0			
Aldrin	0.05	0.010	0.1	0	50	25-140	0			
alpha-BHC	0.052	0.010	0.1	0	52	60-130	0			S
alpha-Chlordane	0.055	0.020	0.1	0	55	50-150	0			
beta-BHC	0.059	0.010	0.1	0	59	65-125	0			S
delta-BHC	0.065	0.010	0.1	0	65	45-135	0			
Dieldrin	0.056	0.020	0.1	0	56	60-130	0			S
Endosulfan I	0.055	0.020	0.1	0	55	50-110	0			
Endosulfan II	0.06	0.020	0.1	0	60	30-130	0			
Endosulfan sulfate	0.063	0.020	0.1	0	63	55-135	0			
Endrin	0.069	0.020	0.1	0	69	55-135	0			
Endrin aldehyde	0.051	0.020	0.1	0	51	55-135	0			S
Endrin ketone	0.063	0.020	0.1	0	63	55-135	0			
gamma-BHC (Lindane)	0.055	0.010	0.1	0	55	25-135	0			
gamma-Chlordane	0.056	0.020	0.1	0	56	55-135	0			
Heptachlor	0.055	0.010	0.1	0	55	40-130	0			
Heptachlor epoxide	0.056	0.010	0.1	0	56	60-130	0			S
Methoxychlor	0.077	0.040	0.1	0	77	55-150	0			
Surr: Decachlorobiphenyl	0.063	0	0.1	0	63	30-135	0			
Surr: Tetrachloro-m-xylene	0.04	0	0.1	0	40	25-140	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43394 Instrument ID GC7 Method: SW8081

MSD		Sample ID: 1209140-01B MSD				Units: µg/L		Analysis Date: 9/14/2012 06:35 PM		
Client ID: W-R2330004-090512-MJF-01		Run ID: GC7_120914B				SeqNo: 2082776		Prep Date: 9/11/2012		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
4,4'-DDD	0.065	0.020	0.1	0	65	25-150	0.059	9.68	50	
4,4'-DDE	0.063	0.020	0.1	0	63	35-140	0.058	8.26	50	
4,4'-DDT	0.08	0.020	0.1	0	80	45-140	0.073	9.15	50	
Aldrin	0.055	0.010	0.1	0	55	25-140	0.05	9.52	50	
alpha-BHC	0.056	0.010	0.1	0	56	60-130	0.052	7.41	50	S
alpha-Chlordane	0.059	0.020	0.1	0	59	50-150	0.055	7.02	50	
beta-BHC	0.063	0.010	0.1	0	63	65-125	0.059	6.56	50	S
delta-BHC	0.071	0.010	0.1	0	71	45-135	0.065	8.82	50	
Dieldrin	0.061	0.020	0.1	0	61	60-130	0.056	8.55	50	
Endosulfan I	0.06	0.020	0.1	0	60	50-110	0.055	8.7	50	
Endosulfan II	0.066	0.020	0.1	0	66	30-130	0.06	9.52	50	
Endosulfan sulfate	0.07	0.020	0.1	0	70	55-135	0.063	10.5	50	
Endrin	0.079	0.020	0.1	0	79	55-135	0.069	13.5	50	
Endrin aldehyde	0.055	0.020	0.1	0	55	55-135	0.051	7.55	50	S
Endrin ketone	0.07	0.020	0.1	0	70	55-135	0.063	10.5	50	
gamma-BHC (Lindane)	0.059	0.010	0.1	0	59	25-135	0.055	7.02	50	
gamma-Chlordane	0.061	0.020	0.1	0	61	55-135	0.056	8.55	50	
Heptachlor	0.059	0.010	0.1	0	59	40-130	0.055	7.02	50	
Heptachlor epoxide	0.062	0.010	0.1	0	62	60-130	0.056	10.2	50	
Methoxychlor	0.085	0.040	0.1	0	85	55-150	0.077	9.88	50	
Surr: Decachlorobiphenyl	0.072	0	0.1	0	72	30-135	0.063	13.3	50	
Surr: Tetrachloro-m-xylene	0.052	0	0.1	0	52	25-140	0.04	26.1	50	

The following samples were analyzed in this batch:

1209140-01B	1209140-02B	1209140-03B
1209140-04B	1209140-05B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43535 Instrument ID HG1 Method: SW7470

MBLK		Sample ID: MBLK-43535-43535				Units: mg/L		Analysis Date: 9/17/2012 02:43 PM			
Client ID:		Run ID: HG1_120917A				SeqNo: 2080657		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.000033	0.00020								J	

LCS		Sample ID: LCS-43535-43535				Units: mg/L		Analysis Date: 9/17/2012 02:45 PM			
Client ID:		Run ID: HG1_120917A				SeqNo: 2080658		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.001851	0.00020	0.002	0	92.6	80-120	0				

MS		Sample ID: 1209270-01BMS				Units: mg/L		Analysis Date: 9/17/2012 03:43 PM			
Client ID:		Run ID: HG1_120917A				SeqNo: 2080687		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.001783	0.00020	0.002	0.000056	86.4	75-125	0				

MSD		Sample ID: 1209270-01BMSD				Units: mg/L		Analysis Date: 9/17/2012 03:51 PM			
Client ID:		Run ID: HG1_120917A				SeqNo: 2080692		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.001818	0.00020	0.002	0.000056	88.1	75-125	0.001783	1.94	20		

The following samples were analyzed in this batch: 1209140-01C 1209140-02C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43554 Instrument ID HG1 Method: SW7470

<b>MBLK</b>	Sample ID: <b>MBLK-43554-43554</b>	Units: <b>mg/L</b>				Analysis Date: <b>9/18/2012 01:15 PM</b>				
Client ID:	Run ID: <b>HG1_120918A</b>	SeqNo: <b>2081828</b>		Prep Date: <b>9/18/2012</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.00020

<b>LCS</b>	Sample ID: <b>LCS-43554-43554</b>	Units: <b>mg/L</b>				Analysis Date: <b>9/18/2012 01:17 PM</b>				
Client ID:	Run ID: <b>HG1_120918A</b>	SeqNo: <b>2081829</b>		Prep Date: <b>9/18/2012</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001833 0.00020 0.002 0 91.6 80-120 0

<b>MS</b>	Sample ID: <b>1209297-05AMS</b>	Units: <b>mg/L</b>				Analysis Date: <b>9/18/2012 01:49 PM</b>				
Client ID:	Run ID: <b>HG1_120918A</b>	SeqNo: <b>2081841</b>		Prep Date: <b>9/18/2012</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001764 0.00020 0.002 0.000002 88.1 75-125 0

<b>MS</b>	Sample ID: <b>1209298-02AMS</b>	Units: <b>mg/L</b>				Analysis Date: <b>9/18/2012 01:58 PM</b>				
Client ID:	Run ID: <b>HG1_120918A</b>	SeqNo: <b>2081846</b>		Prep Date: <b>9/18/2012</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001805 0.00020 0.002 -0.000003 90.4 75-125 0

<b>MSD</b>	Sample ID: <b>1209297-05AMSD</b>	Units: <b>mg/L</b>				Analysis Date: <b>9/18/2012 01:51 PM</b>				
Client ID:	Run ID: <b>HG1_120918A</b>	SeqNo: <b>2081842</b>		Prep Date: <b>9/18/2012</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001762 0.00020 0.002 0.000002 88 75-125 0.001764 0.113 20

<b>MSD</b>	Sample ID: <b>1209298-02AMSD</b>	Units: <b>mg/L</b>				Analysis Date: <b>9/18/2012 02:00 PM</b>				
Client ID:	Run ID: <b>HG1_120918A</b>	SeqNo: <b>2081847</b>		Prep Date: <b>9/18/2012</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.001798 0.00020 0.002 -0.000003 90 75-125 0.001805 0.389 20

The following samples were analyzed in this batch: 1209140-03C 1209140-04C 1209140-05C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1209140  
**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **43532**      Instrument ID **ICPMS1**      Method: **SW6020A**

MBLK		Sample ID: <b>MBLK-43532-43532</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/17/2012 09:05 PM</b>			
Client ID:		Run ID: <b>ICPMS1_120917A</b>				SeqNo: <b>2080992</b>		Prep Date: <b>9/17/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Antimony	U	0.0050									
Arsenic	0.001106	0.0050								J	
Barium	0.0002872	0.0050								J	
Cadmium	0.00005145	0.0020								J	
Chromium	U	0.0050									
Cobalt	U	0.0050									
Copper	0.002199	0.0050								J	
Iron	0.008953	0.080								J	
Lead	0.0001107	0.0050								J	
Manganese	0.0008608	0.0050								J	
Nickel	U	0.0050									
Selenium	0.001264	0.0050								J	
Silver	0.00004059	0.0050								J	
Thallium	0.0004356	0.0050								J	
Vanadium	U	0.0050									
Zinc	0.002107	0.010								J	

MBLK		Sample ID: <b>MBLK-43532-43532</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/18/2012 11:50 AM</b>			
Client ID:		Run ID: <b>ICPMS1_120918A</b>				SeqNo: <b>2081560</b>		Prep Date: <b>9/17/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Beryllium	U	0.0020									

MBLK		Sample ID: <b>MBLK-43532-43532</b>				Units: <b>mg/L</b>		Analysis Date: <b>9/18/2012 12:56 PM</b>			
Client ID:		Run ID: <b>ICPMS1_120918A</b>				SeqNo: <b>2081805</b>		Prep Date: <b>9/17/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Aluminum	U	0.010									

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43532 Instrument ID ICPMS1 Method: SW6020A

LCS		Sample ID: LCS-43532-43532				Units: mg/L		Analysis Date: 9/17/2012 09:11 PM		
Client ID:		Run ID: ICPMS1_120917A			SeqNo: 2080993		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.0963	0.0050	0.1	0	96.3	80-120	0			
Arsenic	0.1007	0.0050	0.1	0	101	80-120	0			
Barium	0.09771	0.0050	0.1	0	97.7	80-120	0			
Cadmium	0.1005	0.0020	0.1	0	100	80-120	0			
Chromium	0.09276	0.0050	0.1	0	92.8	80-120	0			
Cobalt	0.08981	0.0050	0.1	0	89.8	80-120	0			
Copper	0.09601	0.0050	0.1	0	96	80-120	0			
Iron	9.475	0.080	10	0	94.8	80-120	0			
Lead	0.09641	0.0050	0.1	0	96.4	80-120	0			
Manganese	0.09482	0.0050	0.1	0	94.8	80-120	0			
Nickel	0.09446	0.0050	0.1	0	94.5	80-120	0			
Selenium	0.1038	0.0050	0.1	0	104	80-120	0			
Silver	0.09391	0.0050	0.1	0	93.9	80-120	0			
Thallium	0.09264	0.0050	0.1	0	92.6	80-120	0			
Vanadium	0.09533	0.0050	0.1	0	95.3	80-120	0			
Zinc	0.09722	0.010	0.1	0	97.2	80-120	0			

LCS		Sample ID: LCS-43532-43532				Units: mg/L		Analysis Date: 9/18/2012 11:56 AM		
Client ID:		Run ID: ICPMS1_120918A			SeqNo: 2081561		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.09463	0.0020	0.1	0	94.6	80-120	0			

LCS		Sample ID: LCS-43532-43532				Units: mg/L		Analysis Date: 9/18/2012 01:29 PM		
Client ID:		Run ID: ICPMS1_120918A			SeqNo: 2081811		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09564	0.010	0.1	0	95.6	80-120	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43532 Instrument ID ICPMS1 Method: SW6020A

MS		Sample ID: 1209297-05AMS				Units: mg/L		Analysis Date: 9/17/2012 11:17 PM		
Client ID:		Run ID: ICPMS1_120917A			SeqNo: 2081023		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1046	0.010	0.1	0.01455	90	75-125		0		
Antimony	0.09683	0.0050	0.1	0.000187	96.6	75-125		0		
Arsenic	0.0982	0.0050	0.1	0.0004187	97.8	75-125		0		
Barium	0.1006	0.0050	0.1	0.004323	96.3	75-125		0		
Beryllium	0.09879	0.0020	0.1	0.00005299	98.7	75-125		0		
Cadmium	0.1016	0.0020	0.1	0.00004175	102	75-125		0		
Chromium	0.09495	0.0050	0.1	0.000376	94.6	75-125		0		
Cobalt	0.09016	0.0050	0.1	0.00007579	90.1	75-125		0		
Copper	0.09351	0.0050	0.1	0.0005149	93	75-125		0		
Iron	9.412	0.080	10	0.02745	93.8	75-125		0		
Lead	0.096	0.0050	0.1	0.00005058	95.9	75-125		0		
Manganese	0.09192	0.0050	0.1	0.0006355	91.3	75-125		0		
Nickel	0.09683	0.0050	0.1	0.0003912	96.4	75-125		0		
Selenium	0.09993	0.0050	0.1	0.0003723	99.6	75-125		0		
Silver	0.09412	0.0050	0.1	0.00002264	94.1	75-125		0		
Thallium	0.09117	0.0050	0.1	0.0001247	91	75-125		0		
Vanadium	0.09599	0.0050	0.1	0.0002921	95.7	75-125		0		
Zinc	0.1003	0.010	0.1	0.002457	97.8	75-125		0		

MS		Sample ID: 1209298-02AMS				Units: mg/L		Analysis Date: 9/17/2012 11:44 PM		
Client ID:		Run ID: ICPMS1_120917A			SeqNo: 2081028		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09622	0.010	0.1	0.004234	92	75-125		0		
Antimony	0.09688	0.0050	0.1	0.00006065	96.8	75-125		0		
Arsenic	0.1008	0.0050	0.1	0.0009469	99.9	75-125		0		
Barium	0.3723	0.0050	0.1	0.2649	107	75-125		0		
Beryllium	0.09703	0.0020	0.1	0.00001967	97	75-125		0		
Cadmium	0.102	0.0020	0.1	0.00003316	102	75-125		0		
Chromium	0.09643	0.0050	0.1	0.001128	95.3	75-125		0		
Cobalt	0.08994	0.0050	0.1	0.0002943	89.6	75-125		0		
Copper	0.09521	0.0050	0.1	0.002074	93.1	75-125		0		
Iron	10.08	0.080	10	0.6402	94.4	75-125		0		
Lead	0.09753	0.0050	0.1	0.00004692	97.5	75-125		0		
Manganese	0.7797	0.0050	0.1	0.678	102	75-125		0		O
Nickel	0.09814	0.0050	0.1	0.001784	96.4	75-125		0		
Selenium	0.0995	0.0050	0.1	0.00005965	99.4	75-125		0		
Silver	0.09423	0.0050	0.1	-0.00000255	94.2	75-125		0		
Thallium	0.09297	0.0050	0.1	0.0000482	92.9	75-125		0		
Vanadium	0.09575	0.0050	0.1	-0.0001656	95.9	75-125		0		
Zinc	0.09969	0.010	0.1	0.002745	96.9	75-125		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43532 Instrument ID ICPMS1 Method: SW6020A

MSD		Sample ID: 1209297-05AMSD				Units: mg/L		Analysis Date: 9/17/2012 11:22 PM		
Client ID:		Run ID: ICPMS1_120917A			SeqNo: 2081024		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.11	0.010	0.1	0.01455	95.4	75-125	0.1046	5.03	20	
Antimony	0.09611	0.0050	0.1	0.000187	95.9	75-125	0.09683	0.746	20	
Arsenic	0.1016	0.0050	0.1	0.0004187	101	75-125	0.0982	3.4	20	
Barium	0.1028	0.0050	0.1	0.004323	98.5	75-125	0.1006	2.16	20	
Beryllium	0.1015	0.0020	0.1	0.00005299	101	75-125	0.09879	2.71	20	
Cadmium	0.1046	0.0020	0.1	0.00004175	105	75-125	0.1016	2.91	20	
Chromium	0.09376	0.0050	0.1	0.000376	93.4	75-125	0.09495	1.26	20	
Cobalt	0.08876	0.0050	0.1	0.00007579	88.7	75-125	0.09016	1.56	20	
Copper	0.0932	0.0050	0.1	0.0005149	92.7	75-125	0.09351	0.332	20	
Iron	9.34	0.080	10	0.02745	93.1	75-125	9.412	0.768	20	
Lead	0.09897	0.0050	0.1	0.00005058	98.9	75-125	0.096	3.05	20	
Manganese	0.09129	0.0050	0.1	0.0006355	90.7	75-125	0.09192	0.688	20	
Nickel	0.09604	0.0050	0.1	0.0003912	95.6	75-125	0.09683	0.819	20	
Selenium	0.09942	0.0050	0.1	0.0003723	99	75-125	0.09993	0.512	20	
Silver	0.09281	0.0050	0.1	0.00002264	92.8	75-125	0.09412	1.4	20	
Thallium	0.09441	0.0050	0.1	0.0001247	94.3	75-125	0.09117	3.49	20	
Vanadium	0.09405	0.0050	0.1	0.0002921	93.8	75-125	0.09599	2.04	20	
Zinc	0.09982	0.010	0.1	0.002457	97.4	75-125	0.1003	0.48	20	

MSD		Sample ID: 1209298-02AMSD				Units: mg/L		Analysis Date: 9/17/2012 11:49 PM		
Client ID:		Run ID: ICPMS1_120917A			SeqNo: 2081029		Prep Date: 9/17/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09289	0.010	0.1	0.004234	88.7	75-125	0.09622	3.52	20	
Antimony	0.09455	0.0050	0.1	0.00006065	94.5	75-125	0.09688	2.43	20	
Arsenic	0.09744	0.0050	0.1	0.0009469	96.5	75-125	0.1008	3.39	20	
Barium	0.3592	0.0050	0.1	0.2649	94.3	75-125	0.3723	3.58	20	
Beryllium	0.09225	0.0020	0.1	0.00001967	92.2	75-125	0.09703	5.05	20	
Cadmium	0.09815	0.0020	0.1	0.00003316	98.1	75-125	0.102	3.85	20	
Chromium	0.09303	0.0050	0.1	0.001128	91.9	75-125	0.09643	3.59	20	
Cobalt	0.08671	0.0050	0.1	0.0002943	86.4	75-125	0.08994	3.66	20	
Copper	0.09203	0.0050	0.1	0.002074	90	75-125	0.09521	3.4	20	
Iron	9.821	0.080	10	0.6402	91.8	75-125	10.08	2.6	20	
Lead	0.09519	0.0050	0.1	0.00004692	95.1	75-125	0.09753	2.43	20	
Manganese	0.7559	0.0050	0.1	0.678	77.9	75-125	0.7797	3.1	20	O
Nickel	0.09394	0.0050	0.1	0.001784	92.2	75-125	0.09814	4.37	20	
Selenium	0.09798	0.0050	0.1	0.00005965	97.9	75-125	0.0995	1.54	20	
Silver	0.09091	0.0050	0.1	-0.00000255	90.9	75-125	0.09423	3.59	20	
Thallium	0.09094	0.0050	0.1	0.0000482	90.9	75-125	0.09297	2.21	20	
Vanadium	0.09367	0.0050	0.1	-0.0001656	93.8	75-125	0.09575	2.2	20	
Zinc	0.09649	0.010	0.1	0.002745	93.7	75-125	0.09969	3.26	20	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1209140

**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: **43532**

Instrument ID **ICPMS1**

Method: **SW6020A**

---

**The following samples were analyzed in this batch:**

1209140-01C	1209140-02C	1209140-03C
1209140-04C	1209140-05C	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43369 Instrument ID SVMS7 Method: SW8270

MBLK Sample ID: SBLKW1-43369-43369 Units: µg/L Analysis Date: 9/10/2012 06:47 PM  
 Client ID: Run ID: SVMS7\_120910A SeqNo: 2074605 Prep Date: 9/10/2012 DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	U	5.0								
2,4,5-Trichlorophenol	U	5.0								
2,4,6-Trichlorophenol	U	5.0								
2,4-Dichlorophenol	U	10								
2,4-Dimethylphenol	U	5.0								
2,4-Dinitrophenol	U	5.0								
2,4-Dinitrotoluene	U	5.0								
2,6-Dinitrotoluene	U	5.0								
2-Chloronaphthalene	U	5.0								
2-Chlorophenol	U	5.0								
2-Methylnaphthalene	U	5.0								
2-Methylphenol	U	5.0								
2-Nitroaniline	U	20								
2-Nitrophenol	U	5.0								
3,3'-Dichlorobenzidine	U	5.0								
3-Nitroaniline	U	20								
4,6-Dinitro-2-methylphenol	U	20								
4-Bromophenyl phenyl ether	U	5.0								
4-Chloro-3-methylphenol	U	5.0								
4-Chloroaniline	U	20								
4-Chlorophenyl phenyl ether	U	5.0								
4-Methylphenol	U	5.0								
4-Nitroaniline	U	20								
4-Nitrophenol	U	20								
Acenaphthene	U	5.0								
Acenaphthylene	U	5.0								
Acetophenone	U	1.0								
Anthracene	U	5.0								
Atrazine	U	10								
Benzaldehyde	U	1.0								
Benzo(a)anthracene	U	5.0								
Benzo(a)pyrene	U	5.0								
Benzo(b)fluoranthene	U	5.0								
Benzo(g,h,i)perylene	U	5.0								
Benzo(k)fluoranthene	U	5.0								
Bis(2-chloroethoxy)methane	U	5.0								
Bis(2-chloroethyl)ether	U	5.0								
Bis(2-chloroisopropyl)ether	U	5.0								
Bis(2-ethylhexyl)phthalate	U	5.0								
Butyl benzyl phthalate	U	5.0								
Caprolactam	U	10								
Carbazole	U	10								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1209140

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>43369</b>	Instrument ID <b>SVMS7</b>	Method: <b>SW8270</b>						
Chrysene	U	5.0						
Dibenzo(a,h)anthracene	U	5.0						
Dibenzofuran	U	5.0						
Diethyl phthalate	U	20						
Dimethyl phthalate	U	20						
Di-n-butyl phthalate	U	5.0						
Di-n-octyl phthalate	U	5.0						
Fluoranthene	U	5.0						
Fluorene	U	5.0						
Hexachlorobenzene	U	5.0						
Hexachlorobutadiene	U	5.0						
Hexachlorocyclopentadiene	U	20						
Hexachloroethane	U	5.0						
Indeno(1,2,3-cd)pyrene	U	5.0						
Isophorone	U	5.0						
Naphthalene	U	5.0						
Nitrobenzene	U	5.0						
N-Nitrosodi-n-propylamine	U	5.0						
N-Nitrosodiphenylamine	U	5.0						
Pentachlorophenol	U	20						
Phenanthrene	U	5.0						
Phenol	U	5.0						
Pyrene	U	5.0						
<i>Surr: 2,4,6-Tribromophenol</i>	29.87	0	50	0	59.7	38-115	0	
<i>Surr: 2-Fluorobiphenyl</i>	28.23	0	50	0	56.5	32-100	0	
<i>Surr: 2-Fluorophenol</i>	17.33	0	50	0	34.7	22-59	0	
<i>Surr: 4-Terphenyl-d14</i>	42.45	0	50	0	84.9	23-112	0	
<i>Surr: Nitrobenzene-d5</i>	28.27	0	50	0	56.5	31-93	0	
<i>Surr: Phenol-d6</i>	9.6	0	50	0	19.2	13-36	0	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43369 Instrument ID SVMS7 Method: SW8270

LCS		Sample ID: SLCSW1-43369-43369				Units: µg/L		Analysis Date: 9/10/2012 04:56 PM		
Client ID:		Run ID: SVMS7_120910A			SeqNo: 2074601		Prep Date: 9/10/2012		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	14.12	5.0	20	0	70.6	50-110	0			
2,4,6-Trichlorophenol	14.23	5.0	20	0	71.2	50-115	0			
2,4-Dichlorophenol	13.27	10	20	0	66.4	50-105	0			
2,4-Dimethylphenol	13.32	5.0	20	0	66.6	30-110	0			
2,4-Dinitrophenol	11.46	5.0	20	0	57.3	15-140	0			
2,4-Dinitrotoluene	16.47	5.0	20	0	82.4	50-120	0			
2,6-Dinitrotoluene	14.72	5.0	20	0	73.6	50-115	0			
2-Chloronaphthalene	15.72	5.0	20	0	78.6	50-105	0			
2-Chlorophenol	12.87	5.0	20	0	64.4	35-105	0			
2-Methylnaphthalene	14.43	5.0	20	0	72.2	45-105	0			
2-Methylphenol	11.98	5.0	20	0	59.9	40-110	0			
2-Nitroaniline	15.41	20	20	0	77	50-115	0			J
2-Nitrophenol	12.43	5.0	20	0	62.2	40-115	0			
3-Nitroaniline	12.56	20	20	0	62.8	20-125	0			J
4,6-Dinitro-2-methylphenol	12.46	20	20	0	62.3	40-130	0			J
4-Bromophenyl phenyl ether	15.42	5.0	20	0	77.1	50-115	0			
4-Chloro-3-methylphenol	14.09	5.0	20	0	70.4	45-110	0			
4-Chloroaniline	21.92	20	20	0	110	15-110	0			
4-Chlorophenyl phenyl ether	17.01	5.0	20	0	85	50-110	0			
4-Methylphenol	11.13	5.0	20	0	55.6	30-110	0			
4-Nitroaniline	13.41	20	20	0	67	35-150	0			J
4-Nitrophenol	6.43	20	20	0	32.2	1-58	0			J
Acenaphthene	15.42	5.0	20	0	77.1	45-110	0			
Acenaphthylene	15.34	5.0	20	0	76.7	50-105	0			
Anthracene	16.02	5.0	20	0	80.1	55-110	0			
Benzo(a)anthracene	15.42	5.0	20	0	77.1	55-110	0			
Benzo(a)pyrene	16.96	5.0	20	0	84.8	55-110	0			
Benzo(b)fluoranthene	14.9	5.0	20	0	74.5	45-120	0			
Benzo(g,h,i)perylene	19.35	5.0	20	0	96.8	40-125	0			
Benzo(k)fluoranthene	17.31	5.0	20	0	86.6	45-125	0			
Bis(2-chloroethoxy)methane	14.06	5.0	20	0	70.3	45-105	0			
Bis(2-chloroethyl)ether	13.72	5.0	20	0	68.6	35-110	0			
Bis(2-chloroisopropyl)ether	13.87	5.0	20	0	69.4	25-130	0			
Bis(2-ethylhexyl)phthalate	18.57	5.0	20	0	92.8	40-125	0			
Butyl benzyl phthalate	17.77	5.0	20	0	88.8	45-115	0			
Carbazole	16.44	10	20	0	82.2	50-150	0			
Chrysene	16.15	5.0	20	0	80.8	55-110	0			
Dibenzo(a,h)anthracene	16.13	5.0	20	0	80.6	40-125	0			
Dibenzofuran	15.49	5.0	20	0	77.4	55-105	0			
Diethyl phthalate	16.25	20	20	0	81.2	40-120	0			J
Dimethyl phthalate	16.05	20	20	0	80.2	25-125	0			J
Di-n-butyl phthalate	16.1	5.0	20	0	80.5	55-115	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.

Work Order: 1209140

Project: RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>43369</b>	Instrument ID <b>SVMS7</b>	Method: <b>SW8270</b>						
Di-n-octyl phthalate	16.38	5.0	20	0	81.9	35-135	0	
Fluoranthene	17.22	5.0	20	0	86.1	55-115	0	
Fluorene	16.88	5.0	20	0	84.4	50-110	0	
Hexachlorobenzene	15.25	5.0	20	0	76.2	50-110	0	
Hexachlorobutadiene	12.87	5.0	20	0	64.4	25-105	0	
Hexachlorocyclopentadiene	3.93	20	20	0	19.6	25-105	0 JS	
Hexachloroethane	13	5.0	20	0	65	30-95	0	
Indeno(1,2,3-cd)pyrene	16.04	5.0	20	0	80.2	45-125	0	
Isophorone	15.33	5.0	20	0	76.6	50-110	0	
Naphthalene	13.53	5.0	20	0	67.6	40-100	0	
Nitrobenzene	13.37	5.0	20	0	66.8	45-110	0	
N-Nitrosodi-n-propylamine	15.89	5.0	20	0	79.4	35-130	0	
N-Nitrosodiphenylamine	18.11	5.0	20	0	90.6	50-110	0	
Pentachlorophenol	14.15	20	20	0	70.8	40-115	0 J	
Phenanthrene	15.86	5.0	20	0	79.3	50-115	0	
Phenol	5.38	5.0	20	0	26.9	12-43	0	
Pyrene	16.31	5.0	20	0	81.6	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>38.94</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>77.9</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>33.56</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>67.1</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>18.92</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>37.8</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>45.86</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>91.7</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>33.28</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>66.6</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>11.68</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>23.4</i>	<i>13-36</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1209140  
**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **43369**      Instrument ID **SVMS7**      Method: **SW8270**

MS		Sample ID: <b>1209142-01D MS</b>				Units: <b>µg/L</b>		Analysis Date: <b>9/10/2012 05:24 PM</b>		
Client ID:		Run ID: <b>SVMS7_120910A</b>				SeqNo: <b>2074602</b>		Prep Date: <b>9/10/2012</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	141.3	50	200	0	70.6	50-110	0			
2,4,6-Trichlorophenol	141.8	50	200	0	70.9	50-115	0			
2,4-Dichlorophenol	136.2	100	200	0	68.1	50-105	0			
2,4-Dimethylphenol	142.7	50	200	0	71.4	30-110	0			
2,4-Dinitrophenol	137.7	50	200	0	68.8	15-140	0			
2,4-Dinitrotoluene	167.2	50	200	0	83.6	50-120	0			
2,6-Dinitrotoluene	146.4	50	200	0	73.2	50-115	0			
2-Chloronaphthalene	156.6	50	200	0	78.3	50-105	0			
2-Chlorophenol	129.8	50	200	0	64.9	35-105	0			
2-Methylnaphthalene	145.5	50	200	0	72.8	45-105	0			
2-Methylphenol	118.3	50	200	0	59.2	40-110	0			
2-Nitroaniline	154.7	200	200	0	77.4	50-115	0			J
2-Nitrophenol	128	50	200	0	64	40-115	0			
3-Nitroaniline	115.4	200	200	0	57.7	20-125	0			J
4,6-Dinitro-2-methylphenol	140.6	200	200	0	70.3	40-130	0			J
4-Bromophenyl phenyl ether	157.1	50	200	0	78.6	50-115	0			
4-Chloro-3-methylphenol	144.1	50	200	0	72	45-110	0			
4-Chloroaniline	204.7	200	200	0	102	15-110	0			
4-Chlorophenyl phenyl ether	168.1	50	200	0	84	50-110	0			
4-Methylphenol	108.4	50	200	0	54.2	30-110	0			
4-Nitroaniline	103.8	200	200	0	51.9	35-150	0			J
4-Nitrophenol	62.5	200	200	0	31.2	1-58	0			J
Acenaphthene	154.8	50	200	0	77.4	45-110	0			
Acenaphthylene	152.8	50	200	0	76.4	50-105	0			
Anthracene	165	50	200	0	82.5	55-110	0			
Benzo(a)anthracene	159	50	200	0	79.5	55-110	0			
Benzo(a)pyrene	175.6	50	200	0	87.8	55-110	0			
Benzo(b)fluoranthene	151.1	50	200	0	75.6	45-120	0			
Benzo(g,h,i)perylene	199.5	50	200	0	99.8	40-125	0			
Benzo(k)fluoranthene	178.2	50	200	0	89.1	45-125	0			
Bis(2-chloroethoxy)methane	144.6	50	200	0	72.3	45-105	0			
Bis(2-chloroethyl)ether	131.2	50	200	0	65.6	35-110	0			
Bis(2-chloroisopropyl)ether	156.8	50	200	0	78.4	25-130	0			
Bis(2-ethylhexyl)phthalate	186.8	50	200	0	93.4	40-125	0			
Butyl benzyl phthalate	182.9	50	200	0	91.4	45-115	0			
Carbazole	167.1	100	200	0	83.6	50-150	0			
Chrysene	168.3	50	200	0	84.2	55-110	0			
Dibenzo(a,h)anthracene	166.7	50	200	0	83.4	40-125	0			
Dibenzofuran	154.4	50	200	0	77.2	55-105	0			
Diethyl phthalate	163.7	200	200	0	81.8	40-120	0			J
Dimethyl phthalate	159.9	200	200	0	80	25-125	0			J
Di-n-butyl phthalate	166.2	50	200	0	83.1	55-115	0			

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.

Work Order: 1209140

Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43369	Instrument ID SVMS7	Method: SW8270						
Di-n-octyl phthalate	167.1	50	200	0	83.6	35-135	0	
Fluoranthene	178.1	50	200	0	89	55-115	0	
Fluorene	168.4	50	200	0	84.2	50-110	0	
Hexachlorobenzene	157.5	50	200	0	78.8	50-110	0	
Hexachlorobutadiene	132.9	50	200	0	66.4	25-105	0	
Hexachlorocyclopentadiene	55	200	200	0	27.5	25-105	0	J
Hexachloroethane	131.7	50	200	0	65.8	30-95	0	
Indeno(1,2,3-cd)pyrene	164.6	50	200	0	82.3	45-125	0	
Isophorone	154.4	50	200	0	77.2	50-110	0	
Naphthalene	141	50	200	0	70.5	40-100	0	
Nitrobenzene	137.7	50	200	0	68.8	45-110	0	
N-Nitrosodi-n-propylamine	157.8	50	200	0	78.9	35-130	0	
N-Nitrosodiphenylamine	172.5	50	200	0	86.2	50-110	0	
Pentachlorophenol	159.2	200	200	0	79.6	40-115	0	J
Phenanthrene	162.9	50	200	0	81.4	50-115	0	
Phenol	50.4	50	200	0	25.2	12-43	0	
Pyrene	168.9	50	200	0	84.4	50-130	0	
Surr: 2,4,6-Tribromophenol	395	0	500	0	79	38-115	0	
Surr: 2-Fluorobiphenyl	335.1	0	500	0	67	32-100	0	
Surr: 2-Fluorophenol	180.1	0	500	0	36	22-59	0	
Surr: 4-Terphenyl-d14	468.5	0	500	0	93.7	23-112	0	
Surr: Nitrobenzene-d5	339.8	0	500	0	68	31-93	0	
Surr: Phenol-d6	103.6	0	500	0	20.7	13-36	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43369 Instrument ID SVMS7 Method: SW8270

MSD		Sample ID: 1209142-01D MSD				Units: µg/L		Analysis Date: 9/10/2012 05:51 PM		
Client ID:		Run ID: SVMS7_120910A		SeqNo: 2074603		Prep Date: 9/10/2012		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	140.2	50	200	0	70.1	50-110	141.3	0.782	30	
2,4,6-Trichlorophenol	142.3	50	200	0	71.2	50-115	141.8	0.352	30	
2,4-Dichlorophenol	135.1	100	200	0	67.6	50-105	136.2	0.811	30	
2,4-Dimethylphenol	148.2	50	200	0	74.1	30-110	142.7	3.78	30	
2,4-Dinitrophenol	138.3	50	200	0	69.2	15-140	137.7	0.435	30	
2,4-Dinitrotoluene	161.1	50	200	0	80.6	50-120	167.2	3.72	30	
2,6-Dinitrotoluene	145	50	200	0	72.5	50-115	146.4	0.961	30	
2-Chloronaphthalene	155.1	50	200	0	77.6	50-105	156.6	0.962	30	
2-Chlorophenol	134.3	50	200	0	67.2	35-105	129.8	3.41	30	
2-Methylnaphthalene	144.4	50	200	0	72.2	45-105	145.5	0.759	30	
2-Methylphenol	131.2	50	200	0	65.6	40-110	118.3	10.3	30	
2-Nitroaniline	153	200	200	0	76.5	50-115	154.7	0	30	J
2-Nitrophenol	124.3	50	200	0	62.2	40-115	128	2.93	30	
3-Nitroaniline	104.6	200	200	0	52.3	20-125	115.4	0	30	J
4,6-Dinitro-2-methylphenol	140.4	200	200	0	70.2	40-130	140.6	0	30	J
4-Bromophenyl phenyl ether	154.4	50	200	0	77.2	50-115	157.1	1.73	30	
4-Chloro-3-methylphenol	145.7	50	200	0	72.8	45-110	144.1	1.1	30	
4-Chloroaniline	188.8	200	200	0	94.4	15-110	204.7	0	30	J
4-Chlorophenyl phenyl ether	165.1	50	200	0	82.6	50-110	168.1	1.8	30	
4-Methylphenol	123.9	50	200	0	62	30-110	108.4	13.3	30	
4-Nitroaniline	101.2	200	200	0	50.6	35-150	103.8	0	30	J
4-Nitrophenol	71.2	200	200	0	35.6	1-58	62.5	0	0	J
Acenaphthene	153.6	50	200	0	76.8	45-110	154.8	0.778	30	
Acenaphthylene	152.2	50	200	0	76.1	50-105	152.8	0.393	30	
Anthracene	161.2	50	200	0	80.6	55-110	165	2.33	30	
Benzo(a)anthracene	154.2	50	200	0	77.1	55-110	159	3.07	30	
Benzo(a)pyrene	165.6	50	200	0	82.8	55-110	175.6	5.86	30	
Benzo(b)fluoranthene	145.3	50	200	0	72.6	45-120	151.1	3.91	30	
Benzo(g,h,i)perylene	195.1	50	200	0	97.6	40-125	199.5	2.23	30	
Benzo(k)fluoranthene	173.8	50	200	0	86.9	45-125	178.2	2.5	30	
Bis(2-chloroethoxy)methane	141.2	50	200	0	70.6	45-105	144.6	2.38	30	
Bis(2-chloroethyl)ether	128.5	50	200	0	64.2	35-110	131.2	2.08	30	
Bis(2-chloroisopropyl)ether	156.7	50	200	0	78.4	25-130	156.8	0.0638	30	
Bis(2-ethylhexyl)phthalate	182	50	200	0	91	40-125	186.8	2.6	30	
Butyl benzyl phthalate	174.9	50	200	0	87.4	45-115	182.9	4.47	30	
Carbazole	162.4	100	200	0	81.2	50-150	167.1	2.85	30	
Chrysene	160.6	50	200	0	80.3	55-110	168.3	4.68	30	
Dibenzo(a,h)anthracene	162.1	50	200	0	81	40-125	166.7	2.8	30	
Dibenzofuran	152.3	50	200	0	76.2	55-105	154.4	1.37	30	
Diethyl phthalate	157.5	200	200	0	78.8	40-120	163.7	0	30	J
Dimethyl phthalate	154.7	200	200	0	77.4	25-125	159.9	0	30	J
Di-n-butyl phthalate	160.7	50	200	0	80.4	55-115	166.2	3.36	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.

Work Order: 1209140

Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: 43369	Instrument ID SVMS7	Method: SW8270								
Di-n-octyl phthalate	165	50	200	0	82.5	35-135	167.1	1.26	30	
Fluoranthene	172	50	200	0	86	55-115	178.1	3.48	30	
Fluorene	165.7	50	200	0	82.8	50-110	168.4	1.62	30	
Hexachlorobenzene	153.7	50	200	0	76.8	50-110	157.5	2.44	30	
Hexachlorobutadiene	130.8	50	200	0	65.4	25-105	132.9	1.59	30	
Hexachlorocyclopentadiene	72.1	200	200	0	36	25-105	55	0	30 J	
Hexachloroethane	131.3	50	200	0	65.6	30-95	131.7	0.304	30	
Indeno(1,2,3-cd)pyrene	160.6	50	200	0	80.3	45-125	164.6	2.46	30	
Isophorone	151.8	50	200	0	75.9	50-110	154.4	1.7	30	
Naphthalene	137.4	50	200	0	68.7	40-100	141	2.59	30	
Nitrobenzene	135.2	50	200	0	67.6	45-110	137.7	1.83	30	
N-Nitrosodi-n-propylamine	157.1	50	200	0	78.6	35-130	157.8	0.445	30	
N-Nitrosodiphenylamine	169.2	50	200	0	84.6	50-110	172.5	1.93	30	
Pentachlorophenol	158.2	200	200	0	79.1	40-115	159.2	0	30 J	
Phenanthrene	158.7	50	200	0	79.4	50-115	162.9	2.61	30	
Phenol	60.2	50	200	0	30.1	12-43	50.4	17.7	30	
Pyrene	161	50	200	0	80.5	50-130	168.9	4.79	30	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>403.4</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>80.7</i>	<i>38-115</i>	<i>395</i>	<i>2.1</i>	<i>40</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>340.2</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>68</i>	<i>32-100</i>	<i>335.1</i>	<i>1.51</i>	<i>40</i>	
<i>Surr: 2-Fluorophenol</i>	<i>219</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>43.8</i>	<i>22-59</i>	<i>180.1</i>	<i>19.5</i>	<i>40</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>465.5</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>93.1</i>	<i>23-112</i>	<i>468.5</i>	<i>0.642</i>	<i>40</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>338.6</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>67.7</i>	<i>31-93</i>	<i>339.8</i>	<i>0.354</i>	<i>40</i>	
<i>Surr: Phenol-d6</i>	<i>134.3</i>	<i>0</i>	<i>500</i>	<i>0</i>	<i>26.9</i>	<i>13-36</i>	<i>103.6</i>	<i>25.8</i>	<i>40</i>	

The following samples were analyzed in this batch:

1209140-01B	1209140-02B	1209140-03B
1209140-04B	1209140-05B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.

Work Order: 1209140

Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: R109441A

Instrument ID VMS6

Method: SW8260

MBLK	Sample ID: VBLKW1-120907-R109441A	Units: µg/L	Analysis Date: 9/7/2012 12:27 PM							
Client ID:	Run ID: VMS6_120907A	SeqNo: 2072849	Prep Date:	DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1,2-Trichlorotrifluoroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2,4-Trichlorobenzene	U	1.0								
1,2-Dibromo-3-chloropropane	U	1.0								
1,2-Dibromoethane	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	2.0								
1,3-Dichlorobenzene	U	2.0								
1,4-Dichlorobenzene	U	2.0								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	5.0								
Acetone	U	20								
Benzene	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	2.5								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								
Chloroethane	U	1.0								
Chloroform	U	1.0								
Chloromethane	U	1.0								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Cyclohexane	U	5.0								
Dibromochloromethane	U	1.0								
Dichlorodifluoromethane	U	1.0								
Ethylbenzene	U	1.0								
Isopropylbenzene	U	1.0								
Methyl acetate	U	2.0								
Methyl tert-butyl ether	U	5.0								
Methylcyclohexane	U	5.0								
Methylene chloride	U	5.0								
Styrene	U	1.0								
Tetrachloroethene	U	2.0								
Toluene	U	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1209140

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>R109441A</b>	Instrument ID <b>VMS6</b>	Method: <b>SW8260</b>						
trans-1,2-Dichloroethene	U	1.0						
trans-1,3-Dichloropropene	U	1.0						
Trichloroethene	U	1.0						
Trichlorofluoromethane	U	1.0						
Vinyl chloride	U	1.0						
Xylenes, Total	U	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	21.08	0	20	0	105	70-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.92	0	20	0	99.6	75-120	0	
<i>Surr: Dibromofluoromethane</i>	19.45	0	20	0	97.2	85-115	0	
<i>Surr: Toluene-d8</i>	20.17	0	20	0	101	85-120	0	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **R109441A** Instrument ID **VMS6** Method: **SW8260**

LCS		Sample ID: <b>VLCSW1-120907-R109441A</b>				Units: <b>µg/L</b>		Analysis Date: <b>9/7/2012 11:39 AM</b>		
Client ID:		Run ID: <b>VMS6_120907A</b>			SeqNo: <b>2071831</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.29	1.0	20	0	101	65-130		0		
1,1,2,2-Tetrachloroethane	20.14	1.0	20	0	101	65-130		0		
1,1,2-Trichloroethane	18.36	1.0	20	0	91.8	75-125		0		
1,1-Dichloroethane	19.6	1.0	20	0	98	70-135		0		
1,1-Dichloroethene	21.61	1.0	20	0	108	70-130		0		
1,2,4-Trichlorobenzene	18.42	1.0	20	0	92.1	65-135		0		
1,2-Dibromo-3-chloropropane	16.86	1.0	20	0	84.3	50-130		0		
1,2-Dibromoethane	19.51	1.0	20	0	97.6	80-120		0		
1,2-Dichlorobenzene	18.66	1.0	20	0	93.3	70-120		0		
1,2-Dichloroethane	19.48	1.0	20	0	97.4	70-130		0		
1,2-Dichloropropane	19.98	2.0	20	0	99.9	75-125		0		
1,3-Dichlorobenzene	18.59	2.0	20	0	93	75-125		0		
1,4-Dichlorobenzene	18.88	2.0	20	0	94.4	75-125		0		
2-Butanone	18.74	5.0	20	0	93.7	30-150		0		
2-Hexanone	18.57	5.0	20	0	92.8	55-130		0		
4-Methyl-2-pentanone	24.33	5.0	20	0	122	60-135		0		
Acetone	18.51	20	20	0	92.6	40-140		0		J
Benzene	19.14	1.0	20	0	95.7	80-120		0		
Bromodichloromethane	21.55	1.0	20	0	108	75-120		0		
Bromoform	16.65	1.0	20	0	83.2	70-130		0		
Bromomethane	21.75	1.0	20	0	109	30-145		0		
Carbon disulfide	22.26	2.5	20	0	111	35-165		0		
Carbon tetrachloride	20.26	1.0	20	0	101	65-140		0		
Chlorobenzene	18.69	1.0	20	0	93.4	80-120		0		
Chloroethane	20.01	1.0	20	0	100	60-135		0		
Chloroform	18.71	1.0	20	0	93.6	65-135		0		
Chloromethane	17.72	1.0	20	0	88.6	70-125		0		
cis-1,2-Dichloroethene	20.3	1.0	20	0	102	70-125		0		
cis-1,3-Dichloropropene	22.12	1.0	20	0	111	70-130		0		
Dibromochloromethane	19.45	1.0	20	0	97.2	60-135		0		
Dichlorodifluoromethane	15.96	1.0	20	0	79.8	30-155		0		
Ethylbenzene	19.54	1.0	20	0	97.7	75-125		0		
Isopropylbenzene	19.78	1.0	20	0	98.9	75-125		0		
Methyl tert-butyl ether	19.03	5.0	20	0	95.2	65-125		0		
Methylene chloride	18.52	5.0	20	0	92.6	55-140		0		
Styrene	19.97	1.0	20	0	99.8	65-135		0		
Tetrachloroethene	18.29	2.0	20	0	91.4	45-150		0		
Toluene	18.53	1.0	20	0	92.6	75-120		0		
trans-1,2-Dichloroethene	20.43	1.0	20	0	102	60-140		0		
trans-1,3-Dichloropropene	21.44	1.0	20	0	107	55-140		0		
Trichloroethene	18.86	1.0	20	0	94.3	70-125		0		
Trichlorofluoromethane	17.84	1.0	20	0	89.2	60-145		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.  
**Work Order:** 1209140  
**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: <b>R109441A</b>	Instrument ID <b>VMS6</b>	Method: <b>SW8260</b>						
Vinyl chloride	19.11	1.0	20	0	95.6	50-145	0	
Xylenes, Total	60.57	3.0	60	0	101	75-130	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.45</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.2</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.02</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>19.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.2</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>19.09</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>95.4</i>	<i>85-120</i>	<i>0</i>	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: R109441A Instrument ID VMS6 Method: SW8260

MS		Sample ID: 1209118-04A MS				Units: µg/L		Analysis Date: 9/7/2012 09:24 PM		
Client ID:		Run ID: VMS6_120907A			SeqNo: 2072885		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.45	1.0	20	0	102	65-130		0		
1,1,2,2-Tetrachloroethane	18.31	1.0	20	0	91.6	65-130		0		
1,1,2-Trichloroethane	18.18	1.0	20	0	90.9	75-125		0		
1,1-Dichloroethane	17.17	1.0	20	0	85.8	70-135		0		
1,1-Dichloroethene	18.81	1.0	20	0	94	70-130		0		
1,2,4-Trichlorobenzene	17.11	1.0	20	0	85.6	65-135		0		
1,2-Dibromo-3-chloropropane	15	1.0	20	0	75	50-130		0		
1,2-Dibromoethane	19.52	1.0	20	0	97.6	80-120		0		
1,2-Dichlorobenzene	18.11	1.0	20	0	90.6	70-120		0		
1,2-Dichloroethane	17.95	1.0	20	0	89.8	70-130		0		
1,2-Dichloropropane	18.47	2.0	20	0	92.4	75-125		0		
1,3-Dichlorobenzene	18.4	2.0	20	0	92	75-125		0		
1,4-Dichlorobenzene	18.58	2.0	20	0	92.9	75-125		0		
2-Butanone	16.67	5.0	20	0	83.4	30-150		0		
2-Hexanone	20.82	5.0	20	0	104	55-130		0		
4-Methyl-2-pentanone	27.09	5.0	20	0	135	60-135		0		S
Acetone	14.26	20	20	0	71.3	40-140		0		J
Benzene	18.65	1.0	20	0	93.2	80-120		0		
Bromodichloromethane	19.98	1.0	20	0	99.9	75-120		0		
Bromoform	14.06	1.0	20	0	70.3	70-130		0		
Bromomethane	11.44	1.0	20	0	57.2	30-145		0		
Carbon disulfide	18.44	2.5	20	0	92.2	35-165		0		
Carbon tetrachloride	20.21	1.0	20	0	101	65-140		0		
Chlorobenzene	18.95	1.0	20	0	94.8	80-120		0		
Chloroethane	16.16	1.0	20	0	80.8	60-135		0		
Chloroform	17.1	1.0	20	0	85.5	65-135		0		
Chloromethane	15.28	1.0	20	0	76.4	70-125		0		
cis-1,2-Dichloroethene	17.58	1.0	20	0	87.9	70-125		0		
cis-1,3-Dichloropropene	21.58	1.0	20	0	108	70-130		0		
Dibromochloromethane	16.84	1.0	20	0	84.2	60-135		0		
Dichlorodifluoromethane	15.73	1.0	20	0	78.6	30-155		0		
Ethylbenzene	18.98	1.0	20	0	94.9	75-125		0		
Isopropylbenzene	20.14	1.0	20	0	101	75-125		0		
Methyl tert-butyl ether	15.78	5.0	20	0	78.9	65-125		0		
Methylene chloride	14.82	5.0	20	0	74.1	55-140		0		
Styrene	19.16	1.0	20	0	95.8	65-135		0		
Tetrachloroethene	64.44	2.0	20	43.94	102	45-150		0		
Toluene	19.6	1.0	20	0	98	75-120		0		
trans-1,2-Dichloroethene	17.58	1.0	20	0	87.9	60-140		0		
trans-1,3-Dichloropropene	21.02	1.0	20	0	105	55-140		0		
Trichloroethene	19.87	1.0	20	0	99.4	70-125		0		
Trichlorofluoromethane	17.07	1.0	20	0	85.4	60-145		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1209140

**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: <b>R109441A</b>	Instrument ID <b>VMS6</b>	Method: <b>SW8260</b>						
Vinyl chloride	16.98	1.0	20	0	84.9	50-145	0	
Xylenes, Total	60.38	3.0	60	0	101	75-130	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	18.88	0	20	0	94.4	70-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.67	0	20	0	98.4	75-120	0	
<i>Surr: Dibromofluoromethane</i>	19.04	0	20	0	95.2	85-115	0	
<i>Surr: Toluene-d8</i>	19.36	0	20	0	96.8	85-120	0	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: R109441A Instrument ID VMS6 Method: SW8260

MSD		Sample ID: 1209118-04A MSD				Units: µg/L		Analysis Date: 9/7/2012 09:48 PM		
Client ID:		Run ID: VMS6_120907A			SeqNo: 2072886		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	19.2	1.0	20	0	96	65-130	20.45	6.31	30	
1,1,2,2-Tetrachloroethane	18.25	1.0	20	0	91.2	65-130	18.31	0.328	30	
1,1,2-Trichloroethane	17.66	1.0	20	0	88.3	75-125	18.18	2.9	30	
1,1-Dichloroethane	16.21	1.0	20	0	81	70-135	17.17	5.75	30	
1,1-Dichloroethene	18.3	1.0	20	0	91.5	70-130	18.81	2.75	30	
1,2,4-Trichlorobenzene	16.87	1.0	20	0	84.4	65-135	17.11	1.41	30	
1,2-Dibromo-3-chloropropane	14.84	1.0	20	0	74.2	50-130	15	1.07	30	
1,2-Dibromoethane	18.76	1.0	20	0	93.8	80-120	19.52	3.97	30	
1,2-Dichlorobenzene	16.91	1.0	20	0	84.6	70-120	18.11	6.85	30	
1,2-Dichloroethane	17.18	1.0	20	0	85.9	70-130	17.95	4.38	30	
1,2-Dichloropropane	17.71	2.0	20	0	88.6	75-125	18.47	4.2	30	
1,3-Dichlorobenzene	17.67	2.0	20	0	88.4	75-125	18.4	4.05	30	
1,4-Dichlorobenzene	17.17	2.0	20	0	85.8	75-125	18.58	7.89	30	
2-Butanone	15.89	5.0	20	0	79.4	30-150	16.67	4.79	30	
2-Hexanone	17.35	5.0	20	0	86.8	55-130	20.82	18.2	30	
4-Methyl-2-pentanone	22.85	5.0	20	0	114	60-135	27.09	17	30	
Acetone	14.24	20	20	0	71.2	40-140	14.26	0	30	J
Benzene	17.53	1.0	20	0	87.6	80-120	18.65	6.19	30	
Bromodichloromethane	18.11	1.0	20	0	90.6	75-120	19.98	9.82	30	
Bromoform	14.44	1.0	20	0	72.2	70-130	14.06	2.67	30	
Bromomethane	12.61	1.0	20	0	63	30-145	11.44	9.73	30	
Carbon disulfide	17.22	2.5	20	0	86.1	35-165	18.44	6.84	30	
Carbon tetrachloride	18.95	1.0	20	0	94.8	65-140	20.21	6.44	30	
Chlorobenzene	17.88	1.0	20	0	89.4	80-120	18.95	5.81	30	
Chloroethane	15.3	1.0	20	0	76.5	60-135	16.16	5.47	30	
Chloroform	16.24	1.0	20	0	81.2	65-135	17.1	5.16	30	
Chloromethane	13.3	1.0	20	0	66.5	70-125	15.28	13.9	30	S
cis-1,2-Dichloroethene	16.49	1.0	20	0	82.4	70-125	17.58	6.4	30	
cis-1,3-Dichloropropene	19.51	1.0	20	0	97.6	70-130	21.58	10.1	30	
Dibromochloromethane	16.28	1.0	20	0	81.4	60-135	16.84	3.38	30	
Dichlorodifluoromethane	14.01	1.0	20	0	70	30-155	15.73	11.6	30	
Ethylbenzene	18.66	1.0	20	0	93.3	75-125	18.98	1.7	30	
Isopropylbenzene	19.28	1.0	20	0	96.4	75-125	20.14	4.36	30	
Methyl tert-butyl ether	15.47	5.0	20	0	77.4	65-125	15.78	1.98	30	
Methylene chloride	14.22	5.0	20	0	71.1	55-140	14.82	4.13	30	
Styrene	18.66	1.0	20	0	93.3	65-135	19.16	2.64	30	
Tetrachloroethene	62.37	2.0	20	43.94	92.2	45-150	64.44	3.26	30	
Toluene	17.68	1.0	20	0	88.4	75-120	19.6	10.3	30	
trans-1,2-Dichloroethene	16.86	1.0	20	0	84.3	60-140	17.58	4.18	30	
trans-1,3-Dichloropropene	18.1	1.0	20	0	90.5	55-140	21.02	14.9	30	
Trichloroethene	18.84	1.0	20	0	94.2	70-125	19.87	5.32	30	
Trichlorofluoromethane	16.31	1.0	20	0	81.6	60-145	17.07	4.55	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1209140

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>R109441A</b>	Instrument ID <b>VMS6</b>	Method: <b>SW8260</b>								
Vinyl chloride	15.55	1.0	20	0	77.8	50-145	16.98	8.79	30	
Xylenes, Total	56.13	3.0	60	0	93.6	75-130	60.38	7.3	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>18.04</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>90.2</i>	<i>70-120</i>	<i>18.88</i>	<i>4.55</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>18.7</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>93.5</i>	<i>75-120</i>	<i>19.67</i>	<i>5.06</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>18.6</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>93</i>	<i>85-115</i>	<i>19.04</i>	<i>2.34</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>18.19</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>91</i>	<i>85-120</i>	<i>19.36</i>	<i>6.23</i>	<i>30</i>	

---

**The following samples were analyzed in this batch:**

1209140-01A	1209140-02A	1209140-03A
1209140-06A		

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.

Work Order: 1209140

Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: R109459A

Instrument ID VMS8

Method: SW8260

MBLK Sample ID: VBLKW1-120907-R109459A Units: µg/L Analysis Date: 9/7/2012 04:03 PM

Client ID: Run ID: VMS8\_120907A SeqNo: 2072722 Prep Date: DF: 1

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1,2-Trichlorotrifluoroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2,4-Trichlorobenzene	U	1.0								
1,2-Dibromo-3-chloropropane	U	1.0								
1,2-Dibromoethane	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	2.0								
1,3-Dichlorobenzene	U	2.0								
1,4-Dichlorobenzene	U	2.0								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	5.0								
Acetone	U	20								
Benzene	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	2.5								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								
Chloroethane	U	1.0								
Chloroform	U	1.0								
Chloromethane	U	1.0								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Cyclohexane	U	5.0								
Dibromochloromethane	U	1.0								
Dichlorodifluoromethane	U	1.0								
Ethylbenzene	U	1.0								
Isopropylbenzene	U	1.0								
Methyl acetate	U	2.0								
Methyl tert-butyl ether	U	5.0								
Methylcyclohexane	U	5.0								
Methylene chloride	U	5.0								
Styrene	U	1.0								
Tetrachloroethene	U	2.0								
Toluene	U	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1209140

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>R109459A</b>	Instrument ID <b>VMS8</b>	Method: <b>SW8260</b>						
trans-1,2-Dichloroethene	U	1.0						
trans-1,3-Dichloropropene	U	1.0						
Trichloroethene	U	1.0						
Trichlorofluoromethane	U	1.0						
Vinyl chloride	U	1.0						
Xylenes, Total	U	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.05</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>70-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.44</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>20.08</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>100</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.13</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-120</i>	<i>0</i>	<i>0</i>

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **R109459A** Instrument ID **VMS8** Method: **SW8260**

LCS		Sample ID: <b>VLCSW1-120907-R109459A</b>				Units: <b>µg/L</b>		Analysis Date: <b>9/7/2012 03:15 PM</b>		
Client ID:		Run ID: <b>VMS8_120907A</b>			SeqNo: <b>2072098</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.49	1.0	20	0	102	65-130		0		
1,1,2,2-Tetrachloroethane	19.19	1.0	20	0	96	65-130		0		
1,1,2-Trichloroethane	19.16	1.0	20	0	95.8	75-125		0		
1,1-Dichloroethane	18.91	1.0	20	0	94.6	70-135		0		
1,1-Dichloroethene	21.36	1.0	20	0	107	70-130		0		
1,2,4-Trichlorobenzene	19.43	1.0	20	0	97.2	65-135		0		
1,2-Dibromo-3-chloropropane	19.53	1.0	20	0	97.6	50-130		0		
1,2-Dibromoethane	19.46	1.0	20	0	97.3	80-120		0		
1,2-Dichlorobenzene	19.2	1.0	20	0	96	70-120		0		
1,2-Dichloroethane	20.18	1.0	20	0	101	70-130		0		
1,2-Dichloropropane	19.87	2.0	20	0	99.4	75-125		0		
1,3-Dichlorobenzene	19.96	2.0	20	0	99.8	75-125		0		
1,4-Dichlorobenzene	19.2	2.0	20	0	96	75-125		0		
2-Butanone	19.7	5.0	20	0	98.5	30-150		0		
2-Hexanone	18.46	5.0	20	0	92.3	55-130		0		
4-Methyl-2-pentanone	21.06	5.0	20	0	105	60-135		0		
Acetone	22.07	20	20	0	110	40-140		0		
Benzene	19.66	1.0	20	0	98.3	80-120		0		
Bromodichloromethane	20.09	1.0	20	0	100	75-120		0		
Bromoform	21.01	1.0	20	0	105	70-130		0		
Bromomethane	25.15	1.0	20	0	126	30-145		0		
Carbon disulfide	21.51	2.5	20	0	108	35-165		0		
Carbon tetrachloride	21.58	1.0	20	0	108	65-140		0		
Chlorobenzene	19.64	1.0	20	0	98.2	80-120		0		
Chloroethane	23.88	1.0	20	0	119	60-135		0		
Chloroform	20.17	1.0	20	0	101	65-135		0		
Chloromethane	16.43	1.0	20	0	82.2	70-125		0		
cis-1,2-Dichloroethene	19.25	1.0	20	0	96.2	70-125		0		
cis-1,3-Dichloropropene	20.18	1.0	20	0	101	70-130		0		
Dibromochloromethane	21.15	1.0	20	0	106	60-135		0		
Dichlorodifluoromethane	16.5	1.0	20	0	82.5	30-155		0		
Ethylbenzene	19.63	1.0	20	0	98.2	75-125		0		
Isopropylbenzene	19.35	1.0	20	0	96.8	75-125		0		
Methyl tert-butyl ether	18.1	5.0	20	0	90.5	65-125		0		
Methylene chloride	20.16	5.0	20	0	101	55-140		0		
Styrene	20.24	1.0	20	0	101	65-135		0		
Tetrachloroethene	18.78	2.0	20	0	93.9	45-150		0		
Toluene	20	1.0	20	0	100	75-120		0		
trans-1,2-Dichloroethene	18.95	1.0	20	0	94.8	60-140		0		
trans-1,3-Dichloropropene	20.07	1.0	20	0	100	55-140		0		
Trichloroethene	18.81	1.0	20	0	94	70-125		0		
Trichlorofluoromethane	18.8	1.0	20	0	94	60-145		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1209140

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>R109459A</b>	Instrument ID <b>VMS8</b>	Method: <b>SW8260</b>						
Vinyl chloride	18.69	1.0	20	0	93.4	50-145	0	
Xylenes, Total	59.87	3.0	60	0	99.8	75-130	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	20.55	0	20	0	103	70-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	20.37	0	20	0	102	75-120	0	
<i>Surr: Dibromofluoromethane</i>	20.37	0	20	0	102	85-115	0	
<i>Surr: Toluene-d8</i>	20.25	0	20	0	101	85-120	0	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: **R109459A** Instrument ID **VMS8** Method: **SW8260**

MS		Sample ID: <b>1209125-01A MS</b>				Units: <b>µg/L</b>		Analysis Date: <b>9/8/2012 12:48 PM</b>		
Client ID:		Run ID: <b>VMS8_120907A</b>			SeqNo: <b>2072753</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	21.48	1.0	20	0	107	65-130		0		
1,1,2,2-Tetrachloroethane	19.63	1.0	20	0	98.2	65-130		0		
1,1,2-Trichloroethane	18.79	1.0	20	0	94	75-125		0		
1,1-Dichloroethane	19.37	1.0	20	0	96.8	70-135		0		
1,1-Dichloroethene	23.19	1.0	20	0	116	70-130		0		
1,2,4-Trichlorobenzene	17.3	1.0	20	0	86.5	65-135		0		
1,2-Dibromo-3-chloropropane	19.67	1.0	20	0	98.4	50-130		0		
1,2-Dibromoethane	19.69	1.0	20	0	98.4	80-120		0		
1,2-Dichlorobenzene	19.14	1.0	20	0	95.7	70-120		0		
1,2-Dichloroethane	20.1	1.0	20	0	100	70-130		0		
1,2-Dichloropropane	19.08	2.0	20	0	95.4	75-125		0		
1,3-Dichlorobenzene	19.26	2.0	20	0	96.3	75-125		0		
1,4-Dichlorobenzene	18.36	2.0	20	0	91.8	75-125		0		
2-Butanone	17.62	5.0	20	0	88.1	30-150		0		
2-Hexanone	18.19	5.0	20	0	91	55-130		0		
4-Methyl-2-pentanone	23.09	5.0	20	0	115	60-135		0		
Acetone	26.94	20	20	101.3	-372	40-140		0		SO
Benzene	20.11	1.0	20	0	101	80-120		0		
Bromodichloromethane	18.89	1.0	20	0	94.4	75-120		0		
Bromoform	18.96	1.0	20	0	94.8	70-130		0		
Bromomethane	19.13	1.0	20	0	95.6	30-145		0		
Carbon disulfide	22.82	2.5	20	0	114	35-165		0		
Carbon tetrachloride	21.77	1.0	20	0	109	65-140		0		
Chlorobenzene	18.78	1.0	20	0	93.9	80-120		0		
Chloroethane	23.26	1.0	20	0	116	60-135		0		
Chloroform	20.12	1.0	20	0	101	65-135		0		
Chloromethane	16.09	1.0	20	0	80.4	70-125		0		
cis-1,2-Dichloroethene	19.13	1.0	20	0	95.6	70-125		0		
cis-1,3-Dichloropropene	18.81	1.0	20	0	94	70-130		0		
Dibromochloromethane	18.85	1.0	20	0	94.2	60-135		0		
Dichlorodifluoromethane	17.97	1.0	20	0	89.8	30-155		0		
Ethylbenzene	19.35	1.0	20	0	96.8	75-125		0		
Isopropylbenzene	19.54	1.0	20	0	97.7	75-125		0		
Methyl tert-butyl ether	18.61	5.0	20	0	93	65-125		0		
Methylene chloride	20.04	5.0	20	0	100	55-140		0		
Styrene	19.21	1.0	20	0	96	65-135		0		
Tetrachloroethene	19.79	2.0	20	0	99	45-150		0		
Toluene	20.18	1.0	20	0	101	75-120		0		
trans-1,2-Dichloroethene	20.16	1.0	20	0	101	60-140		0		
trans-1,3-Dichloropropene	18.24	1.0	20	0	91.2	55-140		0		
Trichloroethene	20.3	1.0	20	0	102	70-125		0		
Trichlorofluoromethane	20.84	1.0	20	0	104	60-145		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1209140

**Project:** RACER - Van Buren Landfill

## QC BATCH REPORT

---

Batch ID: <b>R109459A</b>	Instrument ID <b>VMS8</b>	Method: <b>SW8260</b>						
Vinyl chloride	19.34	1.0	20	0	96.7	50-145	0	
Xylenes, Total	58.19	3.0	60	0	97	75-130	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>20.61</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</i>	<i>70-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.2</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>20.66</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>103</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>19.38</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.9</i>	<i>85-120</i>	<i>0</i>	

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: R109459A Instrument ID VMS8 Method: SW8260

MSD		Sample ID: 1209125-01A MSD				Units: µg/L		Analysis Date: 9/8/2012 01:11 AM		
Client ID:		Run ID: VMS8_120907A			SeqNo: 2072750		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	21.36	1.0	20	0	107	65-130	21.48	0.56	30	
1,1,2,2-Tetrachloroethane	19.85	1.0	20	0	99.2	65-130	19.63	1.11	30	
1,1,2-Trichloroethane	18.86	1.0	20	0	94.3	75-125	18.79	0.372	30	
1,1-Dichloroethane	19.15	1.0	20	0	95.8	70-135	19.37	1.14	30	
1,1-Dichloroethene	22.92	1.0	20	0	115	70-130	23.19	1.17	30	
1,2,4-Trichlorobenzene	17.31	1.0	20	0	86.6	65-135	17.3	0.0578	30	
1,2-Dibromo-3-chloropropane	19.59	1.0	20	0	98	50-130	19.67	0.408	30	
1,2-Dibromoethane	19.12	1.0	20	0	95.6	80-120	19.69	2.94	30	
1,2-Dichlorobenzene	18.54	1.0	20	0	92.7	70-120	19.14	3.18	30	
1,2-Dichloroethane	19.98	1.0	20	0	99.9	70-130	20.1	0.599	30	
1,2-Dichloropropane	19.82	2.0	20	0	99.1	75-125	19.08	3.8	30	
1,3-Dichlorobenzene	19.08	2.0	20	0	95.4	75-125	19.26	0.939	30	
1,4-Dichlorobenzene	18.86	2.0	20	0	94.3	75-125	18.36	2.69	30	
2-Butanone	17.73	5.0	20	0	88.6	30-150	17.62	0.622	30	
2-Hexanone	19.27	5.0	20	0	96.4	55-130	18.19	5.77	30	
4-Methyl-2-pentanone	23.47	5.0	20	0	117	60-135	23.09	1.63	30	
Acetone	25.37	20	20	101.3	-380	40-140	26.94	6	30	SO
Benzene	20.11	1.0	20	0	101	80-120	20.11	0	30	
Bromodichloromethane	19.57	1.0	20	0	97.8	75-120	18.89	3.54	30	
Bromoform	19.39	1.0	20	0	97	70-130	18.96	2.24	30	
Bromomethane	20.89	1.0	20	0	104	30-145	19.13	8.8	30	
Carbon disulfide	22.62	2.5	20	0	113	35-165	22.82	0.88	30	
Carbon tetrachloride	22.41	1.0	20	0	112	65-140	21.77	2.9	30	
Chlorobenzene	18.77	1.0	20	0	93.8	80-120	18.78	0.0533	30	
Chloroethane	22.57	1.0	20	0	113	60-135	23.26	3.01	30	
Chloroform	19.91	1.0	20	0	99.6	65-135	20.12	1.05	30	
Chloromethane	16.74	1.0	20	0	83.7	70-125	16.09	3.96	30	
cis-1,2-Dichloroethene	19.2	1.0	20	0	96	70-125	19.13	0.365	30	
cis-1,3-Dichloropropene	18.63	1.0	20	0	93.2	70-130	18.81	0.962	30	
Dibromochloromethane	19.02	1.0	20	0	95.1	60-135	18.85	0.898	30	
Dichlorodifluoromethane	18.09	1.0	20	0	90.4	30-155	17.97	0.666	30	
Ethylbenzene	19.44	1.0	20	0	97.2	75-125	19.35	0.464	30	
Isopropylbenzene	19.29	1.0	20	0	96.4	75-125	19.54	1.29	30	
Methyl tert-butyl ether	18.5	5.0	20	0	92.5	65-125	18.61	0.593	30	
Methylene chloride	20.38	5.0	20	0	102	55-140	20.04	1.68	30	
Styrene	18.9	1.0	20	0	94.5	65-135	19.21	1.63	30	
Tetrachloroethene	19.34	2.0	20	0	96.7	45-150	19.79	2.3	30	
Toluene	19.88	1.0	20	0	99.4	75-120	20.18	1.5	30	
trans-1,2-Dichloroethene	19.93	1.0	20	0	99.6	60-140	20.16	1.15	30	
trans-1,3-Dichloropropene	17.96	1.0	20	0	89.8	55-140	18.24	1.55	30	
Trichloroethene	19.97	1.0	20	0	99.8	70-125	20.3	1.64	30	
Trichlorofluoromethane	20.54	1.0	20	0	103	60-145	20.84	1.45	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** The Mannik & Smith Group, Inc.

**Work Order:** 1209140

**Project:** RACER - Van Buren Landfill

# QC BATCH REPORT

---

Batch ID: <b>R109459A</b>	Instrument ID <b>VMS8</b>	Method: <b>SW8260</b>								
Vinyl chloride	19.52	1.0	20	0	97.6	50-145	19.34	0.926	30	
Xylenes, Total	58.43	3.0	60	0	97.4	75-130	58.19	0.412	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	20.79	0	20	0	104	70-120	20.61	0.87	30	
<i>Surr: 4-Bromofluorobenzene</i>	19.81	0	20	0	99	75-120	19.64	0.862	30	
<i>Surr: Dibromofluoromethane</i>	20.66	0	20	0	103	85-115	20.66	0	30	
<i>Surr: Toluene-d8</i>	19.52	0	20	0	97.6	85-120	19.38	0.72	30	

---

**The following samples were analyzed in this batch:** | 1209140-04A | 1209140-05A |

---

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: The Mannik & Smith Group, Inc.  
 Work Order: 1209140  
 Project: RACER - Van Buren Landfill

# QC BATCH REPORT

Batch ID: R109615A Instrument ID VMS6 Method: SW8260

MBLK		Sample ID: VBLKW1-120912-R109615A				Units: µg/L		Analysis Date: 9/12/2012 01:41 PM		
Client ID:		Run ID: VMS6_120912A				SeqNo: 2076547		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetone	U	20								
Surr: 1,2-Dichloroethane-d4	19.41	0	20	0	97	70-120	0			
Surr: 4-Bromofluorobenzene	19.03	0	20	0	95.2	75-120	0			
Surr: Dibromofluoromethane	19.09	0	20	0	95.4	85-115	0			
Surr: Toluene-d8	18.99	0	20	0	95	85-120	0			

LCS		Sample ID: VLCSW1-120912-R109615A				Units: µg/L		Analysis Date: 9/12/2012 12:52 PM		
Client ID:		Run ID: VMS6_120912A				SeqNo: 2075823		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetone	19.62	20	20	0	98.1	40-140	0			J
Surr: 1,2-Dichloroethane-d4	18.91	0	20	0	94.6	70-120	0			
Surr: 4-Bromofluorobenzene	18.7	0	20	0	93.5	75-120	0			
Surr: Dibromofluoromethane	19.59	0	20	0	98	85-115	0			
Surr: Toluene-d8	18.87	0	20	0	94.4	85-120	0			

MS		Sample ID: 1209249-19B MS				Units: µg/L		Analysis Date: 9/12/2012 10:39 PM		
Client ID:		Run ID: VMS6_120912A				SeqNo: 2076565		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetone	21.65	20	20	0	108	40-140	0			
Surr: 1,2-Dichloroethane-d4	19.55	0	20	0	97.8	70-120	0			
Surr: 4-Bromofluorobenzene	19.17	0	20	0	95.8	75-120	0			
Surr: Dibromofluoromethane	19.49	0	20	0	97.4	85-115	0			
Surr: Toluene-d8	19.04	0	20	0	95.2	85-120	0			

MSD		Sample ID: 1209249-19B MSD				Units: µg/L		Analysis Date: 9/12/2012 11:04 PM		
Client ID:		Run ID: VMS6_120912A				SeqNo: 2076566		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acetone	23.53	20	20	0	118	40-140	21.65	8.32	30	
Surr: 1,2-Dichloroethane-d4	18.9	0	20	0	94.5	70-120	19.55	3.38	30	
Surr: 4-Bromofluorobenzene	18.84	0	20	0	94.2	75-120	19.17	1.74	30	
Surr: Dibromofluoromethane	19.28	0	20	0	96.4	85-115	19.49	1.08	30	
Surr: Toluene-d8	18.75	0	20	0	93.8	85-120	19.04	1.53	30	

The following samples were analyzed in this batch: 1209140-05A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Environmental

Chain of Custody Form

Page 1 of 2

COC ID: 03652

Cincinnati, OH +1 513 733 5336

Everett, WA +1 425 356 2600

Fort Collins, CO +1 970 490 1511

Holland, MI +1 616 399 6070

Houston, TX +1 281 530 5656

Middletown, PA +1 717 944 5541

Salt Lake City, UT +1 801 266 7700

Spring City, PA +1 610 948 4903

York, PA +1 717 505 5280

ALS Project Manager: TBS

ALS Work Order #: 1209140

Customer Information, Project Information, Parameter/Method Request for Analysis

Table with columns: No., Sample Description, Date, Time, Matrix, Pres., # Bottles, A, B, C, D, E, F, G, H, I, J, Hold

Sampler(s) Please Print & Sign, Shipment Method, Required Turnaround Time, Results Due Date, Relinquished by, Received by, Logged by, Checked by, Preservative Key



Environmental

Chain of Custody Form

Page 2 of 2

COC ID: 03656

- Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511

- Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541

- Salt Lake City, UT +1 801 266 7700
Spring City, PA +1 610 948 4903
York, PA +1 717 505 5280

ALS Project Manager: TBS

ALS Work Order #: 1209140

Customer Information: Purchase Order, Work Order, Company Name (The Mannik & Smith Group, Inc.), Send Report To (Frank Blehl), Address (2365 Haggerty Road South, Suite 100, Canton, MI 48188), Phone (734) 397-3100, Fax (734) 397-3131, e-Mail Address (fblehl@menniksmithgroup.com). Project Information: Project Name (Van Buren Landfill), Project Number, Bill To Company (RACER Trust), Invoice Attn (Accounts Payable), Address (2930 Ecorse Rd, Ypsilanti, MI 48198), City/State/Zip (Ypsilanti, MI 48198), Phone, Fax, e-Mail Address (mfriedhoff@menniksmithgroup.com). Parameter/Method Request for Analysis: A (VOCs), B (SvOCs), C (TAL metals (per attached list)), D (Pesticides/Herbicides).

Table with columns: No., Sample Description, Date, Time, Matrix, Pres., # Bottles, A, B, C, D, E, F, G, H, I, J, Hold. Rows 1-10: 1-5 are samples W-R2330004-090512-MTF-01 to -05 with times 13:25 to 19:00 and matrix W. Rows 6-10 are Trip Blank #1 to #5.

Sampler(s) Please Print & Sign: Michael Friedhoff. Shipment Method: Courier. Required Turnaround Time: (Check Box) [X] STD 10 Wk Days. Results Due Date: 9/12/12. Relinquished by: Michael Friedhoff, Date: 9/5/12, Time: 2:00. Received by: Locked Refrigerator, Date: 9/6/12, Time: 1:57. Logged by (Laboratory): DES, Date: 9/7/12, Time: 1345. Checked by (Laboratory): TBS. Notes: REC: UH, 9/12/12 1225. QC Package: (Check One Box Below) [ ] Level II Std QC, [ ] Level III Std QC/Raw Date, [ ] Level IV SW846/CLP, [ ] Other. Cooler ID, Cooler Temp: 20°C. Preservative Key: 1-HCl, 2-HNO3, 3-H2SO4, 4-NaOH, 5-Na2S2O3, 6-NaHSO4, 7-Other, 8-4°C, 9-5035.

Sample Receipt Checklist

Client Name: **MANNIK&SMITH**

Date/Time Received: **07-Sep-12 12:25**

Work Order: **1209140**

Received by: **DS**

Checklist completed by *Diane Shaw* | 07-Sep-12  
eSignature | Date

Reviewed by: *Tom Bramish* | 07-Sep-12  
eSignature | Date

Matrices: Water

Carrier name: ALSHN

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container/Temp Blank temperature in compliance? Yes  No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted

Water - pH acceptable upon receipt? Yes  No  N/A

pH adjusted? Yes  No  N/A

pH adjusted by:

Login Notes:

-----

Client Contacted: \_\_\_\_\_ Date Contacted: \_\_\_\_\_ Person Contacted: \_\_\_\_\_

Contacted By: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments:

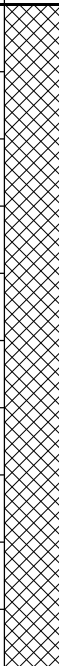
CorrectiveAction:

**APPENDIX C**

---

TEST PIT LOGS  
*THE MANNIK & SMITH GROUP, INC.*

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/23/12</u> <b>COMPLETED</b> <u>7/23/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>10 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
5		Loose, gray/dark gray/black FILL (including plastic, glass, paper, metal parts, tires(2), & additional typical menical landfill waste); some Silty fine to medium Sand; dry to moist	0.0		Test Pit approximately 20 feet long from NW to SE.
		Tire(1) present (at 7 feet)	0.0		
		Trash bags present (at 8 feet)	0.0		
10		10.0 ▼ Bottom of borehole at 10.0 feet.			


ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/24/12 <b>COMPLETED</b> 7/24/12	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> MSG	<b>SURVEY COORDINATES:</b> N/A
<b>DRILLING METHOD</b> Excavator - CAT 312CL	<b>SURFACE ELEV.:</b> N/A
<b>LOGGED BY</b> MJF <b>CHECKED BY</b> FJB	<b>WATER LEVEL AT TIME OF TRENCHING:</b> 17 FEET BGS
<b>NOTES</b> Excavation backfilled and compacted with excavator	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> N/A

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
1.0		Loose, tan, Silty SAND; dry	0.0		Test Pit approximately 20 feet long from NE to SW.
		Loose, tan/dark gray FILL (including bricks, wood, glass, plastic, clothing/rugs, garbage bags, & metal fragments); some Silty fine to coarse SAND; moist	0.0		
		Becomes black, with charred wood, metal auto parts, & pipes; moist	0.0		
5		Approximately 1 gallon antifreeze container (empty, crushed) present (at 6 feet bgs).	0.0		
8.0		Loose, tan/dark gray/gray, Silty fine to coarse SAND; moist	0.0		17 feet bgs is maximum vertical reach of excavator.
10			0.0		
15			0.0		
17.0		Becomes wet at 17.0 feet bgs Bottom of borehole at 17.0 feet.			


ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/24/12</u> <b>COMPLETED</b> <u>7/24/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>12 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
0.5		Loose, tan, Silty SAND; dry	0.0		Test Pit approximately 20 feet long from NW to SE.
		Loose, black FILL (including bricks, glass, charred wood & plastic fragments); moist	0.0		
5		Muffler and pipes present (at 5.5 feet)	0.0		
		Tires (2) present (at 7 feet)	0.0		
		Glass beverage bottles (at 8 feet)	0.0		
10		▼ Becomes wet at 12.0 feet bgs	0.0		
13.0		Bottom of borehole at 13.0 feet.	0.0		

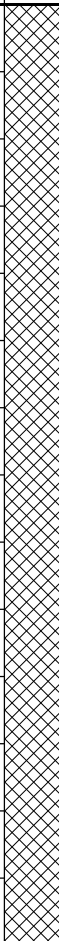

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/24/12 <b>COMPLETED</b> 7/24/12	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> MSG	<b>SURVEY COORDINATES:</b> N/A
<b>DRILLING METHOD</b> Excavator - CAT 312CL	<b>SURFACE ELEV.:</b> N/A
<b>LOGGED BY</b> MJF <b>CHECKED BY</b> FJB	<b>WATER LEVEL AT TIME OF TRENCHING:</b> 9 FEET BGS
<b>NOTES</b> Excavation backfilled and compacted with excavator	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> N/A

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
0		Loose, tan, Silty SAND; dry	0.0		Test Pit approximately 15 feet long from N to S.
1.5		Loose, dark gray/black FILL (including bricks, glass, trash bags, charred wood, plastic, metal); some Silty fine to coarse Sand; dry to moist	0.0		
5		Water heater present (at 7 feet)	0.0		
10		▼ Becomes wet at 9.0 feet bgs Bottom of borehole at 10.0 feet.	0.0	 TP-6 (8'-9') Charred Wood Sample	







ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/24/12</u> <b>COMPLETED</b> <u>7/24/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>13 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
		Loose, tan FILL (including generated municipal waste, trash bags, paper, plastic); some Silty fine to coarse Sand; dry to moist	0.0		Test Pit approximately 20 feet long from N to S.
3.0		Loose, dark gray/black FILL (including glass, brick, charred wood, & metal fragments)			
5		Plastic garbage bags present	0.0		TP-7 (5'-6') Soil Sample Collected @ 1300 (Sample ID: W-R2330004-072412-MF-003)
		Auto parts (15 tires, metal pipes), plastic tubing, metal drum lids (18" drum)	0.0		
10		▼ Becomes wet at 13 feet bgs	0.0		
14.0		Bottom of borehole at 14.0 feet.			

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/24/12 <b>COMPLETED</b> 7/24/12	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> MSG	<b>SURVEY COORDINATES:</b> N/A
<b>DRILLING METHOD</b> Excavator - CAT 312CL	<b>SURFACE ELEV.:</b> N/A
<b>LOGGED BY</b> MJF <b>CHECKED BY</b> FJB	<b>WATER LEVEL AT TIME OF TRENCHING:</b> 12 FEET BGS
<b>NOTES</b> Excavation backfilled and compacted with excavator	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> N/A

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
0.5		Loose, tan, Silty fine to medium SAND; dry	0.0		Test Pit approximately 20 feet long from NW to SE.
		Loose, tan/black FILL (including trash bags, municipal waste, car parts (mufflers, pipes), paper, plastic); little to some Silty Sand; dry to moist	0.0		
		Becomes black at 4.0 feet bgs			
5		Charred wood fragments present (5 feet bgs)	0.0		
		Plastic bags present (7 feet bgs)	0.0		
10		Increasing sand content at 9 feet bgs	0.0		
		Wet at 12 feet bgs	0.0		
13.0		Bottom of borehole at 13.0 feet.			

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/24/12 <b>COMPLETED</b> 7/24/12	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> MSG	<b>SURVEY COORDINATES:</b> N/A
<b>DRILLING METHOD</b> Excavator - CAT 312CL	<b>SURFACE ELEV.:</b> N/A
<b>LOGGED BY</b> MJF <b>CHECKED BY</b> FJB	<b>WATER LEVEL AT TIME OF TRENCHING:</b> 12 FEET BGS
<b>NOTES</b> Excavation backfilled and compacted with excavator	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> N/A

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
0		Loose, tan, Silty fine to medium SAND; little to some fill (including paper & plastic debris); dry	0.0		Test Pit approximately 20 feet long from N to S.
1.5		Loose, black FILL (including paper, plastic, metal parts, charred wood, glass bottles & fragments)			
		Becomes compact from 3.0 to 7.0 feet bgs	0.0		
5			1.4	TP-12 (5'-6") Soil Sample Collected @ 0900 (Sample ID: W-R2330004-072412-MF-002)	
		Metal parts (metal wheel/rim, assorted pipes, bicycle crank & pedals) present (at 8 feet bgs)	0.0		
10			0.0		
		Becomes wet at 12.0 feet bgs			
13.0		Bottom of borehole at 13.0 feet.			



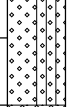
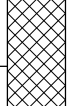
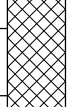
ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/25/12</u> <b>COMPLETED</b> <u>7/25/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>N/A</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
0.5		Loose, tan, Silty fine to medium SAND; trace fill (metal/plastic fragments); dry	0.0		Test Pit approximately 50 feet long from N to S.
		Loose, tan/gray/black FILL (including tires(2), muffler, auto parts, pipes, plastic, concrete, wood, & charred wood fragments); trace Silty Sand; dry to moist	0.0		
5			0.0		
6.0		Bottom of borehole at 6.0 feet.			


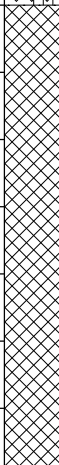


ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/24/12</u> <b>COMPLETED</b> <u>7/24/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>10 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
0.7		Loose, tan, Silty SAND; dry	0.0		Test Pit approximately 15 feet long from N to S.
		Loose, brown/tan, Silty SAND; some fill (including paper, plastic, and metal parts); moist			
3.0		Loose, black FILL (including charred wood, metal auto parts, wire baskets & glass); little Silty Sand; moist	0.0		
5			0.0		
10		▼ Becomes wet at 10.0 feet bgs	0.0		
11.0		Bottom of borehole at 11.0 feet.			

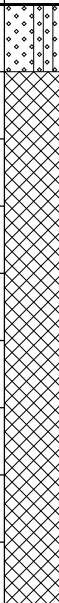
ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/25/12</u> <b>COMPLETED</b> <u>7/25/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>9 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
		Loose, tan, Silty fine to coarse SAND; little to some fill (including glass, wood, & metal fragments); dry to moist	0.0		Test Pit approximately 60 feet long from SW to NE.
3.0		Loose, gray/brown/black FILL (including tires, lumber & wood fragments, brick & metal fragments) Tire (1), lumber, and wood fragments present (3 feet bgs) Bricks, charred wood, and metal pipes present (4 feet bgs)	0.0		TP-21 (1.5'-2.5') Soil Sample Collected @ 1100 (Sample ID: W-R2330004-072512-MF-004)
5			0.0		
10		 Becomes wet at 9.0 feet bgs Bottom of borehole at 10.0 feet.	0.0		

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ


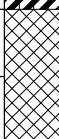
<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/24/12</u> <b>COMPLETED</b> <u>7/24/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>8 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
1.0		Loose, tan, Silty fine to medium SAND; dry	0.0		Test Pit approximately 15 feet long from W to E.
		Loose, tan/black FILL (including charred plastic, paper, wood, metal & glass fragments)	0.0		
5		Auto parts (mufflers, pipes) present (at 4 feet bgs)			
		Charred wood present(at 5 feet bgs)			
		Steel I-beam present (at 6 feet bgs)	0.0		
		Trash bags present (at 7 feet bgs)			
		▼ Becomes wet at 8.0 feet bgs			
9.0		Bottom of borehole at 9.0 feet.			


ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/27/12</u> <b>COMPLETED</b> <u>7/27/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>N/A</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
		Soft to medium stiff, brown/tan Silty CLAY; trace to little fine to coarse angular Sand; dry to moist	0.0		Test Pit approximately 55 feet long from N to S.
4.0			0.0		
5		Loose, black FILL (including bricks, concrete, wood & concrete block fragments); moist	0.0		
6.0		Bottom of borehole at 6.0 feet.			

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/25/12</u> <b>COMPLETED</b> <u>7/25/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>7.5 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0		Loose, tan, Silty SAND; little roots; dry	0.0		Test Pit approximately 80 feet long from NW to SE.  Middle section contained fill at 5.0 feet bgs with Silty Sand from 0' to 5.0 feet bgs.  Gradual grade of fill material (1.0 feet bgs at south end to 5.0 feet bgs middle to 1.0 feet bgs at north end).
1.0		Loose, gray/dark gray/black FILL (including bricks, glass, wood, charred wood, metal (wheel rims, water heater), tires (2), rope, & plastic bags); moist	0.0		
5		▼ Becomes wet at 7.5 feet bgs	1620	 Cloth material encountered in north end of test pit appeared saturated; PID screening of cloth / soil at this location = 1,620 ppm. Soil sample collected from this location. TP-24 (5'-6') Soil Sample Collected @ 1300 (Sample ID: W-R2330004-072512-MF-007)	
9.0		Bottom of borehole at 9.0 feet.	0.0		Water at the bottom has a film on the surface.

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/25/12</u> <b>COMPLETED</b> <u>7/25/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>N/A</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
0.5		Loose, tan, Silty fine SAND; little roots; dry	0.0		Test Pit approximately 60 feet long from SW to NE.
		Loose, gray/tan FILL (including wood, concrete, metal & glass fragments); dry to moist	0.0	X	
5			0.0		Northeast end contains fine Sand sized material (appeared similar to ash) within fill, TP-24 (5'-6') Soil Sample Collected @ 1300 (Sample ID: W-R2330004-072512-MF-005). Wood and metal debris (electric motor) in northeast end.
6.0		Bottom of borehole at 6.0 feet.	0.0		

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/23/12</u> <b>COMPLETED</b> <u>7/23/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>8 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
0		Loose, tan, Silty fine to coarse SAND; little to some fine to coarse angular Gravel & cobbles; dry.	0.0		Test Pit approximately 10 feet long from N to S.
1.5		Loose, black FILL (including charred wood fragments, metal parts & bricks); little to some Silty fine to coarse Sand; dry to moist.	0.0		
5			0.0		
8.0		▼ Becomes wet at 8.0 feet bgs	0.0		
9.0		Bottom of borehole at 9.0 feet.			


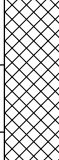


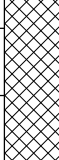
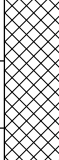



ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/26/12</u> <b>COMPLETED</b> <u>7/26/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>N/A</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
0.5		Loose, tan, Silty fine SAND; trace fill (metal); dry.			
		Loose, tan/black FILL (including wood, metal auto parts, tires, glass, & plastic fragments); little to some Silty fine to coarse Sand; dry to moist.	0.0		Test Pit approximately 55 feet long from SW to NE.
			0.0		Excavation of Silty fine grained SAND material created very dusty conditions adjacent to excavation.
5					
			0.0		
7.0		Bottom of borehole at 7.0 feet.			

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\TR2330004\ADMINISTRATION\BORING LOGS\IR2330004.BORING LOGS.GPJ

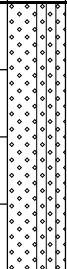
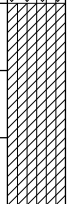
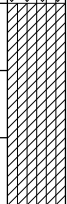
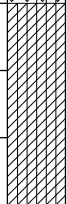
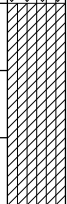
<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/26/12</u> <b>COMPLETED</b> <u>7/26/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>13 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
1.0		Loose, tan, Silty fine to medium SAND; trace fill (metal, glass); dry	0.0		Test Pit approximately 20 feet long from N to S.
		Loose, black FILL (including metal, glass, bricks, wood, charred wood, plastic fragments); moist			
		Crushed 50 gallon drum (3 feet bgs).	0.0		
5			0.0		
10			0.0		
					
					
					
					
14.0		Bottom of borehole at 14.0 feet.			

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

▼ Becomes wet at 13 feet bgs.

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/26/12</u> <b>COMPLETED</b> <u>7/26/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>N/A</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
		Loose, tan, Silty fine SAND; little roots; dry.	0.0		Test Pit approximately 40 feet long from N to S.
			0.0		Test pit from south to end of test pit to surveyed edge of waste contained no fill. Last 5 feet of north end of test pit contained fill.
4.0		Medium stiff gray/tan Silty CLAY; trace fine to coarse subrounded-angular Sand; moist.			
5					
7.0			0.0		
		Bottom of borehole at 7.0 feet.			

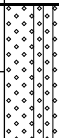
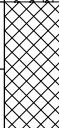

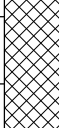
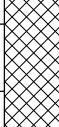

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/25/12</u> <b>COMPLETED</b> <u>7/25/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>N/A</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
0.0		Loose, tan, Silty SAND; trace fill (metal parts, glass); dry	0.0		Test Pit approximately 40 feet long from SW to NE.  Eastern portion of test pit encountered black, tar-like substance at approximately 2.0 feet bgs oozing from north side wall; TP-30 (2'-3') Soil Sample Collected @ 1500 (Sample ID: W-R2330004-072512-MF-006).
1.0		Loose, dark gray/black FILL (including metal, brick, glass, wire & wood fragments, 2 drum lids), moist.	153	X	
5		Crushed metal (resembling drum) encountered at approximately 4 to 6 feet bgs adjacent to grayish green substance.	0.0		
6.0		Medium stiff to stiff, gray/dark gray Silty CLAY; trace to little fine to coarse subrounded to angular Sand; moist	0.0		
8.0		Bottom of borehole at 8.0 feet.			




<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/24/12</u> <b>COMPLETED</b> <u>7/24/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>9 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
		Loose, tan, Silty fine to medium SAND; dry	0.0		Test Pit approximately 15 feet long from W to E.
2.0		Loose, tan/black FILL (including ash, bricks, charred wood, & glass fragments), moist.	0.0		
5		Metal pipes & muffler present (at 5.5 feet bgs).			
		Steel I-beam present (at 7 feet bgs).	0.0		
		▼ Becomes wet at 9.0 feet bgs			
10		Bottom of borehole at 10.0 feet.			

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/27/12</u> <b>COMPLETED</b> <u>7/27/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>3 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ


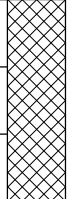
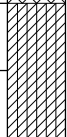
DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
		Loose, tan, Silty fine to medium SAND	0.0		Test Pit approximately 15 feet long from W to E.  Fill encountered in test pit at three feet bgs on west end of test pit. Edge of fill exposed in central portion of test pit. East end of test pit encountered Silty Sand to 5.0 feet bgs.  Perched water zone encountered in fill; when excavator encountered fill, water observed flowing from fill zone into east end of test pit at approximately 5 gallons per minute. Water flowed from fill zone and filled excavation to 3.0 feet bgs.
3.0			0.0		
		Loose, dark gray/black FILL (including brick, wood, & glass fragments); wet	0.0		
5		Bottom of borehole at 5.0 feet.			

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/23/12</u> <b>COMPLETED</b> <u>7/23/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>N/A</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
		Loose, tan/gray Silty fine to medium SAND; little to some Silty Clay (fragments); dry	0.0		Test Pit approximately 20 feet long from W to E.
2.5		Loose, black/dark gray FILL (including charred wood fragments, ash, tires, metal fragments & parts, steel I-beam & plastic); dry to moist	0.0		
5			0.0	X	Ash encountered in test pit at 4 to 5 feet bgs; TP-33 (4'-5') Sample Collected @ 1500 (Sample ID: W-R2330004-072312-MF-001)
		Tires(2) present (8 feet bgs)	0.0		
10			0.0		
		Steel I-beam present (11 feet bgs)	0.0		
15			0.0		
17.0		Bottom of borehole at 17.0 feet.			17 feet bgs is maximum vertical reach of excavator.

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\R2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/25/12</u> <b>COMPLETED</b> <u>7/25/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>N/A</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
1.0		Loose, tan, Silty SAND (FILL); dry.	0.0		Test Pit approximately 20 feet long from W to E.  Waste Fill encountered at 1 foot bgs in west end of test pit. Edge of waste encountered in central portion of test pit. Silty CLAY encountered in east end of test pit at 1 foot bgs.
4.0		Loose, gray/black FILL (including tires, wood, wire, & glass fragments); dry to moist.	0.0		
5.0		Medium stiff, dark gray Silty CLAY; moist.	0.0		
6.0		Bottom of borehole at 6.0 feet.	0.0		

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> <u>RACER Trust</u>	<b>PROJECT NAME</b> <u>Van Buren Landfill</u>
<b>PROJECT NUMBER</b> <u>R2330004</u>	<b>PROJECT LOCATION</b> <u>Michigan and Ecorse, Van Buren Township, MI</u>
<b>DATE STARTED</b> <u>7/24/12</u> <b>COMPLETED</b> <u>7/24/12</u>	<b>TRENCH WIDTH:</b> _____
<b>DRILLING CONTRACTOR</b> <u>MSG</u>	<b>SURVEY COORDINATES:</b> <u>N/A</u>
<b>DRILLING METHOD</b> <u>Excavator - CAT 312CL</u>	<b>SURFACE ELEV.:</b> <u>N/A</u>
<b>LOGGED BY</b> <u>MJF</u> <b>CHECKED BY</b> <u>FJB</u>	<b>WATER LEVEL AT TIME OF TRENCHING:</b> <u>13 FEET BGS</u>
<b>NOTES</b> <u>Excavation backfilled and compacted with excavator</u>	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> <u>N/A</u>

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
		Loose, tan, Silty SAND; trace fine angular Gravel; dry	0.0		Test Pit approximately 20 feet long from NW to SE.
2.5		Loose, black FILL (including charred wood, glass, metal, paper, & brick fragments), moist.	0.0		
5		Trash bags present (at 6 feet bgs)	0.0		
		Auto parts (muffler, pipes) and wheel present (at 7.5 feet bgs)	0.0		
10		▼ Becomes wet at 13.0 feet bgs	0.0		
14.0		Bottom of borehole at 14.0 feet.			

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

<b>CLIENT</b> RACER Trust	<b>PROJECT NAME</b> Van Buren Landfill
<b>PROJECT NUMBER</b> R2330004	<b>PROJECT LOCATION</b> Michigan and Ecorse, Van Buren Township, MI
<b>DATE STARTED</b> 7/26/12	<b>COMPLETED</b> 7/26/12
<b>DRILLING CONTRACTOR</b> MSG	<b>TRENCH WIDTH:</b>
<b>DRILLING METHOD</b> Excavator - CAT 312CL	<b>SURVEY COORDINATES:</b> N/A
<b>LOGGED BY</b> MJF	<b>CHECKED BY</b> FJB
<b>NOTES</b> Excavation backfilled and compacted with excavator	<b>WATER LEVEL AT TIME OF TRENCHING:</b> 17 FEET BGS
	<b>STATIC WATER LEVEL AFTER TRENCHING:</b> N/A

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)	LABORATORY SAMPLE	REMARKS
0					
1.0		Loose, tan, Silty SAND; dry to moist	0.0		Test Pit approximately 25 feet long from SW to NE.
		Loose, black FILL (including wood, metal, plastic & glass fragments); moist	0.0		
5		Wheel (rim) present (at 5 feet bgs)			17 feet bgs is maximum vertical reach of excavator.
		Wheel cover present (at 6 feet bgs)			
		Plastic bags present (at 8 feet bgs)	0.0		
10			0.0		
15			0.0		
17.0		Bottom of borehole at 17.0 feet.			

ENV TEST PIT LOG - GINT STD US LAB.GDT - 11/27/12 11:43 - W:\PROJECTS\PROJECTS P-T\2330004\ADMINISTRATION\BORING LOGS\R2330004.BORING LOGS.GPJ

**APPENDIX D**

---

LOW FLOW GROUND WATER SAMPLING FORMS  
*THE MANNIK & SMITH GROUP, INC.*

LOW FLOW GROUND WATER SAMPLING FORM

Mannik B. Smith

SAMPLE LOCATION: (MW-3)

DATE: 9/5/12

PROJECT #: R2330004

PERSONNEL: AEP/MJF  
OBSERVERS: Christy - EPA (Tech Lead - for EPA Reg. 5)

SITE NAME: Van Buren Landfill  
SITE ADDRESS: Mich Ave. & Ecorse Rd., VB Twp., MS  
SITE CONDITIONS: cloudy, 80°F

DEPTH OF WELL: 11.5' lbs

DEPTH TO WATER LEVEL: 7.69

SCREEN LENGTH: 10'

WELL DIAMETER: 2"

TUBING TYPE: teflon lined Polyethylene

CASING TYPE: PVC

MONITORING EQUIPMENT: Geotech bladder pump, YSI 650e MPS, Bach Turbidimeter

TIME	WATER LEVEL (<0.3 feet once stabilized)	Ph	COND. (µS)	TEMP. (°F)	DO (mg/L)	TURB. (NTU)	ORP (mV)	VOLUME PURGED (Gallons)	PUMP RATE (ml/min)	NOTES
		+/- 0.1	+/- 3%	+/- 3°	+/- 10%	+/- 10%	+/- 10 mV			
1247	7.75	6.85	2624	67.19	2.13	27.1	-122.3	0.25	240	fill/discharge 10/10
1252	7.75	6.78	2676	66.71	1.00	13.6	-122.2	0.50	240	
1257	7.82	6.76	2659	65.81	1.01	8.42	-121.8	0.75	240	
1302	7.82	6.73	2653	65.66	1.02	9.72	-120.6	1.25	240	
1307	7.77	6.76	2644	65.44	0.61	8.03	-121.1	1.75	240	
1312	7.77	6.74	2635	65.38	0.58	6.20	-120.5	2.25	240	
1307	7.84	6.75	2623	65.32	0.71	6.09	-120.1	2.75	240	
1322	7.84	6.75	2620	65.28	0.75	6.44	-119.1	3.25	240	

SAMPLE ID: (MW-3) WR2330004-090512-MJF-01

SAMPLE DATE: 9/5/12

SAMPLE TIME: 1325

Notes: 1235 - begin purging - initial PF is 30sec fill, 30sec purge

- DO keeps fluctuating - all other parameters stable  
collected sample for VOCs, SVOCs, pesticides, herbicides  
TAL metals  
(6 ambers, 3 VOC VOA5, 1 poly)

slight "sheen-like" surface  
- not iridescent but  
there were droplets on  
the surface

LOW FLOW GROUND WATER SAMPLING FORM

Mannik Smith

SAMPLE LOCATION: MW-4

DATE: 9/5/12

PROJECT #: R2330004

PERSONNEL: M J F / AP

SITE NAME: Van Buren Landfill

OBSERVERS: Christie (Tech. Com. for EPA Reg. 5)

SITE ADDRESS: Mich. Ave & E. Rose Rd, VB Twp, MI

SITE CONDITIONS: Cloudy 80°F

DEPTH OF WELL: 18' bgs

DEPTH TO WATER LEVEL: 16.28

SCREEN LENGTH: 10'

WELL DIAMETER: 2"

TUBING TYPE: Teflon Lined PE

CASING TYPE: PVC

MONITORING EQUIPMENT: Costech Bladder Pump, YSI 556 MPS, Hoch Turbidimeter

TIME	WATER LEVEL (<0.3 feet once stabilized)	Ph	COND. (µS)	TEMP. (°F)	DO (mg/L)	TURB. (NTU)	ORP (mV)	VOLUME PURGED (Gallons)	PUMP RATE (ml/min)	NOTES
		+/- 0.1	+/- 3%	+/- 3°	+/- 10%	+/- 10%	+/- 10 mV			
1526	16.34	7.03	1631	62.48	3.98	71000	-95.4	0.2	250	
1531	16.37	6.83	1580	59.78	2.26	745	-84.4	0.4	250	
1536	16.38	6.74	1568	58.93	1.49	337	-82.5	0.6	250	
1541	16.41	6.70	1567	58.69	1.10	212	-82.8	0.8	250	
1546	16.37	6.72	1573	58.91	0.91	119	-86.2	1.0	250	
1551	16.38	6.77	1569	58.91	0.79	115	-91.3	1.2	250	
1556	16.34	6.78	1575	58.92	0.69	76.0	-92.4	1.4	250	
1601	16.38	6.81	1571	58.91	0.60	53.7	-95.3	1.6	250	
1606	16.32	6.81	1571	58.97		47.3	-93.7	1.8	250	

SAMPLE ID: WR2330004-090512-MJF-02 (MW-4)

SAMPLE DATE: 9/5/12

SAMPLE TIME: 11:10 1630 - (MJF-03) Dup. W-R2330004-090512-MJF-03

Notes: 1522 - begin purging - initial fill/purge is 20/20

- screen in purge bucket



---

**APPENDIX E**

PHOTO LOG  
*THE MANNIK & SMITH GROUP, INC.*

Racer Van Buren Landfill Site (11070)

Test Pit Investigation – July 23, 2012 - July 27, 2012 Photo Log

By The Mannik & Smith Group, Inc,

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-23



TP-23



TP-23



TP-32



TP-32



TP-32

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-32



TP-29



TP-29



TP-29



TP-29



TP-29

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-28



TP-28



TP-28



TP-28



TP-27



TP-27

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-27



TP-27



TP-34



TP-34



TP-34



TP-34

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-27



TP-27



TP-34



TP-34



TP-34



TP-30

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-30



TP-30



TP-30



TP-30



TP-24



TP-24

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-24



TP-24



TP-24



TP-24



TP-24



TP-24

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-24



TP-24



TP-24



TP-24



TP-24



TP-24

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-24



TP-24



TP-24



TP-24



TP-24



TP-24

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-21



TP-21



TP-21



TP-21



TP-21



TP-21

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-21



TP-21



TP-21



TP-4



TP-4



TP-4

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-4



TP-4



TP-4



TP-3



TP-3



TP-3

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-3



TP-3



TP-3



TP-6



TP-6



TP-7

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-7



TP-7



TP-7



TP-7



TP-35



TP-35

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-35



TP-35



TP-35



TP-35



TP-31

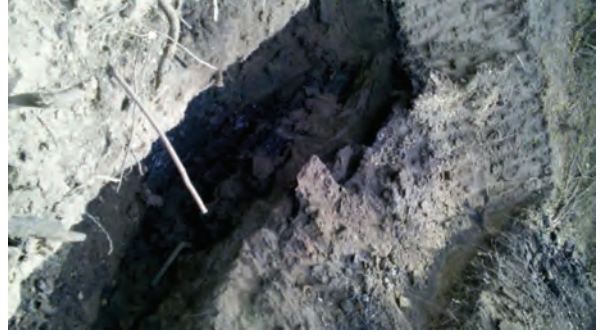


TP-31

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-31



TP-31



TP-31



TP-31



TP-31



TP-22

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-22



TP-22



TP-22



TP-22



TP-22



TP-22

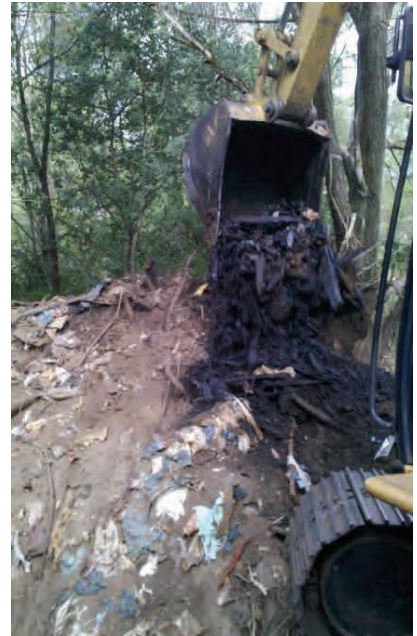
Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-22



TP-22



TP-22



TP-22



TP-22



TP-22

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-12



TP-12



TP-12



TP-12



TP-20



TP-20

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-20



TP-20



TP-20



TP-26



TP-26



TP-26

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-26



TP-26



TP-26



TP-26



TP-33



TP-33

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-33



TP-33



TP-33



TP-33



TP-33



TP-33

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-33



TP-33



TP-33



TP-2



TP-2



TP-2

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-33



TP-33



TP-33



TP-2



TP-2



TP-2



TP-2



TP-2

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-14



TP-14



TP-14



TP-14



TP-14



TP-14

Racer Van Buren Landfill Site (11070)  
Photographic Log



TP-25



TP-25



TP-25

---

**APPENDIX F**

SURFACE WATER SAMPLE IDENTIFICATION REPORT  
*THE MANNIK & SMITH GROUP, INC.*

**COA FIELD REPORT**

Client: RACER  
Project: RACER Van Buren Landfill

Report No.: 1  
Job No.: R2330004

Date: 9/25/2012 Day: Tuesday Temp: 55° F (AM) - (PM)  
MSG COA Personnel: Chris Riharb Cloud Cover: Overcast (AM) - (PM)  
MSG Hours On-Site: 8:00 AM – 10:00 AM Precip.: None (AM) - (PM)  
Contractors: N/A

**Work Performed/Comments/Other Observations:**

- 1) Inspected the side slope along the western edge of the RACER property, along eastbound Michigan Avenue, to identify any potential seepage.
  - MSG identified one location along the side-slope (just northeast of the CSX rail overpass, along the curb and gutter with evidence of seepage. Water was observed seeping out of the side-slope at a small, marsh-like area, then draining into the curb and gutter, subsequently entering a catch basin. The water was observed to have a visible sheen and strong odor.
  - MSG utilized a hand auger to bore to an approximate depth of 4 feet below ground surface (bgs) in the marsh-like area. No waste was encountered. No sampling performed at this time.
- 2) MSG performed eight hand auger borings (HAB) long the western edge of the RACER property, along eastbound Michigan Avenue, to identify any potential waste materials within the Michigan Avenue right of way. Below is a list of the HAB results:

Boring ID	Depth	Material Encountered	Ground Water Observation	Notes
HAB-1	3 ft.	Brown sand w/ gravel	None	Refusal at 3' bgs- large stone
HAB-2	4 ft.	Grey, damp clay	2 ft. bgs	Boring terminated at 4'
HAB-3	3 ft.	Brown sand w/ gravel	None	Refusal at 3' bgs – tree roots
HAB-4	3.5 ft.	Brown sand w/ gravel	None	Refusal at 3.5' bgs – large stone
HAB-5	3.5 ft.	Brown sand w/ gravel	None	Refusal at 3.5' bgs – large stone
HAB-6	3 ft.	Brown sand w/ gravel	None	Refusal at 3' bgs – tree roots
HAB-7	3.5 ft.	Brown sand w/ gravel	None	Refusal at 3.5' bgs – large stone
HAB-8	4 ft.	Stained, brown clay w/ some peat	At surface - seeping	Boring terminated at 4'

Please note, no waste material encountered at the depths of the performed borings. It is still possible that waste materials may present at deeper depths, not obtainable with a hand auger. See attached sketch for approximate boring locations.

- 3) MSG attempted to inspect surface water conditions within the RACER property to confirm if there is any possible evidence of contaminated groundwater/surface water interface. At this time, MSG was not able to locate any standing surface water on the property.

See attached photo log and sketch for more information.

**Contractors Information**

Contractor: MSG No. Men and Type: 1 – field engineer (C. Riharb) Equipment Type: 1- Hand auger

Supervisor: Frank Biehl

**Documents Attached**

Geotechnical Forms	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Geosynthetic Forms	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Survey Info	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Photographs Taken	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sketch	<input checked="" type="checkbox"/>	<input type="checkbox"/>			

**Testing**

Geotechnical	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>	If yes, refer to moisture/density sheets for results
Geosynthetic	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	If yes, refer to geosynthetic materials observation form
Sampling	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	If yes, refer to Chain-of-Custody

**Problem Identification and Corrective Measures**

No problems at this time.



Uggr ci g"qdugt xgf "cnp i "O lej ki cp"Cxg0  
Photo direction southwest.



Ueepagg"qdugt xgf "along Michii cp"Cxg0  
Photo direction southwest.



Uggr ci g"qdugt xgf "cnp i "O lej ki cp"Cxg0  
Photo direction southeast.



Uggr ci g"qdugt xgf "cnp i "O lej ki cp"Cxg0  
Photo direction southwest.



Catch basin on Michigan Ave., under CSX overpass where water is draining.



Drainage pattern. Note—no other water in curb and gutter. Photo direction northeast.

